Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 | WAU Description | WAU Size (mi²): 147.0
04100001 020 | Tenmile Creek; Ottawa River

Integrated Report Assessment Category: 5
Priority Points: 5
Next Scheduled Monitoring: 2014

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C,LRW
Impairment: Yes (5)
Sampling Year(s): 1993, 1996, 2000, 2002

Stream Size Category | Raw Data Available | % Attainment | WAU Score |
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. Attaining</td>
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<tr>
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<td>13 Site(s)</td>
<td>5 Site(s)</td>
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<td>3 Site(s)</td>
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<tr>
<td>5-20 mi²</td>
<td>3 Site(s)</td>
<td>0 Site(s)</td>
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<tr>
<td>20-50 mi²</td>
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High Magnitude Causes
- Pesticides
- Priority Organics
- Thermal Modifications
- Flow Alteration
- Direct Habitat Alterations

High Magnitude Sources
- Minor Industrial Point Sources
- Combined Sewer Overflow
- Nonirrigated Crop Production
- Land Development/Suburbanization
- Landfills
- Flow Reg./Mod. - Development
- Removal of Riparian Vegetation - Dev
- Streambank Destabilization - Dev

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data) Cause: Geometric Mean: 299
No. Ambient Sites: 0 No. Ambient Sampling Records: 0 75th %ile: 848
No. of NPDES MOR Sites: 1 No. of NPDES MOR Records: 20 90th %ile: 1020
Other: A "Dermal Contact Advisory" is in effect for the Ottawa River due to PCB contamination. The area under the advisory is from I-475 north of Wildwood Preserve in Toledo to the mouth at Maumee Bay (Lucas County).

Public Drinking Water Supply Assessment
Location(s): Unnamed trib @RM 1.25 (Ten Mile Creek RM 16.92) [Metamora]
Impairment: Unknown (3-Insufficient Data) Nitrate Indicator: Insufficient Data, Watch List
Cause: Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes Impairment: Yes (5)
Stream Miles Monitored: 11.80 Stream Miles Impaired: 11.80 Pollutants (Waterbody): PCBs (Ottawa River)
Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments
Significant remediation of problematic sites (including closed landfills) in the lower Ottawa River watershed are actively underway. Site specific monitoring is occurring in the remediated areas on a regular basis. Future monitoring within the entire watershed will be conducted within the normal rotating basin schedule after the cessation of these projects and when sufficient recovery time has elapsed. Recent sampling was conducted in 2002 focusing on the Ottawa River and Sibley Creek in the immediate vicinity of the Dura Landfill. Repeat sampling in the same area was conducted in 2007 as well as additional monitoring in the entire lower reach of the Ottawa River as part of an ongoing Natural Resource Damage Assessment. The 2007 data will be incorporated into the assessment unit and reported in the 2010 Integrated Report. However, reports are now available for the two 2007 projects and can be found at http://www.epa.state.oh.us/dsw/document_index/psdindx.html. Nearly 12 miles of the Ottawa River continue to be listed for fish tissue impairment and a "Do Not Eat" Fish Consumption Advisory remains in effect for the Ottawa River (all species) due to PCBs contamination. The area under the advisory is from I-475 north of Wildwood Preserve in Toledo to the mouth at Maumee Bay. See http://www.epa.state.oh.us/dsw/fishadvisory/index.html for more information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²):  26.5
04100002 030  Bear Creek (River Raisin basin)

Integrated Report Assessment Category: 3  Priority Points:
Next Scheduled Monitoring:  2014

Aquatic Life Use Assessment
Subcategories of ALU: WWH  Sampling Year(s):
Impairment: Unknown (3)  

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<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>% Attainment Full</th>
<th>WAU Score Full</th>
<th>% Attainment Partial</th>
<th>WAU Score Partial</th>
<th>% Attainment Non</th>
<th>WAU Score Non</th>
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<td>Site(s)</td>
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<tr>
<td>&lt; 5 mi²</td>
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<td>Site(s)</td>
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<td>Site(s)</td>
<td>Site(s)</td>
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<td>Principal Streams</td>
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<td>Miles</td>
<td>Miles</td>
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<td>Miles</td>
<td>Miles</td>
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</table>

High Magnitude Causes

High Magnitude Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact  Geometric Mean: 1109
Impairment: Unknown (3-Indeterminate Data)  75th %ile: 2075
Cause:  90th %ile: 5420

No. Ambient Sites: 0  No. Ambient Sampling Records: 0
No. of NPDES MOR Sites: 1  No. of NPDES MOR Records: 18
Other:  

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Nitrate Indicator:
Cause:  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No  Impairment: Unknown (3)
Stream Miles Monitored: 0.00  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
This small basin has never been sampled for biological quality. All data (chemical only) are from the 1980s.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description                      WAU Size (mi²):  25.2
04100003 010  East Branch St. Joseph River

Integrated Report Assessment Category:  3
Next Scheduled Monitoring:  2012
Priority Points:

Aquatic Life Use Assessment
Subcategories of ALU:  WWH
Impairment:  Unknown (3)
Sampling Year(s):  ___________________ ___________________

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<tr>
<th>Stream Size Category</th>
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<th>% Attainment</th>
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<th>Non</th>
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<td>Site(s)</td>
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</tr>
<tr>
<td></td>
<td>20-50 mi²</td>
<td>Site(s)</td>
<td>Site(s)</td>
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<tr>
<td>Principal Streams</td>
<td>50-500 mi²</td>
<td>Site(s)</td>
<td>Site(s)</td>
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<td></td>
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</tbody>
</table>

High Magnitude Causes:  
High Magnitude Sources:  

Recreation Use Assessment
Subcategory of Use:  Primary Contact
Impairment:  Unknown (3-Indeterminate Data)
Cause:  

Geometric Mean:  1234
75th %ile:  3650
90th %ile:  4340

Public Drinking Water Supply Assessment
Location(s):  No Public Drinking Water Supply Intakes

Impairment:  
Cause:  
Nitrate Indicator:  
Pesticide Indicator:  

Fish Tissue Assessment
Waters Sampled:  Yes
Impairment:  Unknown (3-Indeterminate Data)
Pollutants (Waterbody):  
Stream Miles Monitored:  3.60
Stream Miles Impaired:  
Lake Acres Monitored:  0.0
Lake Acres Impaired:  

WAU Comments
A small amount of data were collected in this watershed, but there are not enough sampling locations to do a complete assessment.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 04100003 020
WAU Description: West Branch St. Joseph River
WAU Size (mi²): 14.9

Integrated Report Assessment Category: 5
Priority Points: 2
Next Scheduled Monitoring: 2012

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Unknown (3)
Sampling Year(s):

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<thead>
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<th>Raw Data Available</th>
<th>% Attainment</th>
<th>WAU Score</th>
</tr>
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<tr>
<td>50-500 mi²</td>
<td>Site(s)</td>
<td>Miles</td>
<td>Miles</td>
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High Magnitude Causes: WWH
High Magnitude Sources:

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)

<table>
<thead>
<tr>
<th>No. Ambient Sites</th>
<th>No. Ambient Sampling Records</th>
<th>Geometric Mean:</th>
</tr>
</thead>
<tbody>
<tr>
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<td>75th %ile:</td>
</tr>
<tr>
<td>Site(s)</td>
<td>Site(s)</td>
<td>90th %ile:</td>
</tr>
</tbody>
</table>

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Public Drinking Water Supply Assessment
Impairment: Yes
Nitrate Indicator: Yes
Pesticide Indicator: Yes

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5-Historical Data)
Stream Miles Monitored: 6.50
Stream Miles Impaired: Pollutants (Waterbody): Mercury (Lake LaSuAn, Lake Lavere, Lake Sue).
Lake Acres Monitored: 167.6
Lake Acres Impaired: 155.6

WAU Comments
Sampling in the 1990s in this watershed found all sampling locations in full attainment of the designated aquatic life use. As such, this assessment unit 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.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²):  123.5
04100003 030  St. Joseph River (East/West Branches to downstream Bear Creek)

Integrated Report Assessment Category:  5
Next Scheduled Monitoring:  2012
Priority Points:  4

Aquatic Life Use Assessment
Subcategories of ALU:  WWH,MWH-C,LRW
Impairment:  Yes (5-Historical)

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>% Attainment</th>
<th>WAU Score</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Full</td>
<td>Partial</td>
</tr>
<tr>
<td>Secondary Tributaries</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>&lt; 5 mi²</td>
<td>1 Site(s)</td>
<td>0 Site(s)</td>
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<tr>
<td>Primary Tributaries</td>
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<td>75.0</td>
<td>25.0</td>
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<tr>
<td>5-20 mi²</td>
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<td>20-50 mi²</td>
<td>2 Site(s)</td>
<td>1 Site(s)</td>
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<td>Principal Streams</td>
<td>4 Site(s)</td>
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<td>50-500 mi²</td>
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High Magnitude Causes
Direct Habitat Alterations:  Nonirrigated Crop Production
Channelization - Agriculture

Recreation Use Assessment
Subcategory of Use:  Primary Contact
Impairment:  No (1)
No. Ambient Sites:  0
No. of NPDES MOR Sites:  3
Other:

Public Drinking Water Supply Assessment
Location(s):  No Public Drinking Water Supply Intakes

Impairment:  Yes (5-Historical Data)
Cause:  Nitrate Indicator:  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled:  Yes
Stream Miles Monitored:  23.12
Stream Miles Impaired:  23.12
Pollutants (Waterbody):  PCBs (St. Joseph River)
Lake Acres Monitored:  94.0
Lake Acres Impaired:  342

WAU Comments
Biological and water quality data collected in 1992 were used in the 2002 Integrated Report 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. Additionally, 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, too, are now considered historical. However, while reflecting the current status that no data are available to assess beneficial 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 M2  
Watershed Assessment Unit (WAU) Results

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<tr>
<th>HUC11</th>
<th>WAU Description</th>
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<tbody>
<tr>
<td>04100003 050</td>
<td>Fish Creek</td>
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**Integrated Report Assessment Category:** 5  
**Priority Points:** 3  
**Next Scheduled Monitoring:** 2012

### Aquatic Life Use Assessment

<table>
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<tr>
<th>Subcategories of ALU</th>
<th>EWH, WWH</th>
<th>Impairment: Yes (5)</th>
<th>Sampling Year(s): 1999, 2002</th>
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<th>WAU Score</th>
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<tbody>
<tr>
<td>Secondary Tributaries</td>
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<tr>
<td>&lt; 5 mi²</td>
<td>1 Site(s)</td>
<td>1 Site(s)</td>
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<td>50-500 mi²</td>
<td>3 Site(s)</td>
<td>5.6 Miles</td>
<td>43.0</td>
<td>72</td>
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</tbody>
</table>

**High Magnitude Causes**

- Siltation
- Nonirrigated Crop Production

**High Magnitude Sources**

- Extensive monitoring has been conducted in Fish Creek since 1991 following a major spill and fish kill originating in Indiana. The Ohio portion of this assessment unit is very small and includes 5.6 miles of mainstem and one small unnamed tributary to Fish Creek (RM 5.39).

### Recreation Use Assessment

**Subcategory of Use:** Primary Contact  
**Impairment:** Unknown (3)  
**Cause:** Nonirrigated Crop Production  
**Geometric Mean:**

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<tr>
<th>Site(s)</th>
<th>75th %ile:</th>
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</table>

### Public Drinking Water Supply Assessment

**Location(s):** No Public Drinking Water Supply Intakes

**Impairment:** Nonirrigated Crop Production

### Fish Tissue Assessment

**Waters Sampled:** No  
**Impairment:** Unknown (3)

<table>
<thead>
<tr>
<th>Stream Miles Monitored</th>
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<th>Stream Miles Impaired: Pollutants (Waterbody):</th>
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<tbody>
<tr>
<td>Lake Acres Monitored</td>
<td>0.0</td>
<td>Lake Acres Impaired:</td>
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**WAU Comments**

Extensive monitoring has been conducted in Fish Creek since 1991 following a major spill and fish kill originating in Indiana. The Ohio portion of this assessment unit is very small and includes 5.6 miles of mainstem and one small unnamed tributary to Fish Creek (RM 5.39).
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11    WAU Description    WAU Size (mi²): 58.4
04100003 060    St. Joseph River (downstream Bear Creek to downstream Sol Shank Ditch [IN]; excluding Fish Creek)    

Integrated Report Assessment Category: 5    Priority Points: 4
Next Scheduled Monitoring: 2012

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (5-Historical)
Sampling Year(s): 1992, 1996

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<tr>
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<td>Primary Tributaries</td>
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High Magnitude Causes:
- Direct Habitat Alterations
- Nonirrigated Crop Production
- Channelization - Agriculture

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)
Cause: Geometric Mean: 1557
No. Ambient Sites: 1
No. Ambient Sampling Records: 1
75th %ile: 2250
No. of NPDES MOR Sites: 1
No. of NPDES MOR Records: 8
90th %ile: 14640
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5-Historical Data)
Stream Miles Monitored: 10.58
Stream Miles Impaired: 10.58
Pollutants (Waterbody): PCBs (St. Joseph River)
Lake Acres Monitored: 0.0
Lake Acres Impaired: 0.0

WAU Comments
Biological and water quality data collected in 1992 were used in the 2002 Integrated Report 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. Additionally, 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, too, are now considered historical. However, while reflecting the current status that no data are available to assess beneficial 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 M2  
Watershed Assessment Unit (WAU) Results

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<td>04100004 010</td>
<td>St. Mary's River (headwaters to downstream Sixmile Creek)</td>
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Integrated Report Assessment Category: 5  
Priority Points: 3  
Next Scheduled Monitoring: 2015

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C,LRW  
Impairment: Yes (5-Historical)  
Sampling Year(s): 1991

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<tr>
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</tr>
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<td>Primary Tributaries</td>
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High Magnitude Causes
Flow Alteration
Direct Habitat Alterations

High Magnitude Sources
Channelization - Agriculture
Natural

Recreation Use Assessment
Subcategory of Use: Primary Contact  
Impairment: No (1)  
Cause:  
No. Ambient Sites: 0  
No. Ambient Sampling Records: 0  
No. of NPDES MOR Sites: 3  
No. of NPDES MOR Records: 273
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  
Cause:  
Nitrate Indicator:  
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  
Impairment: Yes (5)  
Stream Miles Monitored: 5.98  
Stream Miles Impaired: 5.98  
Pollutants (Waterbody): PCBs (St. Marys River)
Lake Acres Monitored: 0.0  
Lake Acres Impaired:

WAU Comments
Biological and water quality data collected in 1991 were used in the 2002 Integrated Report 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 no data are available to assess beneficial 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. The 2006 Integrated Report assessment of available fish tissue data from the St. Marys River 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 watershed management planning effort of the area surrounding the Indiana portion of the St. Marys River watershed is currently under way. This project is a study of the river, its surrounding landuse, and community resources. The study is being sponsored by the Soil and Water Conservation Districts from Adams, Allen and Wells Counties and funded through the Indiana Department of Environmental Management. The scope of this project includes various water quality assessments and aims to identify areas of critical concern.
Aquatic Life Use Assessment

Subcategories of ALU: WWH, MWH-C, LRW
Impairment: Yes (5-Historical)

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Recreation Use Assessment

Subcategory of Use: Primary Contact
Impairment: Unknown (3)

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment

Waters Sampled: Yes
Stream Miles Monitored: 17.82
Stream Miles Impaired: 17.82
Pollutants (Waterbody): PCBs (St. Marys River)

Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments

Biological and water quality data collected in 1991 were used in the 2002 Integrated Report 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 no data are available to assess beneficial 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. The 2006 Integrated Report assessment of available fish tissue data from the St. Marys River 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 watershed management planning effort of the area surrounding the Indiana portion of the St. Marys River watershed is currently under way. This project is a study of the river, its surrounding landuse, and community resources. The study is being sponsored by the Soil and Water Conservation Districts from Adams, Allen and Wells Counties and funded through the Indiana Department of Environmental Management. The scope of this project includes various water quality assessments and aims to identify areas of critical concern.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11        WAU Description              WAU Size (mi²): 161.1
04100040 030  St. Mary's River (downstream Twelvemile Creek to upstream Twentyseven Mile Creek [IN])

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2015
Priority Points: 2

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C
Impairment: Unknown (3)
Sampling Year(s):

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High Magnitude Causes: 5
Impairment:
WWH,MWH-C 2
2015
Integrated Report Assessment Category: Priority Points:

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)
No. Ambient Sites: 0
No. of NPDES MOR Sites: 1
No. Ambient Sampling Records: 0
No. of NPDES MOR Records: 7
Cause:
Geometric Mean: 94
75th %ile: 600
90th %ile: 640

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

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<tr>
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<th>Nitrate Indicator:</th>
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<tr>
<td>Cause:</td>
<td>Pesticide Indicator:</td>
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Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)
Stream Miles Monitored: 27.90
Stream Miles Impaired: 27.90
Pollutants (Waterbody): PCBs (St. Marys River)
Lake Acres Monitored: 0.0
Lake Acres Impaired: 0.0

WAU Comments
Available biological community data for this assessment unit were collected from the St. Marys River mainstem in 1991 or earlier and were regarded as historical. Fish tissue and sediment data were collected at a few locations between 1995-1999. The 2006 Integrated Report assessment of available fish tissue data from the St. Marys River 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 watershed management planning effort of the area surrounding the Indiana portion of the St. Marys River watershed is currently under way. This project is a study of the river, its surrounding landuse, and community resources. The study is being sponsored by the Soil and Water Conservation Districts from Adams, Allen and Wells Counties and funded through the Indiana Department of Environmental Management. The scope of this project includes various water quality assessments and aims to identify areas of critical concern.

3/28/2008
**Ohio EPA 2008 Integrated Report Section M2**  
**Watershed Assessment Unit (WAU) Results**

**HUC11** 04100004 040  
**WAU Description** St. Mary's River (upstream Twentyseven Mile Creek [IN] to upstream Holthouse Ditch [IN])  
**WAU Size (mi²):** 26.0

**Integrated Report Assessment Category:** 3  
**Next Scheduled Monitoring:** 2015  
**Priority Points:**

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**Aquatic Life Use Assessment**

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<tr>
<td>5-20 mi²</td>
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**High Magnitude Causes**  
**High Magnitude Sources**

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**Recreation Use Assessment**

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**Public Drinking Water Supply Assessment**

<table>
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**Fish Tissue Assessment**

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<th>Waters Sampled: No</th>
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<th>Stream Miles Monitored: 0.00</th>
<th>Stream Miles Impaired: Pollutants (Waterbody):</th>
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<tbody>
<tr>
<td>Lake Acres Monitored: 0.0</td>
<td>Lake Acres Impaired:</td>
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**WAU Comments**  
This small basin has never been sampled for biological quality. Only habitat data (QHEI) were done associated with a 401 application. A watershed management planning effort of the area surrounding the Indiana portion of the St. Marys River watershed is currently under way. This project is a study of the river, its surrounding landuse, and community resources. The study is being sponsored by the Soil and Water Conservation Districts from Adams, Allen and Wells Counties and funded through the Indiana Department of Environmental Management. The scope of this project includes various water quality assessments and aims to identify areas of critical concern.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 190.1
04100005 020 Maumee River (downstream Hamm Ditch [IN] to upstream Tiffin River); excluding Maumee River mainstem

Integrated Report Assessment Category: 5  Priority Points: 3
Next Scheduled Monitoring: 2016

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C  Sampling Year(s): 1997
Impairment: Yes (5)

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<td>Miles</td>
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High Magnitude Causes
Unionized Ammonia
Siltation
Flow Alteration
Direct Habitat Alterations

High Magnitude Sources
Minor Municipal Point Source
Nonirrigated Crop Production
Channelization - Agriculture
Removal of Riparian Vegetation - Ag.
Streambank Destabilization - Ag.

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)  Cause: Geometric Mean: 955
No. Ambient Sites: 0  No. Ambient Sampling Records: 0  75th %ile: 2736
No. of NPDES MOR Sites: 2  No. of NPDES MOR Records: 43  90th %ile: 6010
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:
Fish Tissue Assessment
Waters Sampled: No  Impairment: Unknown (3)
Stream Miles Monitored: 0.00  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 04100006 020
WAU Description: Bean Creek (downstream Lime Creek (Michigan) to downstream Mill Creek)
WAU Size (mi²): 105.3
Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2011
Priority Points: 3

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C
Impairment: Yes (5)
Sampling Year(s): 1997

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High Magnitude Causes:
- Unknown Toxicity
- Nutrients
- Siltation
- Organic Enrichment/DO
- Direct Habitat Alterations

High Magnitude Sources:
- Minor Municipal Point Source
- Combined Sewer Overflows
- Nonirrigated Crop Production
- Feedlots (Confined Animal Feeding Oper.)
- Channelization - Ag.
- Removal of Riparian Vegetation - Ag.
- Spills

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data) Cause: Geometric Mean: 908
No. Ambient Sites: 1 No. Ambient Sampling Records: 5 75th %ile: 1400
No. of NPDES MOR Sites: 1 No. of NPDES MOR Records: 4 90th %ile: 2560
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 96.0 Lake Acres Impaired:

WAU Comments
### Watershed Assessment Unit (WAU) Results

**HUC11**: 04100006 030
**WAU Description**: Tiffin River (downstream Mill Creek to downstream Leatherwood Creek)

**WAU Size (m²)**: 79.9

**Integated Report Assessment Category**: 5
**Next Scheduled Monitoring**: 2011

**Priority Points**: 3

#### Aquatic Life Use Assessment

**Subcategories of ALU**: WWH
**Impairment**: Yes (5)
**Sampling Year(s)**: 1997, 2002

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</table>

**High Magnitude Causes**: Nonirrigated Crop Production

**High Magnitude Sources**: Siltation, Flow Alteration

#### Recreation Use Assessment

**Subcategory of Use**: Primary Contact
**Impairment**: Unknown (3-Indeterminate Data)
**Cause**: Geometric Mean: 648
- No. Ambient Sites: 0
- No. Ambient Sampling Records: 0
- 75th %ile: 2100
- No. of NPDES MOR Sites: 2
- No. of NPDES MOR Records: 36
- 90th %ile: 4240
**Other**:

#### Public Drinking Water Supply Assessment

**Location(s)**: No Public Drinking Water Supply Intakes

**Impairment**: Nitrate Indicator:
**Cause**: Pesticide Indicator:

#### Fish Tissue Assessment

**Waters Sampled**: Yes
**Impairment**: Yes (5-Historical Data)
**Stream Miles Monitored**: 12.06
**Stream Miles Impaired**: 12.06
**Pollutants (Waterbody)**: Mercury, PCBs (Tiffin River)
**Lake Acres Monitored**: 0.0
**Lake Acres Impaired**:

#### WAU Comments

The 2006 Integrated Report assessment of available fish tissue data from the Tiffin River 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 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 166.2
04100006 040  Tiffin River (downstream Leatherwood Creek to upstream Lick Creek); excluding Tiffin River mainstem


Aquatic Life Use Assessment
Subcategories of ALU: WWH  Impairment: Yes (5)  Sampling Year(s): 1997

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High Magnitude Causes
- Cause Unknown
- Major Industrial Point Source
- Siltation
- Minor Municipal Point Source
- Organic Enrichment/DO
- Nonirrigated Crop Production
- Direct Habitat Alterations
- Flow Regulation/Modification - Ag.
- Removal of Riparian Vegetation - Ag.
- Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)  Cause: Pathogens  Geometric Mean: 1353

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<thead>
<tr>
<th></th>
<th>Raw Data Available</th>
<th>No. Attaining</th>
<th>% Attainment</th>
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<tbody>
<tr>
<td>No. of NPDES MOR Sites: 3</td>
<td>No. of NPDES MOR Records: 87</td>
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</tbody>
</table>

Public Drinking Water Supply Assessment
Location(s): Brush Creek @RM 17.64 [Archbold]

Impairment: Unknown (3-Insufficient Data)  Nitrate Indicator: Insufficient Data, Watch List
Cause: Pathogens  Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5-Historical Data)
Stream Miles Monitored: 16.67  Stream Miles Impaired: 16.67  Pollutants (Waterbody): Mercury, PCBs (Tiffin River, Archbold Reservoir #2)
Lake Acres Monitored: 49.0  Lake Acres Impaired:

WAU Comments
The 2006 Integrated Report assessment of available fish tissue data from the Tiffin River 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 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 04100006 050
WAU Description: Lick Creek
WAU Size (mi²): 105.9

Integrated Report Assessment Category: 5
Priority Points: 2
Next Scheduled Monitoring: 2011

Aquatic Life Use Assessment

Subcategories of ALU: WWH,MWH-C
Impairment: Yes (5)
Sampling Year(s): 1997

Stream Size Category | Raw Data | No. Attaining | % Attainment | WAU Score
--- | --- | --- | --- | ---
Secondary Tributaries |
< 5 mi² | 3 Site(s) | 0 Site(s) | |
Primary Tributaries |
5-20 mi² | 6 Site(s) | 3 Site(s) | 45.0 | 20.0 | 35.0
20-50 mi² | 5 Site(s) | 2 Site(s) | |
Principal Streams |
50-500 mi² | 3 Site(s) | | 22 | 52 | 26

High Magnitude Causes
- Nutrients
- Siltation
- Organic Enrichment/DO
- Direct Habitat Alterations

High Magnitude Sources
- Major Municipal Point Source
- Combined Sewer Overflow
- Nonirrigated Crop Production
- Range Grazing - Riparian
- Urban Runoff/Storm Sewers (NPS)
- Other Urban Runoff
- Dredging - Development

Recreation Use Assessment

Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)
Cause: Geometric Mean: 408
No. Ambient Sites: 0
No. Ambient Sampling Records: 0
No. of NPDES MOR Sites: 1
No. of NPDES MOR Records: 67

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment

Waters Sampled: No
Impairment: Unknown (3)
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments

---

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 | WAU Description | WAU Size (mi<sup>2</sup>): 100.4
---|---|---
04100006 060 | Tiffin River (downstream Lick Creek to mouth); excluding Tiffin River mainstem |  

**Integrated Report Assessment Category:** 5  
**Priority Points:** 3  
**Next Scheduled Monitoring:** 2011

### Aquatic Life Use Assessment

**Subcategories of ALU:** WWH  
**Impairment:** Yes (5)  
**Sampling Year(s):** 1997

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<tr>
<th>Stream Size Category</th>
<th>Data Available</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
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<tr>
<td>&lt; 5 mi&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Site(s)</td>
<td>Site(s)</td>
<td>41.5</td>
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<tr>
<td><strong>Primary Tributaries</strong></td>
<td>2</td>
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<tr>
<td>5-20 mi&lt;sup&gt;2&lt;/sup&gt;</td>
<td>Site(s)</td>
<td>Site(s)</td>
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<td>58.5</td>
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<tr>
<td>20-50 mi&lt;sup&gt;2&lt;/sup&gt;</td>
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<td>Site(s)</td>
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<td><strong>Principal Streams</strong></td>
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<td>58</td>
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<tr>
<td>50-500 mi&lt;sup&gt;2&lt;/sup&gt;</td>
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**High Magnitude Causes**  
Nonirrigated Crop Production  
Channelization - Agriculture  
Flow Regulation/Modification - Ag.

**High Magnitude Sources**  
Siltation  
Direct Habitat Alterations

### Recreation Use Assessment

**Subcategory of Use:** Primary Contact  
**Impairment:** Unknown (3)  
**Cause:** No Ambient Sites  
**Geometric Mean:** 75<sup>th</sup> %ile:

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<tr>
<th>No. Ambient Sites</th>
<th>No. Ambient Sampling Records</th>
<th>No. of NPDES MOR Sites</th>
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**Other:**

### Public Drinking Water Supply Assessment

**Location(s):** No Public Drinking Water Supply Intakes

**Impairment:** No  
**Cause:** None

### Fish Tissue Assessment

**Waters Sampled:** Yes  
**Impairment:** Unknown (3-Indeterminate Data)  
**Pollutants (Waterbody):**

<table>
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<th>Stream Miles Monitored</th>
<th>Lake Acres Monitored</th>
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<td>0.00</td>
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**WAU Comments**
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 04100007 010
WAU Description: Auglaize River (headwaters to downstream Pusheta Creek)
WAU Size (mi²): 148.2

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2015
Priority Points: 5

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (4A-TMDL)
Sampling Year(s): 2000

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
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<tbody>
<tr>
<td>Secondary Tributaries</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 5 mi²</td>
<td></td>
<td>9 Site(s)</td>
<td>7 Site(s)</td>
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<tr>
<td>Primary Tributaries</td>
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<tr>
<td>5-20 mi²</td>
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<td>15 Site(s)</td>
<td>14 Site(s)</td>
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<td>20-50 mi²</td>
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<td>5 Site(s)</td>
<td>5 Site(s)</td>
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<td>Principal Streams</td>
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<td>50-500 mi²</td>
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High Magnitude Causes
Cause Unknown
Unknown Toxicity
Nutrients
Siltation
Organic Enrichment/DO
Direct Habitat Alterations

High Magnitude Sources
Combined Sewer Overflows
Domestic Wastewater Lagoon
Nonirrigated Crop Production
Urban Runoff/Storm Sewers (NPS)
Upstream Impoundment
Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (4A-TMDL)
Cause: Pathogens
Geometric Mean: 870

No. Ambient Sites: 0
No. Ambiant Sampling Records: 0
75th %ile: 2300
No. of NPDES MOR Sites: 1
No. of NPDES MOR Records: 35
90th %ile: 7580

Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)
Stream Miles Monitored: 9.03
Stream Miles Impaired: 9.03
Pollutants (Waterbody): Mercury (Auglaize River)

Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
A report developing TMDLs for pollutants impairing aquatic life and recreation uses in the upper Auglaize River basin 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 tissue 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 M2
Watershed Assessment Unit (WAU) Results

HUC11 | WAU Description | WAU Size (mi²): 99.9
04100007 020 Auglaize River (downstream Pusheta Creek to upstream Jennings Creek)

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2015
Priority Points: 7

Aquatic Life Use Assessment
Subcategories of ALU: WWH, LRW
Impairment: Yes (4A-TMDL) Sampling Year(s): 2000

<table>
<thead>
<tr>
<th>Stream Size Category</th>
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<th>% Attainment</th>
<th>WAU Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary Tributaries</td>
<td>6 Site(s)</td>
<td>2 Site(s)</td>
<td>13.3 60.0 26.7</td>
<td>57 30 13</td>
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<tr>
<td>&lt; 5 mi²</td>
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<td></td>
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<tr>
<td>Primary Tributaries</td>
<td>5 Site(s)</td>
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<tr>
<td>5-20 mi²</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>20-50 mi²</td>
<td>2 Site(s)</td>
<td>0 Site(s)</td>
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<tr>
<td>Principal Streams</td>
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<tr>
<td>50-500 mi²</td>
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</table>

High Magnitude Causes: Industrial Point Source
High Magnitude Sources:

Cause Unknown
Unknown Toxicity
Nutrients
Siltation
Organic Enrichment/DO
Flow Alteration
Direct Habitat Alterations

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (4A-TMDL)
Cause: Pathogens
No. Ambient Sites: 0
No. of NPDES MOR Sites: 1
No. Ambient Sampling Records: 0
No. of NPDES MOR Records: 19
Geometric Mean: 967
75th %ile: 3500
90th %ile: 10260

Public Drinking Water Supply Assessment
Location(s): Auglaize River @RM 64.58 (Agerter Rd) [Lima]

Impairment: Unknown (3-Insufficient Data)
Nitrile Indicator: Insufficient Data, Watch List
Cause:
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes Impairment: Yes (5)
Stream Miles Monitored: 36.55 Stream Miles Impaired: 36.55 Pollutants (Waterbody): Mercury (Auglaize River)
Lake Acres Monitored: 0.0 Lake Acres Impaired: 0.0

WAU Comments
A report developing TMDLs for pollutants impairing aquatic life and recreation uses in the upper Auglaize River basin 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 tissue 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 M2
Watershed Assessment Unit (WAU) Results

HUC11    WAU Description                                    WAU Size (mi²): 134.3
04100007 030    Ottawa River (headwaters to upstream Little Ottawa River)

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

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C
Impairment: Yes (5-Historical)  Sampling Year(s): 1996, 2001

<table>
<thead>
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<th>WAU Score</th>
</tr>
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<td></td>
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<td>Partial</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary Tributaries</td>
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<td>0 Site(s)</td>
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<td>Principal Streams</td>
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<tr>
<td>50-500 mi²</td>
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<td>11.8 Miles</td>
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</tbody>
</table>

High Magnitude Causes
- Priority Organics
- Industrial Point Source
- Unionized Ammonia
- Municipal Point Source
- Combined Sewer Overflow
- Organic Enrichment/DO
- Urban Runoff/Storm Sewers (NPS)

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)  Cause: Geometric Mean: 376
No. Ambient Sites: 0  No. Ambient Sampling Records: 0  75th %ile: 1038
No. of NPDES MOR Sites: 2  No. of NPDES MOR Records: 68  90th %ile: 2330
Other:

Public Drinking Water Supply Assessment
Location(s): Ottawa River @RMs 42.60 (Roush Rd) and 43.45 (upstream of lowhead dam at Metzger Rd) [Lima]

Nitrate Indicator: Insufficient Data, Watch List
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5-Historical Data)
Stream Miles Monitored: 10.80  Stream Miles Impaired: 10.80
Pollutants (Waterbody): PCBs (Ottawa River)
Lake Acres Monitored: 689.0  Lake Acres Impaired:

WAU Comments
Biological and water quality data collected in 1996 were used in the 2002 Integrated Report 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. Additionally, 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, too, are now considered historical. However, while reflecting the current status that no data are available to assess beneficial 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 M2
Watershed Assessment Unit (WAU) Results

HUC11 | WAU Description | WAU Size (mi²): 106.1
0410007 040 | Ottawa River (upstream Little Ottawa River to upstream Sugar Creek)

Integrated Report Assessment Category: 5
Priority Points: 6
Next Scheduled Monitoring: 2010

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C
Impairment: Yes (5-Historical)
Sampling Year(s): 1996

| Stream Size Category | Raw Data Available | No. Attaining | % Attainment | WAU Score
|----------------------|--------------------|---------------|--------------|-----------
|                      |                   | Full          | Partial      | Non       |
|                       |                   | Full          | Partial      | Non       |
| Secondary Tributaries |                   |               |              |           |
| < 5 mi²              | 2 Site(s)         | 0 Site(s)     | 0.0          | 50.0      | 50.0      |
| Primary Tributaries  |                   |               |              |           |
| 5-20 mi²             | 4 Site(s)         | 0 Site(s)     | 0.0          | 50.0      | 50.0      |
| 20-50 mi²            | Site(s)           | Site(s)       | 0.0          | 50.0      | 50.0      |
| Principal Streams    | 11 Site(s)        |               | 0.0          | 50.0      | 50.0      |
| 50-500 mi²           | 28.7 Miles        | 1.4 Miles     | 4.90         | 41.1      | 54.0      |

High Magnitude Causes
Unknown Toxicity
Nutrients
Organic Enrichment/DO
Direct Habitat Alterations
Industrial Point Source
Municipal Point Source
Combined Sewer Overflows
Urban Runoff/Storm Sewers (NPS)
Channelization - Agriculture

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
Cause: Pathogens
Geometric Mean: 462
75th %ile: 1150
90th %ile: 2460

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5-Historical Data)
Stream Miles Monitored: 28.73
Stream Miles Impaired: 28.73
Pollutants (Waterbody): PCBs (Ottawa River)

WAU Comments
Biological and water quality data collected in 1996 were used in the 2002 Integrated Report 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. Additionally, 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, too, are now considered historical. However, while reflecting the current status that no data are available to assess beneficial 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 M2
Watershed Assessment Unit (WAU) Results

HUC11 | WAU Description | WAU Size (mi²): 124.7
04100007 050 | Ottawa River (upstream Sugar Creek to mouth)

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2010
Priority Points: 6

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (5-Historical)
Sampling Year(s): 1996, 1997

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
<th>Impairment:</th>
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<tbody>
<tr>
<td>Secondary Tributaries</td>
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<td>Site(s)</td>
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<td>&lt; 5 mi²</td>
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<td>Partial 16.7</td>
<td>23</td>
<td>Combined Sewer Overflows</td>
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<td>Primary Tributaries</td>
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<td>Non 83.3</td>
<td>42</td>
<td>Channelization - Agriculture</td>
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<td>Site(s)</td>
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<td>20-50 mi²</td>
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<td>Principal Streams</td>
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<td>70.3 Geometric Mean: 548</td>
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High Magnitude Causes
- Unionized Ammonia
- Combined Sewer Overflows
- Channelization - Agriculture

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
Cause: Pathogens
Geometric Mean: 548

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Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5-Historical Data)
Stream Miles Monitored: 8.87
Stream Miles Impaired: 6.57
Pollutants (Waterbody): PCBs (Ottawa River)

Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
Biological and water quality data collected in 1996 were used in the 2002 Integrated Report 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. Additionally, 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, too, are now considered historical. However, while reflecting the current status that no data are available to assess beneficial 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 M2
Watershed Assessment Unit (WAU) Results

HUC11 WAU Description WAU Size (mi²): 143.0
04100007 060 Auglaize River (upst. Jennings Cr. to upst. L. Auglaize R.); excluding Auglaize R. dst. Ottawa R.

Integrated Report Assessment Category: 5 Priority Points: 5
Next Scheduled Monitoring: 2015

Aquatic Life Use Assessment
Subcategories of ALU: WWH Impairment: Yes (4A-TMDL) Sampling Year(s): 2000

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<tr>
<th>Stream Size Category</th>
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<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
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<td>Full Partial Non</td>
<td>Full Partial Non</td>
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<tr>
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</tr>
<tr>
<td>5-20 mi²</td>
<td>9 Site(s)</td>
<td>7 Site(s)</td>
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<tr>
<td>20-50 mi²</td>
<td>3 Site(s)</td>
<td>1 Site(s)</td>
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<tr>
<td>Principal Streams</td>
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<tr>
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</table>

High Magnitude Causes
Unionized Ammonia
Nutrients
Siltation
Organic Enrichment/DO
Flow Alteration
Direct Habitat Alterations

High Magnitude Sources
Minor Municipal Point Source
Nonirrigated Crop Production
Channelization - Agriculture

Recreation Use Assessment
Subcategory of Use: Primary Contact Impairment: Yes (4A-TMDL) Cause: Pathogens Geometric Mean: 760
No. Ambient Sites: 11 No. Ambient Sampling Records: 22 75th %ile: 1775
No. of NPDES MOR Sites: 0 No. of NPDES MOR Records: 0 90th %ile: 2450
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause:
Pesticide Indicator:

Fish Tissue Assessment
Stream Miles Monitored: 13.76 Stream Miles Impaired: 13.76
Lake Acres Monitored: 0.0 Lake Acres Impaired: 0.0

WAU Comments
A report developing TMDLs for pollutants impairing aquatic life and recreation uses in the upper Auglaize River basin 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 tissue 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.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 04100007 070
WAU Description: Little Auglaize River (headwaters to upstream Dog Creek)

Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2010

Aquatic Life Use Assessment
Subcategories of ALU: MWH-C, LRW
Impairment: Unknown (3)

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
</tr>
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<tbody>
<tr>
<td></td>
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<td>Site(s)</td>
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</tr>
<tr>
<td>Secondary Tributaries</td>
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<td>Site(s)</td>
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<tr>
<td></td>
<td>20-50 mi²</td>
<td>Site(s)</td>
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</tr>
<tr>
<td>Principal Streams</td>
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Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)

<table>
<thead>
<tr>
<th>Geometric Mean: 95</th>
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<table>
<thead>
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<tr>
<td></td>
<td>75th %ile: 120</td>
<td>90th %ile: 191</td>
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Public Drinking Water Supply Assessment
Location(s): Little Auglaize River @RM 23.40 [Delphos]

Impairment: Unknown (3-Insufficient Data)
Nitrate Indicator: Insufficient Data
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Historical Data)

<table>
<thead>
<tr>
<th>Pollutants (Waterbody):</th>
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</thead>
<tbody>
<tr>
<td>Stream Miles Monitored: 0.00</td>
</tr>
<tr>
<td>Stream Miles Impaired:</td>
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<tr>
<td>Lake Acres Monitored:</td>
</tr>
<tr>
<td>Lake Acres Impaired:</td>
</tr>
</tbody>
</table>

WAU Comments
A small amount of data were collected in this watershed, but there are not enough sampling locations to do a complete assessment. The vast majority of the data are from 1983. Only reference sites have been sampled since then.
Ohio EPA 2008 Integrated Report Section M2  
Watershed Assessment Unit (WAU) Results

HUC11          WAU Description          WAU Size (mi²): 106.2
04100007 080   Prairie Creek          

Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2010

Aquatic Life Use Assessment
Subcategories of ALU: MWH-C
Impairment: Unknown (3)
Sampling Year(s):

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<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
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<tr>
<td>5-20 mi²</td>
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<td>20-50 mi²</td>
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<tr>
<td>50-500 mi²</td>
<td>Site(s)</td>
<td>Miles</td>
<td>Miles</td>
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High Magnitude Causes: High Magnitude Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data) Cause:
No. Ambient Sites: 0  No. Ambient Sampling Records: 0
No. of NPDES MOR Sites: 1  No. of NPDES MOR Records: 10
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: No
Cause: No
Nitrate Indicator: No
Pesticide Indicator: No

Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)
Stream Miles Monitored: 0.00  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired: 

WAU Comments
The vast majority of the data in this watershed are from 1983. Only one site (biological reference site on Prairie Creek) has been sampled since then. Another survey of the watershed is needed to reassess the status.
## Watershed Assessment Unit (WAU) Results

### HUC11 04100007 090
Little Auglaize River (upstream Dog Creek to mouth; excluding Prairie Creek)

### Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2010

### WAU Comments
The vast majority of the data in this watershed are from 1983. Only one site (biological reference site on Little Auglaize River) has been sampled since then. Another survey of the watershed is needed to reassess the status.

### Aquatic Life Use Assessment

<table>
<thead>
<tr>
<th>Subcategories of ALU</th>
<th>MWH-C</th>
<th>Impairment: Unknown (3)</th>
<th>Sampling Year(s):</th>
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<tr>
<td>Principal Streams</td>
<td>Site(s)</td>
<td>Site(s)</td>
<td>Site(s)</td>
</tr>
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</table>

| High Magnitude Causes | High Magnitude Sources |

### Recreation Use Assessment

Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data) Cause: 
No. Ambient Sites: 0 No. Ambient Sampling Records: 0 75<sup>th</sup> %ile: 1859
No. of NPDES MOR Sites: 1 No. of NPDES MOR Records: 71 90<sup>th</sup> %ile: 5900

### Public Drinking Water Supply Assessment

Location(s): Town Creek @RM 18.35 [Van Wert]

Impairment: Unknown (3-Insufficient Data) Nitrate Indicator: Insufficient Data, Watch List
Cause: Pesticide Indicator: Insufficient Data

### Fish Tissue Assessment

Waters Sampled: Yes Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0 Lake Acres Impaired:
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 130.4
04100007 100 Auglaize River (downstream L. Auglaize R. to upstream Flatrock Cr.); excluding Auglaize R. mainstem

Integrated Report Assessment Category: 3  Priority Points: 2
Next Scheduled Monitoring: 2015

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C
Impairment: Unknown (3)
Sampling Year(s):

<table>
<thead>
<tr>
<th>Stream Size Category</th>
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<th>% Attainment</th>
<th>WAU Score</th>
</tr>
</thead>
<tbody>
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<td>Site(s)</td>
<td>Site(s)</td>
</tr>
<tr>
<td>Secondary Tributaries</td>
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</tr>
<tr>
<td>&lt; 5 mi²</td>
<td>Site(s)</td>
<td>Site(s)</td>
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</tr>
<tr>
<td>Primary Tributaries</td>
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<tr>
<td>5-20 mi²</td>
<td>Site(s)</td>
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<td>20-50 mi²</td>
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<tr>
<td>50-500 mi²</td>
<td>Miles</td>
<td>Miles</td>
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</table>

High Magnitude Causes
High Magnitude Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)
Cause:
No. Ambient Sites: No. Ambient Sampling Records:
No. of NPDES MOR Sites: No. of NPDES MOR Records:
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
A small amount of data were collected in this watershed, but there are not enough sampling locations to do a complete assessment. Most of the data collected are from one reference site on Blue Creek.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 97.6
04100007 110  Powell Creek

Integrated Report Assessment Category: 5  Priority Points: 6
Next Scheduled Monitoring: 2015

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C,LRW
Impairment: Yes (5)
Sampling Year(s): 1997, 1999, 2000

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<th>Stream Size Category</th>
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<th>WAU Score</th>
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<tr>
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</tr>
<tr>
<td>&lt; 5 mi²</td>
<td>2 Site(s)</td>
<td>1 Site(s)</td>
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</tr>
<tr>
<td>Primary Tributaries</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>5-20 mi²</td>
<td>2 Site(s)</td>
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<td>20-50 mi²</td>
<td>4 Site(s)</td>
<td>1 Site(s)</td>
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<tr>
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<tr>
<td>50-500 mi²</td>
<td>3 Site(s)</td>
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Nutrients  Nonirrigated Crop Production
Siltation   Hydromodification - Agriculture
Organic Enrichment/DO
Flow Alteration
Direct Habitat Alterations

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
Cause: Pathogens
Geometric Mean: 2299

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<tr>
<td>Site(s)</td>
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</tr>
<tr>
<td>9.2 Miles</td>
<td>24.1</td>
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Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Nitrate Indicator:
Cause: Pathogens  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No  Impairment: Unknown (3)
Stream Miles Monitored: 0.00  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
TMDLs for pollutants causing impairments in the Powell Creek watershed are expected to be completed by a U.S. EPA contractor in 2007. Monitoring, conducted in the watershed in 1997, 1999, and 2000, included sites on Powell Creek, North Powell Creek, South Powell Creek, and two small tributaries.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

<table>
<thead>
<tr>
<th>HUC11</th>
<th>WAU Description</th>
<th>WAU Size (mi²): 178.7</th>
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</thead>
<tbody>
<tr>
<td>04100007 120</td>
<td>Auglaize River (Flatrock Creek to mouth); excluding Powell Creek and Auglaize R. mainstem</td>
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Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2015

Priority Points: 2

Aquatic Life Use Assessment

Subcategories of ALU: WWH,MWH-C
Impairment: Yes (5-Historical)
Sampling Year(s): 1991, 1996

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<th>WAU Score Partial</th>
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<td></td>
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</tr>
<tr>
<td>Secondary Tributaries</td>
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<tr>
<td>&lt; 5 mi²</td>
<td>Site(s)</td>
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<tr>
<td>Primary Tributaries</td>
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</tr>
<tr>
<td>5-20 mi²</td>
<td>Site(s)</td>
<td>Site(s)</td>
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</tr>
<tr>
<td>20-50 mi²</td>
<td>Site(s)</td>
<td>Site(s)</td>
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</tr>
<tr>
<td>Principal Streams</td>
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<td>28.9 Miles</td>
<td>2.1 Miles</td>
<td>7.30 68.2 24.5</td>
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</table>

Impairment: Siltation
Direct Habitat Alterations

Recreation Use Assessment

Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)
Cause: Geometric Mean: 375
No. Ambient Sites: 0
No. Ambient Sampling Records: 0
No. of NPDES MOR Sites: 2
No. of NPDES MOR Records: 37
Other:

Geometric Mean: 375
75th %ile: 800
90th %ile: 1920

Public Drinking Water Supply Assessment

Location(s): Flat Rock Creek @RM 14.13 [Paulding]

Impairment: Unknown (3-Insufficient Data)
Nitrate Indicator: Insufficient Data
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment

Waters Sampled: Yes
Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments

Biological and water quality data collected in 1991 were used in the 2002 Integrated Report 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 no data are available to assess beneficial use status, the assessment unit will remain Category 5 until TMDLs for all beneficial use impairments are completed and approved by the USEPA.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 04100008 010
WAU Description: Blanchard River (headwaters to downstream Potato Run)
WAU Size (mi²): 140.8

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2020
Priority Points: 6

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C
Impairment: Yes (5)
Sampling Year(s): 2005

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<th>Stream Size Category</th>
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<td>5-20 mi²</td>
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<tr>
<td>Principal Streams</td>
<td>3 Site(s)</td>
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<table>
<thead>
<tr>
<th>High Magnitude Causes</th>
<th>High Magnitude Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonia (Total)</td>
<td>Crop Production with Subsurface Drainage</td>
</tr>
<tr>
<td>Nitrate/Nitrite (Nitrite + Nitrate as N)</td>
<td>Municipal Point Source Discharges</td>
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<tr>
<td>Nutrient/Eutrophication Biological Indicators</td>
<td>Source Unknown</td>
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<tr>
<td>Oxygen, Dissolved</td>
<td>Channelization</td>
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<tr>
<td>Phosphorus (Total)</td>
<td>Combined Sewer Overflows</td>
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<td>Direct Habitat Alterations</td>
<td>Streambank Modifications/Destabilization</td>
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<tr>
<td>Organic Enrichment (Sewage) Biological Indicators</td>
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<tr>
<td>Low Flow Alterations</td>
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<td>Temperature, Water</td>
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</table>

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
No. Ambient Sites: 24
No. Ambient Sampling Records: 156
No. of NPDES MOR Sites: 2
No. of NPDES MOR Records: 43
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Nitrate Indicator:
Cause: Pathogens
Geometric Mean: 990
75th %ile: 2850
90th %ile: 8200

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)
Stream Miles Monitored: 11.43
Stream Miles Impaired: 11.43
Pollutants (Waterbody): PCBs (Blanchard River)
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU 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. Principal streams sampled included the Blanchard River, Cessna Creek, and Potato Run. For the 2006 Integrated Report, 2005 bacteria data were available which resulted in an impaired recreation use assessment. Biological and chemical data for assessment of aquatic life uses were not available for the 2006 report but are included in the 2008 Integrated Report. 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/psdindex.html (EAS/2007-6-2). Additionally, the 2006 Integrated Report assessment of available fish tissue data from the Blanchard River 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 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 133.4
04100008 020  Blanchard River (downstream Potato Run to upstream Eagle Creek)

Integrated Report Assessment Category: 5  Priority Points: 9
Next Scheduled Monitoring: 2020

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C  Sampling Year(s): 2005
Impairment: Yes (5)

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<th>WAU Score</th>
</tr>
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<td>Partial</td>
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</tr>
<tr>
<td>Primary Tributaries</td>
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<td></td>
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</tr>
<tr>
<td>5-20 mi²</td>
<td>3 Site(s)</td>
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<td>25.0</td>
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<tr>
<td>20-50 mi²</td>
<td>2 Site(s)</td>
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<tr>
<td>Principal Streams</td>
<td>3 Site(s)</td>
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<tr>
<td>50-500 mi²</td>
<td>18.2 Miles</td>
<td>54.9</td>
<td>45.1</td>
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High Magnitude Causes
- Nutrient/Eutrophication Biological Indicators
- Organic Enrichment (Sewage) Biological Indicators
- Temperature, Water
- Nitrates/Nitrites (Nitrite + Nitrate as N)
- Phosphorus (Total)
- Direct Habitat Alterations

High Magnitude Sources
- Crop Production with Subsurface Drainage
- Channelization

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)

| Location(s):  | Blanchard River @RM 58.72, 62.43 and 65.20 [Findlay] |

Public Drinking Water Supply Assessment
Location(s): Blanchard River @RM 58.72, 62.43 and 65.20 [Findlay]
Impairment: Unknown (3-Insufficient Data)
Nitrate Indicator: Insufficient Data
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5)
Stream Miles Monitored: 18.17  Stream Miles Impaired: 18.17
Pollutants (Waterbody): PCBs (Blanchard River)
Lake Acres Monitored: 186.0  Lake Acres Impaired: 186.0

WAU 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. Principal streams sampled included the Blanchard River, Brights Ditch, The Outlet, and Lye Creek. For the 2006 Integrated Report, 2005 bacteria data were available which resulted in an impaired recreation use assessment. Biological and chemical data for assessment of aquatic life uses were not available for the 2006 report but are included in the 2008 Integrated Report. 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). Additionally, the 2006 Integrated Report assessment of available fish tissue data from the Blanchard River 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 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 115.0
04100008 030  Blanchard River (upstream Eagle Creek to upstream Ottawa Creek)


Aquatic Life Use Assessment
Subcategories of ALU:  WWH,MWH-C  Sampling Year(s): 2001, 2002, 2005
Impairment:  Yes (5)

<table>
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<tr>
<th>Stream Size Category</th>
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<th>No. Attaining</th>
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<th>WAU Score</th>
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</tr>
<tr>
<td>5-20 mi²</td>
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<td>2 Site(s)</td>
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High Magnitude Causes
- Direct Habitat Alterations
- Nitrate/Nitrite (Nitrite + Nitrate as N)
- Temperature, Water
- Organic Enrichment (Sewage) Biological Indicators
- Nutrient/Eutrophication Biological Indicators
- Sedimentation/Siltation
- Ammonia (Total)
- Low Flow Alterations
- Phosphorus (Total)

High Magnitude Sources
- Channelization
- Combined Sewer Overflows
- Unspecified Urban Stormwater
- Upstream Impoundments
- Dam or Impoundment
- Crop Production with Subsurface Drainage
- Municipal Point Source Discharges

Recreation Use Assessment
Subcategory of Use: Primary Contact  Cause: Pathogens  Geometric Mean: 756
No. of NPDES MOR Sites: 1  No. of NPDES MOR Records: 20  90th %ile: 4840
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Nitrate Indicator:
Cause:  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled:  Yes  Impairment:  Yes (5)
Stream Miles Monitored: 18.96  Stream Miles Impaired: 12.46  Pollutants (Waterbody): PCBs (Blanchard River)
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU 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. Principal streams sampled included the Blanchard River, Eagle Creek, and Aurand Run. For the 2006 Integrated Report, 2005 bacteria data were available which resulted in an impaired recreation use assessment. Biological and chemical data for assessment of aquatic life uses were not available for the 2006 report but are included in the 2008 Integrated Report. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tdml/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). Additionally, the 2006 Integrated Report assessment of available fish tissue data from the Blanchard River 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 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 148.9
04100008 040  Blanchard River (upst. Ottawa Cr. to upst. Riley Cr.); excluding Blanchard
R. mainstem dst. Dukes R.

Integrated Report Assessment Category: 5  Priority Points: 9
Next Scheduled Monitoring: 2020

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C
Impairment: Yes (5)  Sampling Year(s): 2005

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<td>20-50 mi²</td>
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<td>65.0</td>
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<td>Principal Streams</td>
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High Magnitude Causes
Direct Habitat Alterations
Sedimentation/Siltation
Nitrate/Nitrite (Nutrite + Nitrate as N)
Oxygen, Dissolved
Nutrient/Eutrophication Biological Indicators
Organic Enrichment (Sewage) Biological Indicators

High Magnitude Sources
Channelization
Livestock (Grazing or Feeding Operations)
Crop Production with Subsurface Drainage

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)  Cause: Pathogens  Geometric Mean: 583

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Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:
Cause:
Nitrate Indicator:
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5)
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU 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. Principal streams sampled included the Blanchard River, Tiderishi Creek, and Ottawa Creek. For the 2006 Integrated Report, 2005 bacteria data were available which resulted in an impaired recreation use assessment. Biological and chemical data for assessment of aquatic life uses were not available for the 2006 report but are included in the 2008 Integrated Report. 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). Additionally, the 2006 Integrated Report assessment of available fish tissue data from the Blanchard River 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 2008 INTEGRATED REPORT
SECTION M2
WATERSHED ASSESSMENT UNIT (WAU) RESULTS

HUC11: 04100008 050
WAU Description: Riley Creek
WAU Size (m²): 85.6

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2020
Priority Points: 4

Aquatic Life Use Assessment
Subcategories of ALU: WWH, MWH-C
Impairment: Yes (5)
Sampling Year(s): 2005

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<th>Stream Size Category</th>
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<tr>
<td>Primary Tributaries</td>
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</tr>
<tr>
<td>5-20 mi²</td>
<td>Site(s)</td>
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</tr>
<tr>
<td>20-50 mi²</td>
<td>Site(s)</td>
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<tr>
<td>Principal Streams</td>
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<tr>
<td>50-500 mi²</td>
<td>Site(s)</td>
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High Magnitude Causes
- Organic Enrichment (Sewage) Biological Indicators
- Phosphorus (Total)
- Sedimentation/Siltation
- Temperature, Water
- Nitrate/Nitrite (Nitrite + Nitrate as N)
- Nutrient/Eutrophication Biological Indicators
- Oxygen, Dissolved
- Direct Habitat Alterations
- Low Flow Alterations

High Magnitude Sources
- Crop Production with Subsurface Drainage
- Dam or Impoundment
- Municipal Point Source Discharges
- Combined Sewer Overflows
- Urban Runoff/Storm Sewers
- Channelization
- Streambank Modifications/Destabilization

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
Cause: Pathogens

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Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:
Nitrate Indicator:
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)

<table>
<thead>
<tr>
<th>Stream Miles Monitored</th>
<th>Stream Miles Impaired</th>
<th>Pollutants (Waterbody)</th>
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<tr>
<td>0.00</td>
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Lake Acres Monitored
Lake Acres Impaired:

WAU 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. Principal streams sampled included Riley Creek and Little Riley Creek. For the 2006 Integrated Report, 2005 bacteria data were available which resulted in an impaired recreation use assessment. Biological and chemical data for assessment of aquatic life uses were not available for the 2006 report but are included in the 2008 Integrated Report. 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/psdindex.html (EAS/2007-6-2).
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 WAU Description WAU Size (m²): 147.3
04100008 060 Blanchard River (downstream Riley Creek to mouth); excluding Blanchard R. mainstem

Integrated Report Assessment Category: 5 Priority Points: 6
Next Scheduled Monitoring: 2020

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C Impairment: Yes (5) Sampling Year(s): 2005

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<th>Stream Size Category</th>
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<tr>
<td>Primary Tributaries</td>
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<tr>
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<td>5-20 mi²</td>
<td>Site(s)</td>
<td>Site(s)</td>
<td>Site(s)</td>
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<td>20-50 mi²</td>
<td>Site(s)</td>
<td>Site(s)</td>
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<tr>
<td>Principal Streams</td>
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<tr>
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<td>50-500 mi²</td>
<td>Site(s)</td>
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High Magnitude Causes
Ammonia (Total)
Direct Habitat Alterations
Nitrate/Nitrite (Nitrite + Nitrate as N)
Organic Enrichment (Sewage) Biological Indicators
Oxygen, Dissolved
Phosphorus (Total)
Low Flow Alterations
Sedimentation/Siltation

High Magnitude Sources
Channelization
Package Plant or Other Permitted Small Flow Discharges
Crop Production with Subsurface Drainage
Municipal Point Source Discharges

Recreation Use Assessment
Subcategory of Use: Primary Contact Impairment: Yes (5) Cause: Pathogens Geometric Mean: 703

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Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator: Pesticide Indicator:
Cause: Pathogens

Fish Tissue Assessment
Waters Sampled: No Impairment: Unknown (3) Pollutants (Waterbody):
Stream Miles Monitored: 0.00 Stream Miles Impaired: 0.00
Lake Acres Monitored: 0.0 Lake Acres Impaired: 0.0

WAU 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. Principal streams sampled included Cranberry Creek, Caton Creek, and Bear Creek. For the 2006 Integrated Report, 2005 bacteria data were available which resulted in an impaired recreation use assessment. Biological and chemical data for assessment of aquatic life uses were not available for the 2006 report but are included in the 2008 Integrated Report. 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/psdindex.html (EAS/2007-6-2).
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 170.0
04100009 010  Maumee River (downstream Tiffin R. to upstream South Turkeyfoot Cr.); excluding Maumee R. mainstem

Integrated Report Assessment Category: 5  Priority Points: 4
Next Scheduled Monitoring: 2016

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C  Sampling Year(s): 1997, 2001
Impairment: Yes (5)

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High Magnitude Causes
- Nutrients
- Flow Alteration
- Direct Habitat Alterations

Nonirrigated Crop Production
Channelization - Agriculture

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)  Cause: Geometric Mean: 621
No. Ambient Sites: 1  No. Ambient Sampling Records: 2  75th %ile: 906
No. of NPDES MOR Sites: 1  No. of NPDES MOR Records: 19  90th %ile: 2075
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Cause: Nitrate Indicator:
Cause:  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 49.0  Lake Acres Impaired:

WAU Comments
Several previously unassessed streams in this watershed were sampled by ODNR Division of Wildlife in 2001. Data were used as a supplement to Ohio EPA data in determining aquatic life use attainment status for the 2004 Integrated Report.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 HAWS Description WAU Size (mi²): 149.1
04100009 020 South Turkeyfoot Creek

Integrated Report Assessment Category: 5 Priority Points: 1
Next Scheduled Monitoring: 2016

Aquatic Life Use Assessment

Subcategories of ALU: WWH Sampling Year(s): 1997
Impairment: Yes (5)

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<td>20-50 mi²</td>
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<td>Flow Alteration</td>
<td>Channelization - Agriculture</td>
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<td>Direct Habitat Alterations</td>
<td>Removal of Riparian Vegetation - Ag.</td>
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<td>Streambank Destabilization - Ag.</td>
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Recreation Use Assessment

Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data) Cause: Geometric Mean: 265
No. Ambient Sites: 0 No. Ambient Sampling Records: 0 75th %ile: 433
No. of NPDES MOR Sites: 1 No. of NPDES MOR Records: 14 90th %ile: 483
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No Impairment: Unknown (3)
Stream Miles Monitored: 0.00 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

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<tr>
<th>HUC11</th>
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<th>WAU Size (mi²):</th>
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<th>Priority Points:</th>
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<td>04100009 030</td>
<td>Maumee R. (downstream S. Turkeyfoot Cr. to upstream Bad Cr.); excluding Maumee R.</td>
<td>103.0</td>
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Aquatic Life Use Assessment

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Recreation Use Assessment

Public Drinking Water Supply Assessment
Location(s): Unnamed trib segments immediately adjacent to Wauseon Reservoir [Wauseon]

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<td>Pollutants (Waterbody):</td>
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WAU Comments

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 04100009 040  
WAU Description: Bad Creek  
WAU Size (mi²): 64.7

Integrated Report Assessment Category: 5  
Priority Points: 1  
Next Scheduled Monitoring: 2016

Aquatic Life Use Assessment
Subcategories of ALU: WWH  
Impairment: Yes (5)  
Sampling Year(s): 1997

<table>
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<th>% Attainment Partial</th>
<th>% Attainment Non</th>
<th>WAU Score Full</th>
<th>WAU Score Partial</th>
<th>WAU Score Non</th>
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<tbody>
<tr>
<td>Secondary Tributaries</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 5 mi²</td>
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<tr>
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<td>20-50 mi²</td>
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<td>Principal Streams</td>
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</tbody>
</table>

High Magnitude Causes
- Unionized Ammonia
- Siltation
- Organic Enrichment/DO
- Flow Alteration
- Direct Habitat Alterations

High Magnitude Sources
- Municipal Point Source
- Combined Sewer Overflows
- Nonirrigated Crop Production
- Channelization - Agriculture
- Removal of Riparian Vegetation - Ag.
- Streambank Destabilization - Ag.

Recreation Use Assessment
Subcategory of Use: Primary Contact  
Impairment: Unknown (3)  
No. Ambient Sites: No. Ambient Sampling Records:  
No. of NPDES MOR Sites: No. of NPDES MOR Records:  
Other:

Public Drinking Water Supply Assessment
Location(s): Bad Creek @RM 17.0 [Delta]

Impairment: Unknown (3-Insufficient Data)  
Nitrate Indicator: Insufficient Data  
Cause:
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes  
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 0.00  
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 89.0  
Lake Acres Impaired:

WAU Comments
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 04100009 050  
WAU Description: Maumee River (downstream Bad Creek to downstream Beaver Creek); excluding Maumee R. mainstem

WAU Size (mi²): 231.2

Integrated Report Assessment Category: 5  
Next Scheduled Monitoring: 2016

Priority Points: 6

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C,LRW  
Impairment: Yes (5)  
Sampling Year(s): 1997, 2001

Stream Size Category | Raw Data Available | No. Attaining | % Attainment | WAU Score
--- | --- | --- | --- | ---
Secondary Tributaries | | | | |
< 5 mi² | 1 Site(s) | 1 Site(s) | 0.0 0.0 100 |
Primary Tributaries | | | | |
5-20 mi² | 1 Site(s) | 1 Site(s) |
20-50 mi² | 2 Site(s) | 0 Site(s) |
Principal Streams | | | | |
50-500 mi² | 4 Site(s) | 50 | 0 | 50 |

High Magnitude Causes
- Nutrients
- Flow Alteration
- Direct Habitat Alterations

High Magnitude Sources
- Nonirrigated Crop Production
- Channelization - Agriculture

Recreation Use Assessment
Subcategory of Use: Primary Contact  
Impairment: Yes (5)  
Cause: Pathogens  
Geometric Mean: 787  
75th %ile: 1700  
90th %ile: 3580

No Public Drinking Water Supply Intakes

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  
Cause: Pathogens

Fish Tissue Assessment
Waters Sampled: No  
Impairment: Unknown (3)
Stream Miles Monitored: 0.00  
Stream Miles Impaired: Pollutants (Waterbody)

Lake Acres Monitored: 0.0  
Lake Acres Impaired:  

WAU Comments
Several previously unassessed streams in this watershed were sampled by ODNR Division of Wildlife in 2001. Data were used as a supplement to Ohio EPA data in determining aquatic life use attainment status for the 2004 Integrated Report.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 04100009 060
WAU Description: Maumee River (downstream Beaver Cr. to downstream N. Granger Island); excluding Maumee R. mainstem

Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2016
Priority Points:

Aquatic Life Use Assessment

Subcategories of ALU: WWH
Impairment: Unknown (3)

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<th>% Attainment Full</th>
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<th>Non</th>
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<th>Non</th>
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<td>Primary Tributaries</td>
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<td>Site(s)</td>
<td>Site(s)</td>
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<tr>
<td>20-50 mi²</td>
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<td>Site(s)</td>
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<td>Principal Streams</td>
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<td>Site(s)</td>
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<tr>
<td>50-500 mi²</td>
<td>Site(s)</td>
<td>Site(s)</td>
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Recreation Use Assessment

Subcategory of Use: Primary Contact
Impairment: Unknown (3)

<table>
<thead>
<tr>
<th>Cause:</th>
<th>Geometric Mean:</th>
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<tbody>
<tr>
<td></td>
<td>75th %ile:</td>
</tr>
<tr>
<td></td>
<td>90th %ile:</td>
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</tbody>
</table>

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment

Waters Sampled: No
Impairment: Unknown (3)

<table>
<thead>
<tr>
<th>Pollutants (Waterbody):</th>
<th>Stream Miles Monitored: 0.00</th>
<th>Stream Miles Impaired:</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Lake Acres Monitored: 0.0</td>
<td>Lake Acres Impaired:</td>
</tr>
</tbody>
</table>

WAU Comments

No recent data have been collected in this watershed.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 04100009 070
WAU Description: Swan Creek (headwaters to upstream Blue Creek)

WAU Size (mi²): 95.7

Integrated Report Assessment Category: 5
Priority Points: 3
Next Scheduled Monitoring: 2022

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (5)
Sampling Year(s): 2006

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<td>Secondary Tributaries</td>
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<tr>
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<td></td>
<td></td>
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<tr>
<td>Primary Tributaries</td>
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<tr>
<td>5-20 mi²</td>
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<td>1 Site(s)</td>
<td>8.3</td>
<td>66.7</td>
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<tr>
<td>20-50 mi²</td>
<td>3 Site(s)</td>
<td>0 Site(s)</td>
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<tr>
<td>Principal Streams</td>
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<td></td>
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<tr>
<td>50-500 mi²</td>
<td>1 Site(s)</td>
<td></td>
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<td></td>
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High Magnitude Causes
- Sedimentation/Siltation
- Direct Habitat Alterations
- Nitrate/Nitrite (Nitrite + Nitrate as N)
- Physical Substrate Habitat Alterations
- Phosphorus (Total)

High Magnitude Sources
- Crop Production with Subsurface Drainage
- Channelization
- On-Site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Historic Bottom Deposits (Not Sediment)
- Municipal Point Source Discharges
- Sewage Discharges in Unsewered Areas
- Golf Courses

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data) Cause: Geographic Mean: 212
No. Ambient Sites: 0 No. Ambient Sampling Records: 0 75th %ile: 1400
No. of NPDES MOR Sites: 1 No. of NPDES MOR Records: 20 90th %ile: 2040
Other:

Public Drinking Water Supply Assessment
Location(s): Swan Creek @RM 30.84 [Swanton]

Impairment: Unknown (3-Insufficient Data) Nitrate Indicator: Insufficient Data, Watch List
Cause: Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: No Impairment: Unknown (3)
Stream Miles Monitored: 0.00 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments
Intensive chemical, physical, and biological monitoring was conducted in the assessment unit in 2006 as part of monitoring in the Swan Creek watershed to develop TMDLs for pollutants causing beneficial use impairments. Principal streams sampled included Swan Creek and Ai Creek. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 | WAU Description | WAU Size (mi²): 108.3
04100009 080 Swan Creek (upstream Blue Creek to mouth)

Integrated Report Assessment Category: 5
Priority Points: 1
Next Scheduled Monitoring: 2022

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (5)
Sampling Year(s): 2006

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<th>Stream Size Category</th>
<th>Raw Data Available</th>
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<th>WAU Score</th>
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<td>Secondary Tributaries</td>
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<tr>
<td>&lt; 5 mi²</td>
<td>Site(s)</td>
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<tr>
<td>Primary Tributaries</td>
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<tr>
<td>5-20 mi²</td>
<td>6 Site(s)</td>
<td>1 Site(s)</td>
<td>8.3</td>
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<td>50-500 mi²</td>
<td>7 Site(s)</td>
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High Magnitude Causes
- Sedimentation/Siltation
- Direct Habitat Alterations
- Nitrate/Nitrite (Nitrite + Nitrate as N)
- Priority Organics
- Sediment Screening Value (Exceedence)
- Aluminum
- Polycyclic Aromatic Hydrocarbons (PAHs)

High Magnitude Sources
- Crop Production with Subsurface Drainage
- Sewage Discharges in Unsewered Areas
- Urban Runoff/Storm Sewers
- Dam or Impoundment
- Upstream Impoundments
- Combined Sewer Overflows
- Sand/Gravel/Rock Mining or Quarries
- Impervious Surface/Parking Lot Runoff

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)

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<tr>
<th>Cause:</th>
<th>Geometric Mean:</th>
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<tbody>
<tr>
<td></td>
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<td>90th %ile:</td>
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Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: No
Cause: No

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Historical Data)

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<th>Cause:</th>
<th>Pollutants (Waterbody):</th>
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<tbody>
<tr>
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<tr>
<td>Pesticide Indicator:</td>
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<table>
<thead>
<tr>
<th>Lake Acres Monitored:</th>
<th>Lake Acres Impaired:</th>
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<tbody>
<tr>
<td>22.60</td>
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WAU Comments
Intensive chemical, physical, and biological monitoring was conducted in the assessment unit in 2006 as part of monitoring in the Swan Creek watershed to develop TMDLs for pollutants causing beneficial use impairments. Principal streams sampled included Swan Creek, Blue Creek, and Wolf Creek. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 76.6
04100009 090 Maumee River (downstream N. Granger Island to mouth); excluding Maumee R. mainstem

Integrated Report Assessment Category:  5  Priority Points:  1
Next Scheduled Monitoring:  2022

Aquatic Life Use Assessment
Subcategories of ALU:  WWH          Sampling Year(s):  1997, 2006
Impairment:  Yes (5)

<table>
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<tr>
<th>Stream Size Category</th>
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<td>Full  Partial Non</td>
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High Magnitude Causes
Sedimentation/Siltation
Direct Habitat Alterations

High Magnitude Sources
Channelization
Habitat Modification - other than Hydromodification
Streambank Modifications/Destabilization
Urban Runoff/Storm Sewers

Recreation Use Assessment
Subcategory of Use:  Primary Contact
Impairment:  Unknown (3)

<table>
<thead>
<tr>
<th>Subcategory</th>
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<tbody>
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<td>90th %ile:</td>
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Public Drinking Water Supply Assessment
Location(s):  No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled:  Yes  Impairment:  Unknown (3-Historical Data)
Stream Miles Monitored:  6.40  Stream Miles Impaired:  Pollutants (Waterbody):
Lake Acres Monitored:  8.3  Lake Acres Impaired:  

WAU Comments
Intensive chemical, physical, and biological monitoring was conducted in the assessment unit in 2006 as part of monitoring in lower Maumee River tributary watersheds to develop TMDLs for pollutants causing beneficial use impairments. Principal streams sampled included Delaware Creek, Grassy Creek, and the Grassy Creek Diversion. Duck Creek was sampled in 1997 and is included in the assessment. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2008

Priority Points: 1

HUC11  WAU Description  WAU Size (mi²): 204.7
04100010 010 Lake Erie tributaries (East of Maumee River to west of Toussaint River

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C,LRW
Impairment: Yes (5-Historical)

<table>
<thead>
<tr>
<th>Stream Size Category</th>
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<th>Raw Data No. Attaining</th>
<th>% Attainment Full</th>
<th>% Attainment Partial</th>
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<td>11 Site(s)</td>
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<td>Miles</td>
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High Magnitude Causes
- Unknown Toxicity
- Nutrient/Eutrophication Biological Indicators
- Sedimentation/Siltation
- Other Flow Regime Alterations
- Direct Habitat Alterations
- Oil and Grease
- Arsenic
- Polycyclic Aromatic Hydrocarbons (PAHs)
- Sediment Screening Value (Exceedence)

High Magnitude Sources
- Industrial Point Source Discharges
- Nonirrigated Crop Production
- Landfills
- Channelization
- Dredging
- Loss of Riparian Vegetation
- Streambank Modifications/Destabilization
- Spills
- Commercial Districts (Industrial Parks)
- Sediment Resuspension (Contaminated Sediments)

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Yes
Cause:

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Historical Data)

WAU Comments
Most aquatic life data for this assessment unit were collected in 1993. These data have exceeded the ten-year threshold and are now considered historical. Principal streams sampled included Cedar Creek, Crane Creek, Turtle Creek, and Otter Creek. Very limited sampling in 1997 and 2006 was conducted at several Otter Creek sites and confirmed similar aquatic life status as assessed in 1993. The assessment unit will remain Category 5 as listed in the 2002 Integrated Report 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 this assessment unit in 2008 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 04100010 020
WAU Description: Toussaint Creek
WAU Size (mi²): 143.1

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2018
Priority Points: 5

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH
Impairment: Yes (4A-TMDL)
Sampling Year(s): 2002, 2003

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<tr>
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<td>Partial</td>
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<td>Secondary Tributaries &lt; 5 mi²</td>
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<tr>
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</tr>
<tr>
<td>20-50 mi²</td>
<td>5 Site(s)</td>
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<tr>
<td>Principal Streams 50-500 mi²</td>
<td>9 Site(s)</td>
<td>25.1 Miles</td>
<td>11.6 Miles</td>
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High Magnitude Causes
- Direct Habitat Alterations
- Nutrients
- Organic Enrichment/DO
- Siltation
- Cause Unknown

High Magnitude Sources
- Removal of Riparian Vegetation-Agriculture
- Channelization-Agriculture
- Onsite Wastewater Systems (Septic Tanks)
- Minor Municipal Point Source
- Nonirrigated Crop Production
- Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
No. Ambient Sites: 19
No. Ambient Sampling Records: 60
No. of NPDES MOR Sites: 2
No. of NPDES MOR Records: 26
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pathogens

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)
Stream Miles Monitored: 21.90
Stream Miles Impaired: 21.90
Pollutants (Waterbody): PCBs (Toussaint Creek)

WAU Comments
TMDLs for pollutants impairing beneficial uses (aquatic life) in the Toussaint Creek basin were approved by U.S. EPA on September 22, 2006. Chemical, physical, and biological monitoring in support of the TMDL development was conducted in 2003. 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](http://www.epa.state.oh.us/dsw/document_index/psdindx.html). The 2006 Integrated Report assessment of available bacteria data indicated violations of Ohio Water Quality Standards and an impairment of the designated Primary Contact Recreation use. Fish tissue data from Toussaint Creek 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 assessment unit will remain Category 5 until TMDLs are developed for all pollutants impairing all designated beneficial uses. See [http://www.epa.state.oh.us/dsw/tmdl/ToussaintRiverTMDL.html](http://www.epa.state.oh.us/dsw/tmdl/ToussaintRiverTMDL.html) for more information.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 168.6
04100010 030  Middle Branch Portage River (headwaters to downstream Rocky Ford Creek)  

Integrated Report Assessment Category: 5  Priority Points: 6
Next Scheduled Monitoring: 2008

Aquatic Life Use Assessment

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High Magnitude Causes
Siltation  Combined Sewer Overflows
Organic Enrichment/DO  Highway/Road/Bridge/Sewer Line
Turbidity  Onsite Wastewater Systems (Septic Tanks)
           Upstream Impoundment
           Bridge Construction

Recreation Use Assessment
Subcategory of Use: Primary Contact  Cause: Pathogens  Geometric Mean: 248
No. of NPDES MOR Sites: 2  No. of NPDES MOR Records: 64  90th %ile: 2675
Other:

Public Drinking Water Supply Assessment
Location(s): Rader Creek @RM 13.57 [McComb]; Rocky Ford Creek @RMs 10.66 and 11.10 [North Baltimore]

Impairment: Unknown (3-Insufficient Data)  Nitrate Indicator: Insufficient Data, Watch List
Cause: Pathogens  Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 13.07  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 55.0  Lake Acres Impaired:

WAU Comments
Biological and water quality data collected in 1993 and 1994 were used in the 2002 Integrated Report which resulted in a Category 5 (impaired) listing for the aquatic life beneficial use. While some data from 1999 are available, most data have exceeded the ten-year threshold and are now considered historical. However, while reflecting the current status that insufficient data are available to assess beneficial 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 this assessment unit in 2008 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 04100010 040
WAU Description: Middle Branch Portage River (downstream Rocky Ford Creek to downstream South Branch)
WAU Size (mi²): 166.7

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2008
Priority Points: 1

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (5-Historical)
Sampling Year(s): 1994

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High Magnitude Causes
Siltation
Organic Enrichment/DO
Flow Alteration
Direct Habitat Alterations

High Magnitude Sources
Major Municipal Point Source
Combined Sewer Overflows
Nonirrigated Crop Production
Pasture Land
Onsite Wastewater Systems (Septic Tanks)
Channelization - Agriculture

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)
Cause: Insufficient Data
Geometric Mean: 938
No. Ambient Sites: 1
No. Ambient Sampling Records: 6
75th %ile: 3000
No. of NPDES MOR Sites: 1
No. of NPDES MOR Records: 63
90th %ile: 6400
Other:

Public Drinking Water Supply Assessment
Location(s): East Branch Portage River @RMs 13.84 and 16.15 [Fostoria]

Impairment: Unknown (3-Insufficient Data)
Cause: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 16.53
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 483.0
Lake Acres Impaired:

WAU Comments
Biological and water quality data collected in 1994 were used in the 2002 Integrated Report which resulted in a Category 5 (impaired) listing for the aquatic life beneficial use. These data have exceeded the ten-year threshold and are now considered historical. However, while reflecting the current status that insufficient data are available to assess beneficial 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 this assessment unit in 2008 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²):  77.2
04100010 050  Portage River (downstream South/Middle Branches to downstream North Branch)  

Integrated Report Assessment Category:  5  Priority Points:  3  
Next Scheduled Monitoring:  2008  

Aquatic Life Use Assessment
Subcategories of ALU:  WWH, LRW  
Impairment:  Unknown (3)  
Sampling Year(s):  

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High Magnitude Causes  
High Magnitude Sources

Recreation Use Assessment
Subcategory of Use:  Primary Contact  
Impairment:  Yes (5)  
No. Ambient Sites:  0  
No. of NPDES MOR Sites:  3  
No. Ambient Sampling Records:  0  
No. of NPDES MOR Records:  132  

Other:  

Public Drinking Water Supply Assessment
Location(s):  No Public Drinking Water Supply Intakes  
Impairment:  No (1)  
Nitrate Indicator:  
Pesticide Indicator:  

Fish Tissue Assessment
Waters Sampled:  Yes  
Stream Miles Monitored:  4.40  
Stream Miles Impaired:  4.40  
Pollutants (Waterbody):  PCBs (North Branch Portage River)  
Lake Acres Monitored:  0.0  
Lake Acres Impaired:  0.0  

WAU Comments
No recent biological community and water quality data were available for this assessment unit to determine status of aquatic life uses. As such, this assessment unit was listed as Category 3 (unassessed) for aquatic life in the 2002 Integrated Report. Recent bacteria data indicate that a prior impairment listing for the recreation use is no longer supported and the assessment unit has been delisted for that use. However, 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 and was thus listed as Category 5 (impaired) for fish consumption. The assessment unit will remain Category 5 until TMDLs have been developed for all pollutants impairing all beneficial uses. Comprehensive chemical, physical, and biological monitoring is scheduled in this assessment unit in 2008 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 87.1
04100010 060  Portage River (downstream North Branch to downstream Sugar Creek)

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

Aquatic Life Use Assessment
Subcategories of ALU: WWH  Sampling Year(s): 1994
Impairment: Yes (5-Historical)

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High Magnitude Causes
Siltation
Organic Enrichment/DO

High Magnitude Sources
Nonirrigated Crop Production
Channelization - Agriculture
Drainage/Filling of Wetland - Ag.

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)  Cause: Geometric Mean: 274
No. Ambient Sites: 2  No. Ambient Sampling Records: 22  75th %ile: 581
No. of NPDES MOR Sites: 3  No. of NPDES MOR Records: 64  90th %ile: 1500
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Cause: Nitrate Indicator:  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5-Historical Data)
Stream Miles Monitored: 6.60  Stream Miles Impaired: 6.60  Pollutants (Waterbody): PCBs (Portage River)
Lake Acres Monitored: 0.0  Lake Acres Impaired: 0.0

WAU Comments
Biological and water quality data collected in 1994 were used in the 2002 Integrated Report which resulted in a Category 5 (impaired) listing for the aquatic life beneficial use. These data, as well as available fish tissue data used to determine fish consumption status, have exceeded the ten-year threshold and are now considered historical. However, while reflecting the current status that insufficient data are available to assess aquatic life use and fish consumption status, the assessment unit will remain Category 5 until TMDLs for all beneficial use impairments (aquatic life, recreation, and fish consumption) are completed and approved by the U.S. EPA. Comprehensive chemical, physical, and biological monitoring is scheduled in this assessment unit in 2008 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 111.3
04100010 070 Portage River (downstream Sugar Creek to mouth); Lake Erie tributaries west of Marblehead

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2008
Priority Points: 3

Aquatic Life Use Assessment
Subcategories of ALU: WWH,LRW
Impairment: Yes (5-Historical)
Sampling Year(s): 1994, 1998

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High Magnitude Causes
Siltation
Organic Enrichment/DO

High Magnitude Sources
Nonirrigated Crop Production

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)
No. Ambient Sites: 1
No. of NPDES MOR Sites: 3

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Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

| Impairment: Nitrate Indicator: |
| Cause: Pesticide Indicator: |

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5-Historical Data)
Stream Miles Monitored: 17.50
Stream Miles Impaired: 17.50
Pollutants (Waterbody): PCBs (Portage River)
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
Biological and water quality data collected in 1994 were used in the 2002 Integrated Report which resulted in a Category 5 (impaired) listing for the aquatic life beneficial use. While some data from 1998 are available, most data, including available fish tissue data used to determine fish consumption status, have exceeded the ten-year threshold and are now considered historical. However, while reflecting the current status that insufficient data are available to assess aquatic life use and fish consumption 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 this assessment unit in 2008 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 136.4
04100011 010  Muddy Creek; Lake Erie tributaries (Muddy Creek to Marblehead)

Integrated Report Assessment Category: 3  Priority Points:  
Next Scheduled Monitoring: 2009

Aquatic Life Use Assessment

Subcategories of ALU: WWH  Impairment: Unknown (3)

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High Magnitude Causes  High Magnitude Sources

Recreation Use Assessment

Subcategory of Use: Primary Contact  Cause:
Impairment: Unknown (3-Indeterminate Data)  Geometric Mean: 680
No. Ambient Sites: 0  No. Ambient Sampling Records: 0  75th %ile: 1713
No. of NPDES MOR Sites: 1  No. of NPDES MOR Records: 12  90th %ile: 9220
Other:

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment

Waters Sampled: Yes  Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 21.30  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 137.3
04100011 020  Sandusky River (headwaters to upstream Broken Sword Creek)

Integrated Report Assessment Category: 5  Priority Points: 2
Next Scheduled Monitoring: 2019

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (4A-TMDL)  Sampling Year(s): 2001

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High Magnitude Causes: Siltation  Nutrients  Organic Enrichment/DO  Flow Alteration
High Magnitude Sources: Major Municipal Point Source  Combined Sewer Overflows  Nonirrigated Crop Production  Onsite Wastewater Systems (Septic Tanks)  Flow Regulation/Modification-Agriculture

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (4A-TMDL)  Cause: Pathogens  Geometric Mean: 1125
No. Ambient Sites: 5  No. Ambient Sampling Records: 10  75th %ile: 7000
No. of NPDES MOR Sites: 2  No. of NPDES MOR Records: 207  90th %ile: 14100
Other:

Public Drinking Water Supply Assessment
Location(s): Sandusky River @RM 115.4 [Bucyrus]

Impairment: Unknown (3-Insufficient Data)  Nitrate Indicator: Insufficient Data
Cause: Pathogens  Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5)
Stream Miles Monitored: 21.72  Stream Miles Impaired: 21.72  Pollutants (Waterbody): PCBs (Sandusky River)
Lake Acres Monitored: 181.0  Lake Acres Impaired:

WAU Comments
A report developing TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the upper Sandusky River basin was approved by U.S. EPA on September 29, 2004. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. Monitoring in support of the TMDL was conducted in 2001. 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. 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.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 | WAU Description | WAU Size (m²): | 94.5
---|---|---
04100011 030 | Broken Sword Creek |

Integrated Report Assessment Category: 4A
Next Scheduled Monitoring: 2019

### Aquatic Life Use Assessment
**Subcategories of ALU:** WWH
**Impairment:** Yes (4A-TMDL)

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<td></td>
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</tr>
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<td><strong>Principal Streams</strong></td>
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</tr>
<tr>
<td>50-500 mi²</td>
<td>4 Site(s)</td>
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**High Magnitude Causes**
- Siltation
- Nutrients
- Flow Alteration
- Direct Habitat Alterations

**High Magnitude Sources**
- Nonirrigated Crop Production
- Channelization - Agriculture
- Flow Regulation/Modification-Agriculture
- Spills

### Recreation Use Assessment
**Subcategory of Use:** Primary Contact
**Impairment:** Yes (4A-TMDL)

| No. Ambient Sites: 2 | No. Ambient Sampling Records: 4 | Geometric Mean: 2207 | 75th %ile: 3950 | 90th %ile: 4220 |

| Other: | |

### Public Drinking Water Supply Assessment
**Location(s):** No Public Drinking Water Supply Intakes

<table>
<thead>
<tr>
<th>Impairment:</th>
<th>Nitrate Indicator:</th>
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<tbody>
<tr>
<td>Cause: Pathogens</td>
<td>Pesticide Indicator:</td>
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### Fish Tissue Assessment
**Waters Sampled:** Yes
**Impairment:** Unknown (3-Historical Data)

<table>
<thead>
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<td>Lake Acres Monitored: 0.00</td>
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### WAU Comments
A report developing TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the upper Sandusky River basin was approved by U.S. EPA on September 29, 2004. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. Monitoring in support of the TMDL was conducted in 2001. 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/psdindex.html.

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3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 121.3
04100011 040  Sandusky River (downstream Broken Sword Creek to upstream Tymochtee Creek)  


Aquatic Life Use Assessment

Subcategories of ALU: WWH, MWH-C  Sampling Year(s): 2001
Impairment: Yes (4A-TMDL)

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<thead>
<tr>
<th>Stream Size Category</th>
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<td>2 Site(s)</td>
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<tr>
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</tr>
<tr>
<td>5-20 mi²</td>
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<td>8 Site(s)</td>
<td>2 Site(s)</td>
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<td>50-500 mi²</td>
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<td>5 Site(s)</td>
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High Magnitude Causes
- Siltation
- Nutrients
- Organic Enrichment/DO
- Flow Alteration
- Direct Habitat Alterations

High Magnitude Sources
- Nonirrigated Crop Production
- Onsite Wastewater Systems (Septic Tanks)
- Channelization - Agriculture
- Flow Regulation/Modification-Agriculture
- Removal of Riparian Vegetation - Ag.

Recreation Use Assessment

Subcategory of Use: Primary Contact  Cause: Pathogens  Geometric Mean: 219
No. of NPDES MOR Sites: 1  No. of NPDES MOR Records: 47 90th %ile: 654
Other:

Public Drinking Water Supply Assessment

Location(s): Sandusky River @RMs 82.9 and 83.15 [Upper Sandusky]

Impairment: Unknown (3-Insufficient Data)  Nitrate Indicator: Insufficient Data
Cause:
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment

Waters Sampled: Yes  Impairment: Yes (5)
Stream Miles Monitored: 28.75  Stream Miles Impaired: 28.75  Pollutants (Waterbody): PCBs (Sandusky River)
Lake Acres Monitored: 297.6  Lake Acres Impaired:

WAU Comments
A report developing TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the upper Sandusky River basin was approved by U.S. EPA on September 29, 2004. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. Monitoring in support of the TMDL was conducted in 2001. 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. 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.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 171.6
04100011 050  Tymochtee Creek (headwaters to downstream Warpole Creek)

Integrated Report Assessment Category: 4A
Next Scheduled Monitoring: 2019

Aquatic Life Use Assessment
Subcategories of ALU:  WWH,MWH-C
Impairment:  Yes (4A-TMDL)
Sampling Year(s):  2001

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<th>WAU Score</th>
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<td>Nonirrigated Crop Production</td>
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<tr>
<td>Siltation</td>
<td>Flow Regulation/Modification-Agriculture</td>
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<tr>
<td>Organic Enrichment/DO</td>
<td>Onsite Wastewater Systems (Septic Tanks)</td>
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<tr>
<td>Flow Alteration</td>
<td>Spills</td>
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Recreation Use Assessment
Subcategory of Use:  Primary Contact
Impairment:  Yes (4A-TMDL)
Cause:  Pathogens
Geometric Mean:  7777
No. Ambient Sites:  1
No. Ambient Sampling Records:  4
No. of NPDES MOR Sites:  0
No. of NPDES MOR Records:  0
Other:

Public Drinking Water Supply Assessment
Location(s):  No Public Drinking Water Supply Intakes

Impairment:  Nitrate Indicator:
Cause:  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled:  Yes  Impairment:  Unknown (3-Indeterminate Data)
Stream Miles Monitored:  14.66  Stream Miles Impaired:  Pollutants (Waterbody):
Lake Acres Monitored:  0.0  Lake Acres Impaired:  

WAU Comments
A report developing TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the upper Sandusky River basin was approved by U.S. EPA on September 29, 2004. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. Monitoring in support of the TMDL was conducted in 2001. 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.
## Watershed Assessment Unit (WAU) Results

### Integrated Report Assessment Category: 4A

Next Scheduled Monitoring: 2019

### Aquatic Life Use Assessment

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<th>Sampling Year(s): 2001</th>
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<tr>
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<td>26.7 Miles</td>
<td>10.9 Miles</td>
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### Recreation Use Assessment

Subcategory of Use: Primary Contact

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<td>No. of NPDES MOR Records: 38</td>
<td>90th %ile: 873</td>
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### Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

### Fish Tissue Assessment

Waters Sampled: Yes  Impairment: 3-Indeterminate Data

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<th>Stream Miles Monitored: 26.74</th>
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<td>Lake Acres Impaired:</td>
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### WAU Comments

A report developing TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the upper Sandusky River basin was approved by U.S. EPA on September 29, 2004. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. Monitoring in support of the TMDL was conducted in 2001. 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.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 121.8
04100011 070  Sandusky River (downstream Tymochtee Creek to upstream Honey Creek); excluding Sandusky R. mainstem

Integrated Report Assessment Category: 4A  Priority Points:
Next Scheduled Monitoring: 2019

Aquatic Life Use Assessment
Subcategories of ALU: WWH  Sampling Year(s): 2001
Impairment: Yes (4A-TMDL)

<table>
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<tr>
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<th>% Attainment</th>
<th>WAU Score</th>
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<td>20-50 mi²</td>
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High Magnitude Causes
Siltation
Nutrients
Organic Enrichment/DO
Flow Alteration
Direct Habitat Alterations
High Magnitude Sources
Nonirrigated Crop Production
Onsite Wastewater Systems (Septic Tanks)
Channelization - Agriculture
Flow Regulation/Modification-Agriculture
Removal of Riparian Vegetation - Ag.

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1-Historical)
Cause: No. Ambient Sampling Records: 0
No. of NPDES MOR Sites: 1
No. of NPDES MOR Records: 18
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: N
Cause: Nitrate Indicator:
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 9.10
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
A report developing TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the upper Sandusky River basin was approved by U.S. EPA on September 29, 2004. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. Monitoring in support of the TMDL was conducted in 2001. 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.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 | WAU Description | WAU Size (mi²): 179.7
---|---|---
04100011 080 | Honey Creek |

Integrated Report Assessment Category: 4A

Priority Points: 

Next Scheduled Monitoring: 2019

Aquatic Life Use Assessment

Subcategories of ALU: WWH, LRW

Impairment: Yes (4A-TMDL)

Sampling Year(s): 2001

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<thead>
<tr>
<th>Stream Size Category</th>
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<th>% Attainment</th>
<th>WAU Score</th>
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<tr>
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<td>3 Site(s)</td>
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</tr>
<tr>
<td>Primary Tributaries</td>
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<td>4 Site(s)</td>
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High Magnitude Causes

- Flow Alteration
- Siltation
- Nutrients
- Minor Municipal Point Source
- Nonirrigated Crop Production
- Channelization - Agriculture
- Flow Regulation/Modification-Agriculture
- Removal of Riparian Vegetation - Ag.

Recreation Use Assessment

Subcategory of Use: Primary Contact

Impairment: No (1)

Geometric Mean: 128

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<th>No. Ambient Sites: 3</th>
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<tr>
<td>75th %ile: 395</td>
<td>90th %ile: 791</td>
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Public Drinking Water Supply Assessment

Location(s): Honey Creek @RM 28.35 [Attica]; Unnamed tributary (Brokenknife Creek RM 5.50) @RM 2.15 [New Washington]

Impairment: Unknown (3-Insufficient Data)

Nitrate Indicator: Insufficient Data, Watch List
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment

Waters Sampled: Yes

Impairment: Unknown (3-Historical Data)

Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody):

Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments

A report developing TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the upper Sandusky River basin was approved by U.S. EPA on September 29, 2004. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. Monitoring in support of the TMDL was conducted in 2001. 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.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11   WAU Description      WAU Size (mi²): 116.6
04100011 090 Sandusky River (downstream Honey Creek to upstream Wolf Creek); excluding Sandusky R. mainstem

Integrated Report Assessment Category: 4A
Next Scheduled Monitoring: 2009

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (4A-TMDL)
Sampling Year(s): 2001

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<th>Stream Size Category</th>
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<td>Miles</td>
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High Magnitude Causes
Siltation
Nutrients
Organic Enrichment/DO
Flow Alteration
Direct Habitat Alterations

High Magnitude Causes
Nonirrigated Crop Production
Channelization - Agriculture
Flow Regulation/Modification-Agriculture
Removal of Riparian Vegetation - Ag.

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data) Cause: Geometric Mean: 844
No. Ambient Sites: 3 No. Ambient Sampling Records: 7 75th %ile: 1005
No. of NPDES MOR Sites: 1 No. of NPDES MOR Records: 1 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
Waters Sampled: No Impairment: Unknown (3)
Stream Miles Monitored: 0.00 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments
A report developing TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the upper Sandusky River basin was approved by U.S. EPA on September 29, 2004. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. Monitoring in support of the TMDL was conducted in 2001. 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.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 157.8
04100011 100  Wolf Creek

Integrated Report Assessment Category: 5  Priority Points: 3
Next Scheduled Monitoring: 2009

Aquatic Life Use Assessment
Subcategories of ALU: WWH, LRW
Impairment: Unknown (3)

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High Magnitude Causes: [Impairment: Pollutants (Waterbody):]
High Magnitude Sources: [Cause: Pathogens; Geometric Mean: 924]

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
Cause: Pathogens
Geometric Mean: 924

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Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: [Nitrate Indicator:]
Cause: [Pesticide Indicator:]

Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)

<table>
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<tr>
<th>Stream Miles Monitored</th>
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<th>Pollutants (Waterbody):</th>
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Lake Acres Monitored: 0.0
Lake Acres Impaired: [Cause: Pathogens; Geometric Mean: 924]

WAU Comments

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

**HUC11**
04100011 110

**WAU Description**
Green Creek

**WAU Size (mi²):** 80.9

**Integrated Report Assessment Category:** 5

**Next Scheduled Monitoring:** 2009

**Priority Points:** 3

---

**Aquatic Life Use Assessment**

Subcategories of ALU: WWH

Impairment: Unknown (3)

**Impairment:**

WWH

**Sampling Year(s):**

2009

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<tr>
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**High Magnitude Causes**

High Magnitude Sources

---

**Recreation Use Assessment**

Subcategory of Use: Primary Contact

Impairment: Yes (5)

**Impairment:**

Pathogens

**Cause:**

Pathogens

**Geometric Mean:** 782

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**Public Drinking Water Supply Assessment**

Location(s): Beaver Creek @RM 2.88 [Clyde]

Impairment: Unknown (3-Insufficient Data)

**Nitrate Indicator:** Insufficient Data

**Pesticide Indicator:** Insufficient Data

**Fish Tissue Assessment**

Waters Sampled: Yes

Impairment: Unknown (3-Indeterminate Data)

**Impairment:**

Unknown (3-Indeterminate Data)

**Pollutants (Waterbody):**

**Stream Miles Monitored:** 2.00

**Stream Miles Impaired:**

**Lake Acres Monitored:** 110.0

**Lake Acres Impaired:**

**WAU Comments**

---

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 108.4
04100011 120  Sandusky River (downstream Wolf Creek to mouth); excluding Green Creek and Sandusky R. mainstem

Integrated Report Assessment Category: 3  Priority Points:
Next Scheduled Monitoring: 2009

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Unknown (3)
Sampling Year(s):

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High Magnitude Causes
High Magnitude Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)
Cause: Geometric Mean:
No. Ambient Sites: No. 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
Waters Sampled: Yes  Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 2.20  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
A small amount of data were collected in this watershed, but there are not enough sampling locations to do a complete assessment. Fish tissue sampling was done at one site on Musklullunge Creek in 1998.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 163.8
04100011 130  Lake Erie tributaries (East of Green Creek to west of Mills Creek)

Integrated Report Assessment Category: 5  Priority Points: 6
Next Scheduled Monitoring: 2009

Aquatic Life Use Assessment
Subcategories of ALU: CWH,WWH  Sampling Year(s): 1995
Impairment: Yes (5-Historical)

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High Magnitude Causes
- Organic Enrichment/DO
- Direct Habitat Alterations

High Magnitude Sources
- Major Municipal Point Source
- Channelization - Agriculture
- Channelization - Development

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)  Cause: Pathogens  Geometric Mean: 1563
No. Ambient Sites: 4  No. Ambient Sampling Records: 10  75th %ile: 6113
No. of NPDES MOR Sites: 1  No. of NPDES MOR Records: 64  90th %ile: 13360
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Nitrate Indicator:
Cause: Pathogens  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 7.00  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 34.0  Lake Acres Impaired:

WAU Comments

3/28/2008
Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C
Impairment: Yes (5-Historical)
Sampling Year(s): 1991, 1995, 2000

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Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
Cause: Pathogens
Geometric Mean: 654
No. Ambient Sites: 3
No. Ambient Sampling Records: 6
No. of NPDES MOR Sites: 1
No. of NPDES MOR Records: 41
Other:

Public Drinking Water Supply Assessment
Location(s): Snyders Ditch @RMs 5.0 and 5.5 [Bellevue]

Impairment: Unknown (3-Insufficient Data)
Nitrate Indicator: Insufficient Data, Watch List
Cause:
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: No
Stream Miles Sampled: 0.00
Stream Miles Impaired: Pollutants (Waterbody)
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
Biological and water quality data collected in 1991 (Snyder’s Ditch) and 1995 (Caswell Ditch) were used in the 2002 Integrated Report which resulted in a Category 5 (impaired) listing for the aquatic life beneficial use. One additional stream (Plum Brook) was sampled at one location in 2000. Most of these data have since exceeded the ten-year threshold and are now considered historical. However, while reflecting the current status that no data are available to assess aquatic use status, recent bacteria data indicated an impaired recreation use. 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 M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 132.1
04100012 010  West Branch Huron River (headwaters to upstream Slate Run)

Integrated Report Assessment Category: 4A
Next Scheduled Monitoring: 2017
Priority Points:

Aquatic Life Use Assessment
Subcategories of ALU:  WWH, MWH
Impairment:  Yes (4A-TMDL)
Sampling Year(s):  1998, 2002

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High Magnitude Causes
Nutrients
Organic Enrichment/DO
Flow Alteration
Direct Habitat Alterations
Oil and Grease
Siltation

High Magnitude Sources
Major Municipal Point Source
Nonirrigated Crop Production
Channelization - Agriculture
Channelization - Development
Upstream Impoundment
Waste Storage/Storage Tank Leaks
Irrigated Crop Production

Recreation Use Assessment
Subcategory of Use:  Primary Contact
Impairment:  Yes (4A-TMDL)
No. Ambient Sites:  9
No. of NPDES MOR Sites:  3

Cause:  Pathogens
No. Ambient Sampling Records:  30
No. of NPDES MOR Records:  78

Geometric Mean:  604
75th %ile:  1250
90th %ile:  3120

Public Drinking Water Supply Assessment
Location(s):  West Branch Huron River @RM 33.8 [Willard]

Impairment:  Unknown (3-Insufficient Data)
Nitrate Indicator:  Insufficient Data
Cause:  Insufficient Data
Pesticide Indicator:  Insufficient Data

Fish Tissue Assessment
Waters Sampled:  Yes
Impairment:  Unknown (3-Indeterminate Data)

Stream Miles Monitored:  22.98
Stream Miles Impaired:  Pollutants (Waterbody):

Lake Acres Monitored:  0.0
Lake Acres Impaired:

WAU Comments
A report developing TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the Huron River basin was approved by U.S. EPA on September 28, 2005. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. Monitoring in support of the TMDLs was conducted in 1998 and 2002.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 04100012 020
WAU Description: West Branch Huron River (upstream Slate Run to mouth)
WAU Size (mi²): 129.8

Integrated Report Assessment Category: 4A
Next Scheduled Monitoring: 2017
Priority Points: 

Aquatic Life Use Assessment
Subcategories of ALU: WWH, MWH
Impairment: Yes (4A-TMDL)
Sampling Year(s): 1998, 2002

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High Magnitude Causes
Nutrients
Direct Habitat Alterations
Natural Limits
High Magnitude Sources
Nonirrigated Crop Production
Channelization - Agriculture
Natural

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)
Cause: Geometric Mean: 217
No. Ambient Sites: 5
No. Ambient Sampling Records: 11
No. of NPDES MOR Sites: 1
No. of NPDES MOR Records: 20

Public Drinking Water Supply Assessment
Location(s): W. Branch Huron River @RM 8.52 [Monroeville]; Frink Run @RM 4.83 [Bellevue]

Impairment: Unknown (3-Insufficient Data)
Nitrate Indicator: Insufficient Data, Watch List
Cause: Pesticide Indicator: Insufficient Data, Watch List

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 10.52
Stream Miles Impaired: Pollutants (Waterbody): 
Lake Acres Monitored: 0.0
Lake Acres Impaired: 

WAU Comments
A report developing TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the Huron River basin was approved by U.S. EPA on September 28, 2005. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. Monitoring in support of the TMDLs was conducted in 1998 and 2002.
Aquatic Life Use Assessment

Subcategories of ALU: WWH
Impairment: Yes (4A-TMDL)
Sampling Year(s): 1998, 2002

<table>
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High Magnitude Causes
- Cause Unknown
- Nutrients
- Siltation
- Direct Habitat Alterations
- Flow Alteration
- Pesticides
- Unionized Ammonia

High Magnitude Sources
- Major Municipal Point Source
- Nonirrigated Crop Production
- Channelization- Development
- Spills
- Package Plants (Small Flows)

Recreation Use Assessment

Subcategory of Use: Primary Contact
Impairment: Yes (4A-TMDL)
Cause: Pathogens
No. Ambient Sites: 13
No. of NPDES MOR Sites: 3

Other:
- Geometric Mean: 347
- 75th %ile: 1300
- 90th %ile: 2600

Public Drinking Water Supply Assessment

Location(s): Norwalk Creek @RMs 0.11 and 4.02 [Norwalk]

Impairment: Unknown (3-Insufficient Data)
Cause: Pathogens
Nitrate Indicator: Insufficient Data
Pesticide Indicator: Insufficient Data, Watch List

Fish Tissue Assessment

Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 33.40
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 97.0
Lake Acres Impaired:

WAU Comments
A report developing TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the Huron River basin was approved by U.S. EPA on September 28, 2005. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. Monitoring in support of the TMDLs was conducted in 1998 and 2002.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11        WAU Description       WAU Size (mi²):      Priority Points:
04100012 040  Lake Erie tributaries (East of Huron River to West of Vermilion River)  83.2

Integrated Report Assessment Category: 4A
Next Scheduled Monitoring: 2021

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (4A-TMDL)

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</tr>
</tbody>
</table>

Impairment: Nutrients
Siltation
Direct Habitat Alterations
Natural Limits (Drought)

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)

<table>
<thead>
<tr>
<th></th>
<th>No. Ambient Sites</th>
<th>No. Ambient Sampling Records</th>
<th>Geometric Mean</th>
<th>75th %ile</th>
<th>90th %ile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cause</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of NPDES MOR Sites</td>
<td>15</td>
<td>44</td>
<td>182</td>
<td>309</td>
<td>902</td>
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<tr>
<td>Other</td>
<td>No. of NPDES MOR Records</td>
<td>62</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No Impairment: Unknown (3)

Stream Miles Monitored: 0.00 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments
A report developing TMDLs for pollutants impairing aquatic life uses in the Old Woman Creek and Chappel Creek watersheds was approved by U.S. EPA on August 31, 2005. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. Monitoring in support of the TMDLs was primarily conducted between 2000 and 2002. 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 M2
Watershed Assessment Unit (WAU) Results

HUC11: 04100012 050
WAU Description: Vermilion River (headwaters to upstream East Branch)
WAU Size (mi²): 140.3
Priority Points: 9
Next Scheduled Monitoring: 2021

Integrated Report Assessment Category: 5

Aquatic Life Use Assessment

<table>
<thead>
<tr>
<th>Subcategories of ALU:</th>
<th>WWH</th>
<th>Impairment: Yes (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Data</td>
<td>Data Available</td>
<td>No. Attaining</td>
</tr>
<tr>
<td>Secondary Tributaries</td>
<td>&lt; 5 mi²</td>
<td>5 Site(s)</td>
</tr>
<tr>
<td>Primary Tributaries</td>
<td>5-20 mi²</td>
<td>14 Site(s)</td>
</tr>
<tr>
<td>20-50 mi²</td>
<td>3 Site(s)</td>
<td>0 Site(s)</td>
</tr>
<tr>
<td>Principal Streams</td>
<td>50-500 mi²</td>
<td>4 Site(s)</td>
</tr>
</tbody>
</table>

High Magnitude Causes

| Channelization-Development |
| Channelization-Agriculture |
| Onsite Wastewater Systems (Septic Tanks) |
| Hydromodification-Agriculture |
| Pasture Land |
| Nonirrigated Crop Production |
| Minor Municipal Point Source |
| Natural |

Nutrients
Siltation
Flow Alteration
Direct Habitat Alterations
Organic Enrichment/D.O.
Natural Limits (Drought)

Recreation Use Assessment

Subcategory of Use: Primary Contact
Impairment: Yes (5)

<table>
<thead>
<tr>
<th>No. Ambient Sites: 20</th>
<th>No. Ambient Sampling Records: 62</th>
<th>Geometric Mean: 382</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cause: Pathogens</td>
<td>75th %ile: 1200</td>
<td>90th %ile: 2120</td>
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</tbody>
</table>

Public Drinking Water Supply Assessment

Location(s): Vermilion River @RM 52.24 [New London]

Impairment: Unknown (3-Insufficient Data) | Nitrate Indicator: Insufficient Data |
| Cause: Pathogens | Pesticide Indicator: Insufficient Data |

Fish Tissue Assessment

Waters Sampled: Yes | Impairment: Yes (5)

<table>
<thead>
<tr>
<th>Stream Miles Monitored: 14.60</th>
<th>Stream Miles Impaired: 14.60</th>
<th>Pollutants (Waterbody): Mercury (Vermilion River)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake Acres Monitored: 306.0</td>
<td>Lake Acres Impaired: 0.00</td>
<td></td>
</tr>
</tbody>
</table>

WAU Comments

Development of TMDLs for pollutants impairing beneficial uses is underway. Biological and water quality monitoring in support of the TMDLs was conducted in 2002. Principal streams sampled included the Vermilion River, Southwest Branch Vermilion River, Buck Creek, and Clear Creek. The 2006 Integrated Report assessment of available fish tissue data from the Vermilion River 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 biological and water quality survey can be found at: www.epa.state.oh.us/dsw/document_index/psdindx.html.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 127.7
04100012 060  Vermilion River (upstream East Branch to mouth)

Integrated Report Assessment Category: 5  Priority Points: 8
Next Scheduled Monitoring: 2021

Aquatic Life Use Assessment

Subcategories of ALU: WWH  Sampling Year(s): 2002, 2005
Impairment: Yes (5)

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>% Attainment</th>
<th>WAU Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 5 mi² Secondary Tributaries</td>
<td>5 Site(s)</td>
<td>50.9 26.6 22.5</td>
<td>67 13 20</td>
</tr>
<tr>
<td>5-20 mi² Primary Tributaries</td>
<td>10 Site(s)</td>
<td>50.9 26.6 22.5</td>
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</tr>
<tr>
<td>20-50 mi² Primary Tributaries</td>
<td>3 Site(s)</td>
<td>50.9 26.6 22.5</td>
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<tr>
<td>50-500 mi² Primary Streams</td>
<td>9 Site(s)</td>
<td>50.9 26.6 22.5</td>
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<tr>
<td>50-500 mi² Principal Streams</td>
<td>29.6 Miles</td>
<td>50.9 26.6 22.5</td>
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</table>

High Magnitude Causes

Flow Alteration  Flow Regulation/Modification-Development
Siltation  Channelization-Agriculture
Organic Enrichment/D.O.  Nonirrigated Crop Production
Nutrients  Industrial Point Source
Natural Limits (Drought)  Minor Municipal Point Source

Recreation Use Assessment

Subcategory of Use: Primary Contact  Cause: Pathogens  Geometric Mean: 238
Impairment: Yes (5)  75 th %ile: 600
No. Ambient Sites: 25  No. Ambient Sampling Records: 102
No. of NPDES MOR Sites: 1  No. of NPDES MOR Records: 53
Other:

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes
Impairment:  Nitrate Indicator:
Cause: Pathogens  Pesticide Indicator:

Fish Tissue Assessment

Waters Sampled: Yes  Impairment: Yes (5)
Stream Miles Monitored: 29.60  Stream Miles Impaired: 29.60
Lake Acres Monitored: 0.0  Lake Acres Impaired: 0.0
Pollutants (Waterbody): Mercury (Vermilion River)

WAU Comments

Development of TMDLs for pollutants impairing beneficial uses is underway. Biological and water quality monitoring in support of the TMDLs was conducted in 2002. Principal streams sampled included the Vermilion River, East Fork Vermilion River, and East Branch Vermilion River. The 2006 Integrated Report assessment of available fish tissue data from the Vermilion River 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. 2005 data updates the E. Branch Vermilion River in the vicinity of Green Circle Growers. Report on the findings of the 2002 and 2005 biological and water quality surveys can be found at: www.epa.state.oh.us/dsw/document_index/psdindx.html.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11    WAU Description                                          WAU Size (mi²): 71.5
04110001 010  Lake Erie tributaries (East of Vermilion River to West of Black River)

Integrated Report Assessment Category: 5          Priority Points:  3
Next Scheduled Monitoring: 2011

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Unknown (3)

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
<th>Raw Data Available</th>
<th>No. Attaining</th>
<th>% Attainment</th>
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<tbody>
<tr>
<td>Secondary Tributaries</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 5 mi²</td>
<td>Site(s)</td>
<td>Site(s)</td>
<td></td>
<td></td>
<td>Site(s)</td>
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<td>Primary Tributaries</td>
<td>Site(s)</td>
<td>Site(s)</td>
<td></td>
<td></td>
<td>Site(s)</td>
<td>Site(s)</td>
<td></td>
</tr>
<tr>
<td>5-20 mi²</td>
<td>Site(s)</td>
<td>Site(s)</td>
<td></td>
<td></td>
<td>Site(s)</td>
<td>Site(s)</td>
<td></td>
</tr>
<tr>
<td>20-50 mi²</td>
<td>Site(s)</td>
<td>Site(s)</td>
<td></td>
<td></td>
<td>Site(s)</td>
<td>Site(s)</td>
<td></td>
</tr>
<tr>
<td>Principal Streams</td>
<td>Site(s)</td>
<td>Site(s)</td>
<td></td>
<td></td>
<td>Site(s)</td>
<td>Site(s)</td>
<td></td>
</tr>
<tr>
<td>50-500 mi²</td>
<td>Miles</td>
<td>Miles</td>
<td></td>
<td></td>
<td>Miles</td>
<td>Miles</td>
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High Magnitude Causes
High Magnitude Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5-Historical)

<table>
<thead>
<tr>
<th>No. Ambient Sites: 0</th>
<th>No. Ambient Sampling Records: 0</th>
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<tbody>
<tr>
<td></td>
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<td>No. of NPDES MOR Records: 62</td>
<td>90th %ile: 1284</td>
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Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: No
Cause:
Nitrate Indicator: No
Pesticide Indicator: No

Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)

<table>
<thead>
<tr>
<th>Stream Miles Monitored: 0.00</th>
<th>Stream Miles Impaired:</th>
<th>Pollutants (Waterbody):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lake Acres Monitored: 0.0</td>
<td>Lake Acres Impaired:</td>
<td></td>
</tr>
</tbody>
</table>

WAU Comments

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11        WAU Description                  WAU Size (m²): 174.0
04110001 020   West Branch Black River

Integrated Report Assessment Category:  5  Priority Points: 6
Next Scheduled Monitoring: 2021

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (5)

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary Tributaries</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 5 mi²</td>
<td>8 Site(s)</td>
<td>1 Site(s)</td>
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<td>18</td>
</tr>
<tr>
<td>Primary Tributaries</td>
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</tr>
<tr>
<td>5-20 mi²</td>
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</tr>
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<tr>
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<td>88.7</td>
<td>11.3</td>
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</table>

High Magnitude Causes
- Cause Unknown
- Nonirrigated Crop Production
- Nutrients
- Pasture Land
- Siltation
- Urban Runoff/Storm Sewers (NPS)
- Organic Enrichment/DO
- Onsite Wastewater Systems (Septic Tanks)
- Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
Cause: Pathogens
Geometric Mean: 333

Public Drinking Water Supply Assessment
Location(s): West Branch Black River @RM 14.42 [Oberlin]; Charlemont Creek @RM 2.97 [Wellington]

Impairment: Unknown (3-Insufficient Data)
Cause: Pathogens
Nitrate Indicator: Insufficient Data
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)
Stream Miles Monitored: 35.60
Stream Miles Impaired: 35.60
Pollutants (Waterbody): PCBs (West Branch Black River)
Lake Acres Monitored: 243.0
Lake Acres Impaired: 243.0

WAU Comments
Development of TMDLs for pollutants causing aquatic life use impairments is in progress in the Black River basin. Biological and water quality surveys in support of the TMDLs were conducted in 1997 and 2001.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²):  95.8
04110001 030  East Branch Black River (headwaters to downstream Coon Creek)

Integrated Report Assessment Category:  5
Priority Points:  9
Next Scheduled Monitoring:  2021

Aquatic Life Use Assessment
Subcategories of ALU:  WWH

<table>
<thead>
<tr>
<th>Stream Size Category</th>
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<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Site(s)</td>
<td>Site(s)</td>
<td>Full</td>
<td>Partial</td>
</tr>
<tr>
<td>Secondary Tributaries</td>
<td>&lt; 5 mi²</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Tributaries</td>
<td>5-20 mi²</td>
<td>5 Site(s)</td>
<td>4 Site(s)</td>
<td>90.0</td>
</tr>
<tr>
<td></td>
<td>20-50 mi²</td>
<td>3 Site(s)</td>
<td>3 Site(s)</td>
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</tr>
<tr>
<td>Principal Streams</td>
<td>50-500 mi²</td>
<td>3 Site(s)</td>
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<td></td>
</tr>
</tbody>
</table>

High Magnitude Causes:  Siltation  High Magnitude Sources:  Nonirrigated Crop Production

Recreation Use Assessment
Subcategory of Use:  Primary Contact
Impairment:  Yes (5-Historical)  Cause:  Pathogens  Geometric Mean:  606
No. Ambient Sites:  0  No. Ambient Sampling Records:  0  75th %ile:  780
No. of NPDES MOR Sites:  1  No. of NPDES MOR Records:  20  90th %ile:  7440
Other:

Public Drinking Water Supply Assessment
Location(s):  No Public Drinking Water Supply Intakes
Impairment:  Yes
Cause:  Nitrate Indicator:
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled:  Yes  Impairment:  Yes (5)
Lake Acres Monitored:  51.0  Lake Acres Impaired:  6.39

WAU Comments
Aquatic life impairment in the East Branch watershed was restricted to the reach of the East Branch in the vicinity of the Grafton WWTP and in an upstream reach affected by localized nonpoint sources based on monitoring conducted in 1997.  Assessment of the Primary Contact Recreation use for the 2004 Integrated Report resulted in a Category 5 determination; these data are now considered historical.  The 2006 Integrated Report assessment of available fish tissue data from the East Branch Black River 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.  Development of TMDLs for pollutants causing aquatic life use impairments is in progress in the Black River basin.  Biological and water quality surveys in support of the TMDLs were conducted in 1997 and 2001.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11           WAU Description                                      WAU Size (m²): 125.8
04110001 040    East Branch Black River (downstream Coon Creek to mouth)

Integrated Report Assessment Category: 5       Priority Points: 5
Next Scheduled Monitoring: 2021

Aquatic Life Use Assessment

Subcategories of ALU:    WWH

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
</tr>
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<tr>
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<tr>
<td>Secondary Tributaries</td>
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<tr>
<td>&lt; 5 mi²</td>
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<tr>
<td>Primary Tributaries</td>
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<td>2 Site(s)</td>
<td>0 Site(s)</td>
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<td>20-50 mi²</td>
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<td>Non</td>
</tr>
<tr>
<td>Principal Streams</td>
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<td>7 Site(s)</td>
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<td>42</td>
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<td>24.4 Miles</td>
<td>24.4 Miles</td>
<td>100</td>
<td>0.00</td>
</tr>
</tbody>
</table>

High Magnitude Causes
Nutrients
Siltation
Organic Enrichment/DO
Direct Habitat Alterations

High Magnitude Sources
Minor Municipal Point Source
Combined Sewer Overflow
Nonirrigated Crop Production
Channelization - Agriculture

Recreation Use Assessment

Subcategory of Use: Primary Contact
Impairment: No (1)
No. Ambient Sites: 2
No. of NPDES MOR Sites: 2

Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Nitrate Indicator:
Pesticide Indicator:

Fish Tissue Assessment

Waters Sampled: Yes
Impairment: Yes (5)
Stream Miles Monitored: 34.91
Stream Miles Impaired: 34.91
Lake Acres Monitored: 0.0
Lake Acres Impaired: 0.0

Pollutants (Waterbody): Mercury, PCBs (East Branch Black River)

WAU Comments
Development of TMDLs for pollutants causing aquatic life use impairments is in progress in the Black River basin. Biological and water quality surveys in support of the TMDLs were conducted in 1997 and 2001. Recent bacteria data indicate that a prior impairment listing for the recreation use is no longer supported and the assessment unit has been delisted for that use. 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 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 04110001 050
Description: Black River; Lake Erie tributaries East of Black River to West of Porter Creek

WAU Size (m²): 100.8

Integrated Report Assessment Category: 5
Priority Points: 4
Next Scheduled Monitoring: 2021

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (5)
Sampling Year(s): 1997, 2001

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
</tr>
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<tbody>
<tr>
<td>Secondary Tributaries</td>
<td>Site(s)</td>
<td>Site(s)</td>
<td>Full</td>
<td>Partial</td>
</tr>
<tr>
<td>5-20 mi²</td>
<td>Site(s)</td>
<td>Site(s)</td>
<td>0.0</td>
<td>33.3</td>
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<td>20-50 mi²</td>
<td>3 Site(s)</td>
<td>0 Site(s)</td>
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<tr>
<td>Principal Streams</td>
<td>14 Site(s)</td>
<td></td>
<td>15.6</td>
<td>Miles</td>
</tr>
</tbody>
</table>

High Magnitude Causes
Unknown Toxicity: Industrial Point Source
Priority Organics: Major Municipal Point Source
Nutrients: Combined Sewer Overflows
Organic Enrichment/DO: Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)
No. Ambient Sites: 1
No. of NPDES MOR Sites: 3
No. Ambient Sampling Records: 20
No. of NPDES MOR Records: 140

Other: The "Dermal Contact Advisory" in effect for the Black River from the 31st St. bridge in Lorain to Lake Erie due to PAH contamination was rescinded by the Ohio Department of Health in 2004.

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)
Stream Miles Monitored: 10.90
Stream Miles Impaired: 9.80
Pollutants (Waterbody): PCBs (Black River)

Lake Acres Monitored: 0.0
Lake Acres Impaired: 0.0

WAU Comments
Development of TMDLs for pollutants causing aquatic life use impairments is in progress in the Black River basin. Biological and water quality surveys in support of the TMDLs were conducted in 1997 and 2001. Recent bacteria data indicate that a prior impairment listing for the recreation use is no longer supported and the assessment unit has been delisted for that use. 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 "Dermal Contact Advisory" in effect for the Black River from the 31st St. bridge in Lorain to Lake Erie due to PAH contamination was rescinded by the Ohio Department of Health in 2004.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 04110001 060
WAU Description: West Branch Rocky River
WAU Size (m²): 190.2

Integrated Report Assessment Category: 5
Priority Points: 5
Next Scheduled Monitoring: 2021

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (5)
Sampling Year(s): 1997, 2001

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>% Attainment</th>
<th>WAU Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Secondary Tributaries</td>
<td>&lt; 5 mi²</td>
<td>3 Site(s), 2 Site(s)</td>
<td>100.0</td>
</tr>
<tr>
<td>2) Primary Tributaries</td>
<td>5-20 mi²</td>
<td>5 Site(s), 1 Site(s)</td>
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<tr>
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<td>3) Principal Streams</td>
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<td>7 Site(s), 30.3 Miles, 21.8 Miles, 71.9%</td>
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High Magnitude Causes: Municipal Point Source
High Magnitude Sources: Land Development/Suburbanization, Urban Runoff/Storm Sewers (NPS), Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1-Historical)
Cause: Nitrate Indicator

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)
Stream Miles Monitored: 29.40
Stream Miles Impaired: 29.40
Pollutants (Waterbody): Mercury, PCBs (West Branch Rocky River)
Lake Acres Monitored: 0.0
Lake Acres Impaired: 0.0

WAU Comments
TMDLs for pollutants impairing the aquatic life beneficial use were partially approved for the Rocky River basin (Plum Creek) by the U.S. EPA on December 4, 2001. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. TMDLs addressing the recreation use impairment are underway although recent bacteria data have indicated no recreation use impairment. Monitoring in support of the TMDLs was conducted in 1997. Follow-up monitoring was conducted in 2001. The 2006 Integrated Report assessment of available fish tissue data from the West Branch Rocky River 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 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 04110001 070
WAU Description: Rocky River; East Branch Rocky R.; Lake Erie tributaries (West of Porter Cr. to West of Cuyahoga R.)
WAU Size (mi²): 139.8

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2021
Priority Points: 9

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (5)
Sampling Year(s): 1997, 2001

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<th>Data Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
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<td>37.5 39.6 22.9</td>
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<td>Principal Streams</td>
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High Magnitude Causes
- Unionized Ammonia
- Chlorine
- Nutrients
- Siltation
- Organic Enrichment/DO
- Flow Alteration
- Direct Habitat Alterations

High Magnitude Sources
- Municipal Point Source
- Highway/Road/Bridge/Sewer Line
- Land Development/Suburbanization
- Urban Runoff/Storm Sewers (NPS)
- Channelization - Development
- Flow Reg./Mod. - Development
- Streambank Destabilization - Development
- Marinas

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
No. Ambient Sites: 1
No. of NPDES MOR Sites: 4

Public Drinking Water Supply Assessment
Location(s): E. Branch Rocky River @RM 5.06, Baldwin Creek @RM 0.48, upstream boundaries of Rocky River reservation (RM 15.15) to West Branch [Berea]
Impairment: No (1)
Nitrate Indicator: Full Support
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes
Stream Miles Monitored: 33.70
Stream Miles Impaired: 12.00
Pollutants (Waterbody): PCBs (Rocky River)

WAU Comments
TMDLs for pollutants impairing the aquatic life beneficial use were partially approved for the Rocky River basin (Plum Creek) by the U.S. EPA on December 4, 2001. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. TMDLs addressing the recreation use impairment are underway. Monitoring in support of the TMDLs was conducted in 1997. Follow-up monitoring was conducted in 2001. The 2006 Integrated Report assessment of available fish tissue data from the West Branch Rocky River 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 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11   WAU Description   WAU Size (mi²): 148.9
04110002 010  Cuyahoga River (headwaters to downstream Black Brook)

Integrated Report Assessment Category: 5  Priority Points: 2
Next Scheduled Monitoring: 2020

Aquatic Life Use Assessment
Subcategories of ALU:  WWH,LRW  Impairment: Yes (4A-TMDL)
Sampling Year(s): 1996, 2000

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<th>Stream Size Category</th>
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<th>WAU Score</th>
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<td>Principal Streams</td>
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<tr>
<td>50-500 mi²</td>
<td>3 Site(s)</td>
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</table>

High Magnitude Causes
- Siltation
- Organic Enrichment/DO
- Flow Alteration
- Direct Habitat Alterations
- Natural Limits (Wetlands)

High Magnitude Sources
- Pasture Land
- Onsite Wastewater Systems (Septic Tanks)
- Flow Reg./Mod. - Development
- Natural

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1-Historical)  Cause:
No. Ambient Sites: 0  No. Ambient Sampling Records: 0
No. of NPDES MOR Sites: 2  No. of NPDES MOR Records: 78
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Nitrate Indicator:  Pesticide Indicator:
Cause:  

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5)
Stream Miles Monitored: 7.16  Stream Miles Impaired: 7.16
Pollutants (Waterbody): PCBs (Cuyahoga River)
Lake Acres Monitored: 517.0  Lake Acres Impaired: 19

WAU Comments
TMDLs for pollutants impairing the aquatic life beneficial use were approved for the upper Cuyahoga River basin by the U.S. EPA on September 27, 2004. Monitoring in support of the TMDL was conducted by the Ohio EPA in 1996 and 2000. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. 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 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 04110002 020
Watershed Assessment Unit (WAU) Description: Cuyahoga River (downstream Black Brook to downstream Breakneck Creek)

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2020
Priority Points: 2

WAU Size (mi²): 139.9

Aquatic Life Use Assessment
Subcategories of ALU: WWH, MWH-C, LRW
Impairment: Yes (4A-TMDL)
Sampling Year(s): 1996, 2000

| Stream Size Category | Raw Data Available | No. Attaining | % Attainment | WAU Score | | |
|----------------------|-------------------|---------------|--------------|-----------|-----------|
| Secondary Tributaries |                   |               |              |           |           |
| < 5 mi²              |                   | 9 Site(s)     | 5 Site(s)    |           |           |
| Primary Tributaries  |                   | 1 Site(s)     | 1 Site(s)    | 77.8      | 16.7      | 5.5       |
| 5-20 mi²             |                   | 1 Site(s)     | 1 Site(s)    |           |           |
| 20-50 mi²            |                   |               |              |           |           |
| Principal Streams    |                   | 11 Site(s)    |              | 80        | 16        | 4         |
| 50-500 mi²           |                   | 33.2 Miles    | 27.5 Miles   | 82.8      | 14.4      | 2.80      |

High Magnitude Causes
- Unknown Toxicity
- Siltation
- Organic Enrichment/DO
- Flow Alteration
- Direct Habitat Alterations
- Natural Limits (Wetlands)

High Magnitude Sources
- Major Municipal Point Source
- Minor Municipal Point Source
- Nonirrigated Crop Production
- Channelization - Agriculture
- Channelization - Development
- Flow Reg./Mod. - Development
- Natural

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)
No. Ambient Sites: 1
No. Ambient Sampling Records: 16
No. of NPDES MOR Sites: 5
No. of NPDES MOR Records: 242
Other:

Public Drinking Water Supply Assessment
Location(s): Lake Rockwell (Cuyahoga River RM 62.0 to 57.97) [Akron]; Lake Hodgson (Breakneck Creek) [Ravenna]
Impairment: No (1)
Cause: Full Support
Nitrate Indicator: Full Support
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes
Stream Miles Monitored: 19.82
Stream Miles Impaired: 19.82
Pollutants (Waterbody): PCBs (Cuyahoga River)
Lake Acres Monitored: 0.0
Lake Acres Impaired: 0.0

WAU Comments
TMDLs for pollutants impairing the aquatic life beneficial use were approved for the middle Cuyahoga River basin by the U.S. EPA on October 11, 2000. Monitoring in support of the TMDL was conducted by the Ohio EPA in 1996 and 2000. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. 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 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 112.2
04110002 030  Cuyahoga River (downstream Breakneck Creek to downstream Little Cuyahoga River)  
Integrated Report Assessment Category: 5  Priority Points: 3  Next Scheduled Monitoring: 2020

Aquatic Life Use Assessment
Subcategories of ALU:  WWH,MWH-C  Sampling Year(s): 2000, 2005, 2006
Impairment:  Yes (4A-TMDL)

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<tr>
<th>Stream Size Category</th>
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<th>Raw Data</th>
<th>% Attainment</th>
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<td>&lt; 5 mi²</td>
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<td>2 Site(s)</td>
<td>1 Site(s)</td>
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<tr>
<td>Primary Tributaries</td>
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<td>5-20 mi²</td>
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<td>5 Site(s)</td>
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<td>20-50 mi²</td>
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<td>2 Site(s)</td>
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<tr>
<td>Principal Streams</td>
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<td>13 Site(s)</td>
<td>15.4 Miles</td>
<td>8.3 Miles</td>
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High Magnitude Causes
Unknown Toxicity  
Nutrients  
Siltation  
Organic Enrichment/DO  
Flow Alteration  
Direct Habitat Alterations  
Total Toxics  

High Magnitude Sources
Major Municipal Point Source  
Combined Sewer Overflows  
Sewer Line Construction  
Urban Runoff/Storm Sewers (NPS)  
Onsite Wastewater Systems (Septic Tanks)  
Channelization - Development  
Dam Construction - Development  
Natural

Recreation Use Assessment
Subcategory of Use:  Primary Contact  
Impairment:  No (1)  
Cause:  Geometric Mean: 133
No. Ambient Sites: 0  
No. Ambient Sampling Records: 0  
No. of NPDES MOR Sites: 3  
No. of NPDES MOR Records: 175  
75th %ile: 240  
90th %ile: 426
Other:

Public Drinking Water Supply Assessment
Location(s):  No Public Drinking Water Supply Intakes

Impairment:  Nitrate Indicator:
Cause:  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled:  Yes  
Impairment:  Yes (5)
Stream Miles Monitored: 15.55  Stream Miles Impaired: 14.55  Pollutants (Waterbody):  PCBs (Cuyahoga River, Summit Lake)
Lake Acres Monitored: 1200.0  Lake Acres Impaired: 100.0

WAU Comments
TMDLs for pollutants impairing the aquatic life beneficial use were approved for the middle Cuyahoga River basin by the U.S. EPA on October 11, 2000. Monitoring in support of the TMDL was conducted by the Ohio EPA in 1996 and 2000. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. 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 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 153.9
04110002 040  Cuyahoga River (downstream Little Cuyahoga River to downstream Brandywine Creek)  

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2020

Priority Points: 3

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (4A-TMDL)
Sampling Year(s): 2000, 2006

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<th>Stream Size Category</th>
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<td>72.1 20.7 7.2</td>
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<td>4 Site(s)</td>
<td>72.1 20.7 7.2</td>
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<td>4 Site(s)</td>
<td>72.1 20.7 7.2</td>
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<td>68.5 31.5</td>
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High Magnitude Causes
Unknown Toxicity
Nutrients
Organic Enrichment/DO
Flow Alteration
Direct Habitat Alterations
Total Dissolved Solids

High Magnitude Sources
Major Municipal Point Source
Combined Sewer Overflows
Land Development/Suburbanization
Urban Runoff/Storm Sewers (NPS)
Highway/Road/Bridge Runoff (Non-Construction Related)

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (4A-TMDL)
No. Ambient Sites: 2
No. of NPDES MOR Sites: 4
Other:

Cause: Pathogens
No. Ambient Sampling Records: 2
75th %ile: 2900
No. of NPDES MOR Records: 368
90th %ile: 20000

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: No
Cause: None

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)
Stream Miles Monitored: 18.11
Stream Miles Impaired: 18.11
Pollutants (Waterbody): PCBs (Cuyahoga River)
Lake Acres Monitored: 24.0
Lake Acres Impaired: 24.0

WAU 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 reach 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. 2006 monitoring in the Furnace Run watershed is included as an update to this assessment unit. A report detailing the Furnace Run assessment is available at http://www.epa.state.oh.us/dsw/document_index/psdindx.html.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

<table>
<thead>
<tr>
<th>HUC11</th>
<th>WAU Description</th>
<th>WAU Size (mi²): 138.1</th>
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<tr>
<td>04110002 050</td>
<td>Cuyahoga River (downstream Brandywine Cr. to downstream Tinkers Cr.); excluding Cuyahoga R. mainstem</td>
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Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2020
Priority Points: 6

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C,LRW
Impairment: Yes (5)
Sampling Year(s): 2000

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<td>20-50 mi²</td>
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<tr>
<td>Principal Streams</td>
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<td>50-500 mi²</td>
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High Magnitude Causes
- Cause Unknown
- Nutrients
- Organic Enrichment/DO
- Flow Alteration
- Direct Habitat Alterations
- Oil and Grease
- Natural Limits (Wetlands)

High Magnitude Sources
- Major Municipal Point Sources
- Land Development/Suburbanization
- Urban Runoff/Storm Sewers (NPS)
- Onsite Wastewater Systems (Septic Tanks)
- Natural
- Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
No. Ambient Sites: 0
No. of NPDES MOR Sites: 7

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: No
Cause: Pathogens

Nitrate Indicator: No
Pesticide Indicator: No

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)
Stream Miles Monitored: 11.20
Stream Miles Impaired: 11.20
Pollutants (Waterbody): PCBs (Tinkers Creek)
Lake Acres Monitored: 0.0
Lake Acres Impaired: 0.0

WAU 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 reach 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. The 2006 Integrated Report assessment of available fish tissue data from Tinkers Creek 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 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 115.6
04110002 060  Cuyahoga River (downstream Tinkers Creek to mouth); excluding Cuyahoga R. mainstem

Integrated Report Assessment Category: 4A
Next Scheduled Monitoring: 2020

Aquatic Life Use Assessment
Subcategories of ALU: WWH,LRW
Impairment: Yes (4A-TMDL)
Sampling Year(s): 2000, 2006

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<th>Stream Size Category</th>
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<th>WAU Score</th>
</tr>
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<td>Data</td>
<td>Full</td>
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<td>1 Site(s)</td>
</tr>
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<td>5-20 mi²</td>
<td>4 Site(s)</td>
<td>0 Site(s)</td>
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<td>20-50 mi²</td>
<td>1 Site(s)</td>
<td>0 Site(s)</td>
</tr>
<tr>
<td>Primary Tributaries</td>
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</tr>
<tr>
<td>Principal Streams</td>
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</tr>
<tr>
<td>50-500 mi²</td>
<td>Site(s)</td>
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</tr>
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</table>

High Magnitude Causes:
- Metals
- Organic Enrichment/DO
- Flow Alteration
- Direct Habitat Alterations

High Magnitude Sources:
- Combined Sewer Overflows
- Urban Runoff/Storm Sewers (NPS)
- Spills

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (4A-TMDL)
Cause: Pathogens
Geometric Mean: 5282
No. Ambient Sites: 2
No. Ambient Sampling Records: 2
75th %ile: 23475
No. of NPDES MOR Sites: 0
No. of NPDES MOR Records: 0
90th %ile: 27990
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU 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 reach was approved by U.S. EPA on September 26, 2003. Monitoring in support of the TMDLs was conducted in 1996, 1999, and 2000. Significant streams within this assessment unit include Big Creek, Mill Creek, and West Creek. Supplemental biological data from the Big Creek and Mill Creek watersheds were collected by NEORSD in 2006. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 119.0
04110003 010 Lake Erie tributaries (East of Cuyahoga River to West of Grand River); excluding Chagrin River

Integrated Report Assessment Category: 5  Priority Points: 6
Next Scheduled Monitoring: 2014

Aquatic Life Use Assessment
Subcategories of ALU: WWH,LRW  Sampling Year(s): 2000, 2006
Impairment: Yes (5)

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<th>Stream Size Category</th>
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High Magnitude Causes  Combined Sewer Overflows
Organic Enrichment/DO  Urban Runoff/Storm Sewers (NPS)
Flow Alteration

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5-Historical)  Cause: Pathogens  Geometric Mean: 1037
No. Ambient Sites: 0  No. Ambient Sampling Records: 0  75th %ile: 3425
No. of NPDES MOR Sites: 2  No. of NPDES MOR Records: 30  90th %ile: 7230
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Nitrate Indicator:
Cause: Pathogens  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No  Impairment: Unknown (3)
Stream Miles Monitored: 0.00  Stream Miles Impaired: 0.00  Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired: 0.0

WAU Comments
A report developing TMDLs for pollutants impairing aquatic life uses in the Euclid Creek watershed was approved by U.S. EPA on September 27, 2005. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. Monitoring in support of the development of TMDLs was conducted in the Euclid Creek and Doan Brook watersheds in 2000. Supplemental biological data from both watersheds were collected by NEORSD in 2006. This assessment unit will remain in Category 5 until TMDLs for all pollutants impairing all beneficial uses, including recreation in Euclid Creek and aquatic life and recreation in Doan Brook, are completed.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 04110003 020
WAU Description: Chagrin River (headwaters to downstream Aurora Branch)
WAU Size (mi²): 119.5

Integrated Report Assessment Category: 4A
Next Scheduled Monitoring: 2019
Priority Points:

Aquatic Life Use Assessment
Subcategories of ALU: CWH,EWH,WWH
Impairment: Yes (4A-TMDL)
Sampling Year(s): 2003, 2004

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High Magnitude Causes
- Direct Habitat Alterations
- Flow Alteration
- Natural Limits (Wetlands)
- Nutrients
- Siltation
- Organic Enrichment/DO
- Unknown Toxicity

High Magnitude Sources
- Removal of Riparian Vegetation - Dev.
- Drainage/Filling of Wetlands - Dev.
- Streambank Modification/Destabilization - Dev.
- Package Plants (Small Flows)
- Urban Runoff/Storm Sewers (NPS)
- Upstream Impoundment
- Land Development/Suburbanization
- Onsite Wastewater Systems (Septic Tanks)

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)
No. Ambient Sites: 35
No. of NPDES MOR Sites: 6
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Public Water Supply Impairment:
- Nitrate Indicator: None
- Pesticide Indicator: None

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 1.01
Stream Miles Impaired: Pollutants (Waterbody)
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the Chagrin River basin were approved by U.S. EPA on July 10, 2007. Chemical, physical, and biological monitoring in support of the TMDL development was conducted in 2003 and 2004. Significant streams assessed included the Chagrin River, Aurora Branch, McFarland Creek, and Silver Creek. A watershed action plan for this assessment unit has been endorsed by the Ohio EPA and Ohio DNR. See http://www.epa.state.oh.us/dsw/tmdl/ChagrinRiverTMDL.html for more information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 WAU Description WAU Size (m\(^2\)): 145.1
04110003 030 Chagrin River (downstream Aurora Branch to mouth)

Integrated Report Assessment Category: 4A
Next Scheduled Monitoring: 2019

Priority Points:

Aquatic Life Use Assessment
Subcategories of ALU: CWH,EWH,WWH Sampling Year(s): 2003, 2004
Impairment: Yes (4A-TMDL)

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High Magnitude Causes
- Direct Habitat Alterations
- Flow Alteration
- Thermal Modifications
- Siltation
- Organic Enrichment/DO
- Nutrients
- Dredge Mining
- Land Development/Suburbanization
- Flow Regulation/Modification
- Urban Runoff/Storm Sewers (NPS)

Recreation Use Assessment
Subcategory of Use: Primary Contact
No. Ambient Sites: 23 No. Ambient Sampling Records: 107 75\(^{th}\) %ile: 808
No. of NPDES MOR Sites: 3 No. of NPDES MOR Records: 55 90\(^{th}\) %ile: 3780
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 27.79 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments
TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the Chagrin River basin were approved by U.S. EPA on July 10, 2007. Chemical, physical, and biological monitoring in support of the TMDL development was conducted in 2003 and 2004. Significant streams assessed included the Chagrin River and the East Branch Chagrin River. A watershed action plan for this assessment unit has been endorsed by the Ohio EPA and Ohio DNR. See http://www.epa.state.oh.us/dsw/tmdl/ChagrinRiverTMDL.html for more information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 04110003 040
WAU Description: Lake Erie tributaries (East of Grand River to West of Ashtabula River)
WAU Size (mi²): 114.9

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2014
Priority Points: 3

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (5-Historical)
Sampling Year(s): 1995

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High Magnitude Causes
- Cause Unknown
- Nutrients
- Organic Enrichment/DO
- Flow Alteration
- Direct Habitat Alterations

High Magnitude Sources
- Minor Municipal Point Source
- Channelization - Development
- Flow Reg./Mod. - Development
- Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data) Cause: Geometric Mean: 691
No. Ambient Sites: 0 No. Ambient Sampling Records: 0 75th %ile: 1325
No. of NPDES MOR Sites: 2 No. of NPDES MOR Records: 76 90th %ile: 2700

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No Impairment: Unknown (3)
Stream Miles Monitored: 0.00 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments
Biological and water quality data collected in 1995 were used in the 2002 Integrated Report 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 no data are available to assess beneficial 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 M2
Watershed Assessment Unit (WAU) Results

HUC11 04110003 050  Ashtabula River  WAU Size (mi²): 126.8

Integrated Report Assessment Category: 5  Priority Points: 6
Next Scheduled Monitoring: 2014

Aquatic Life Use Assessment
Subcategories of ALU: WWH,LRW  Sampling Year(s): 1995
Impairment: Yes (5-Historical)

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Geometric Mean: 75th %ile: 22.2 Miles  90th %ile: 4.70 Miles

High Magnitude Causes
- Cause Unknown
- Land Disposal
- Priority Organics
- Hazardous Waste
- Direct Habitat Alterations
- Contaminated Sediments

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)

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Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

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Fish Tissue Assessment
Waters Sampled: Yes  Stream Miles Monitored: 24.90  Pollutants (Waterbody): PCBs
Impairment: Yes (5)  Stream Miles Impaired: 23.80  Lake Acres Monitored: 0.0
Lake Acres Impaired:  Hexachlorobenzene (Ashtabula River)

WAU Comments
Biological and water quality data collected in 1995 were used in the 2002 Integrated Report 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. Additionally, 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. While reflecting the current status that no 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. A collaborative project involving the U.S. EPA, the Ashtabula City Port Authority, the State of Ohio, and the Army Corps of Engineers to remove PCB-contaminated sediments from the lower Ashtabula River commenced in 2006 and should be completed by 2009. Future monitoring within the watershed will be conducted within the normal rotating basin schedule after the cessation of the project and when sufficient recovery time has elapsed.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 156.7
04110004 010  Grand River (headwaters to downstream Swine Creek)

Integrated Report Assessment Category: 5  Priority Points: 2
Next Scheduled Monitoring: 2007

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH  Sampling Year(s): 1995, 1999
Impairment: No (1-Historical)

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High Magnitude Causes: 
High Magnitude Sources:

Recreation Use Assessment
Subcategory of Use: Primary Contact  Cause: unknown (3-Insufficient Data)
Impairment: unknown (3-Insufficient Data)  Geometric Mean:
No. Ambient Sites:  No. 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): Grand River @RM 89.12 [West Farmington]

Impairment: Unknown (3-Insufficient Data)  Cause:
Nitrate Indicator: Insufficient Data  Cause:
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5)
Stream Miles Monitored: 18.75  Stream Miles Impaired: 18.75
Lake Acres Monitored: 0.0  Lake Acres Impaired: 0.0
Pollutants (Waterbody): Mercury, PCBs (Grand River)

WUA Comments
Limited monitoring was conducted in this Grand River assessment unit by the Ohio EPA in 1995 (chemical, physical, and biological) and the Ohio DNR in 1999 (biological). Streams sampled included the Grand River, Baughman Creek, Swine Creek, and Andrews Creek. Full attainment of designated aquatic life uses was documented at all sampling locations. However, most of this data has since exceeded the ten-year threshold and is now considered historical. Biological and water quality monitoring was conducted in the upper Grand River basin in 2007. Data from this effort will be used to update the status of beneficial uses in the upper Grand River basin and will be reported in the 2010 Integrated Report. 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 of the Grand River as impaired for fish consumption. As such, the assessment unit will remain Category 5 until TMDLs for all pollutants impairing all beneficial uses are completed and approved by the U.S. EPA.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 04110004 020  WAU Description: Grand River (downstream Swine Creek to upstream Rock Creek)  WAU Size (mi²): 131.9


Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH  Impairment: Yes (5-Historical)  Sampling Year(s): 1995, 1999

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Recreation Use Assessment
Subcategory of Use: Primary Contact  Impairment: Unknown (3-Indeterminate Data)  Cause: Natural Conditions (Flow or Habitat)  Geometric Mean: 224

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Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Cause:
Nitrate Indicator:  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5)
Stream Miles Monitored: 24.96  Stream Miles Impaired: 24.96  Pollutants (Waterbody): Mercury, PCBs (Grand River)
Lake Acres Monitored: 0.0  Lake Acres Impaired: 0.0

WUA Comments
Limited monitoring was conducted in this Grand River assessment unit by the Ohio EPA in 1995 (chemical, physical, and biological) and the Ohio DNR in 1999 (biological). Streams sampled included the Grand River, Phelps Creek, Hoskins Creek, Mill Creek, Crooked Creek, and Indian Creek. Full attainment of designated aquatic life uses was documented at all tributary sampling locations. Partial attainment in the Grand River for over 15 miles was due exclusively to the habitat-limiting nature of the extensive wetland stream complex (natural conditions). However, most of this data has since exceeded the ten-year threshold and is now considered historical. Biological and water quality monitoring was conducted in the upper Grand River basin in 2007. Data from this effort will be used to update the status of beneficial uses in the upper Grand River basin and will be reported in the 2010 Integrated Report. 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 of the Grand River as impaired for fish consumption. As such, the assessment unit will remain Category 5 until TMDLs for all pollutants impairing all beneficial uses are completed and approved by the U.S. EPA.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²):  70.7
04110004 030  Rock Creek

Integrated Report Assessment Category:  5  Priority Points:  2
Next Scheduled Monitoring:  2007

Aquatic Life Use Assessment
Subcategories of ALU:  WWH  Impairment:  Unknown (3)
Sampling Year(s):

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<th>% Attainment Partial</th>
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Recreation Use Assessment
Subcategory of Use:  Primary Contact  Impairment:  Unknown (3-Indeterminate Data)  Cause:  
No. Ambient Sites:  0  No. Ambient Sampling Records:  0  Geometric Mean:  56
No. of NPDES MOR Sites:  1  No. of NPDES MOR Records:  19  75th %ile:  115
Other:  90th %ile:  356

Public Drinking Water Supply Assessment
Location(s):  No Public Drinking Water Supply Intakes

Impairment:  Nitrate Indicator:
Cause:  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled:  Yes  Impairment:  Yes (5)
Stream Miles Monitored:  0.00  Stream Miles Impaired:  
Pollutants (Waterbody):  Mercury (New Lyme Lake)
Lake Acres Monitored:  54.0  Lake Acres Impaired:  54.0

WAU Comments
A small amount of data were collected in this watershed, but there are not enough sampling locations to do a complete aquatic life use assessment. However, fish tissue contamination issues in New Lyme Lake resulted in the listing of the assessment unit as Category 5 (impaired). Comprehensive chemical, physical, and biological monitoring was conducted in this assessment unit in 2007 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²):  57.7
04110004 040  Grand River (downstream Rock Creek to upstream Mill Creek)

Integrated Report Assessment Category:  5  Priority Points:  2
Next Scheduled Monitoring:  2007

Aquatic Life Use Assessment
Subcategories of ALU:  EWH,WWH  Sampling Year(s):
Impairment:  Unknown (3)

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High Magnitude Causes

Recreation Use Assessment
Subcategory of Use:  Primary Contact
Impairment:  Unknown (3-Indeterminate Data)  Cause:
No. Ambient Sites:  1  No. Ambient Sampling Records:  8
No. of NPDES MOR Sites:  0  No. of NPDES MOR Records:  0
Other:

Public Drinking Water Supply Assessment
Location(s):  No Public Drinking Water Supply Intakes

Impairment:
Cause:

Fish Tissue Assessment
Waters Sampled:  Yes  Impairment:  Yes (5)
Stream Miles Monitored:  9.31  Stream Miles Impaired:  9.31
Lake Acres Monitored:  0.0  Lake Acres Impaired:  0.0

Pollutants (Waterbody):  Mercury, PCBs (Grand River)

WAU Comments
A small amount of biosurvey data have been collected in this watershed, but there were not enough sampling locations to do a complete aquatic life use assessment. However, 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 and was thus listed as impaired for fish consumption. Comprehensive chemical, physical, and biological monitoring was conducted in this assessment unit in 2007 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 04110004 050
WAU Description: Mill Creek
WAU Size (mi²): 103.3

Integrated Report Assessment Category: 5
Priority Points: 6
Next Scheduled Monitoring: 2019

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (5)
Sampling Year(s): 2003, 2004

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High Magnitude Causes
- Siltation
- Natural Limits
- Natural Limits (Wetlands)
- Flow Alteration
- Organic Enrichment/DO
- Unknown Toxicity

High Magnitude Sources
- Channelization - Agriculture
- Natural
- Urban Runoff/Storm Sewers (NPS)
- Combined Sewer Overflow

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
No. Ambient Sites: 11
No. Ambient Sampling Records: 50
No. of NPDES MOR Sites: 1
No. of NPDES MOR Records: 20

Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: No
Cause: Pathogens

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: No (1)
Stream Miles Monitored: 8.10
Stream Miles Impaired: Pollutants (Waterbody)
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
Development of TMDLs for pollutants impairing beneficial uses is underway. Biological and water quality monitoring in support of the TMDLs was conducted in 2003 and 2004. Major streams sampled included Mill Creek and Cemetery Creek.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 04110004 060
WAU Description: Grand River (downstream Mill Creek to mouth); excluding Grand R. mainstem
WAU Size (mi²): 184.1

Integrated Report Assessment Category: 5
Priority Points: 7
Next Scheduled Monitoring: 2019

Aquatic Life Use Assessment
Subcategories of ALU: CWH,EWH,WWH
Impairment: Yes (5)
Sampling Year(s): 2000, 2003, 2004

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<td>Site(s)</td>
<td>Miles</td>
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High Magnitude Causes
Flow Alteration
Direct Habitat Alterations
Natural Limits
Unknown Toxicity
Cause Unknown

High Magnitude Sources
Urban Runoff/Storm Sewers (NPS)
Hydromodification - Development
Natural
Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
No. Ambient Sites: 24
No. of NPDES MOR Sites: 2

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

| Impairment: Yes | Nitrate Indicator: |
| Cause: Pathogens | Pesticide Indicator: |

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 1.60
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
Development of TMDLs for pollutants impairing beneficial uses is underway. Biological and water quality monitoring in support of the TMDLs was conducted in 2003 and 2004. Major streams sampled included Red Creek, Big Creek, Kellog Creek, Ellison Creek, Paine Creek, Mill Creek, and Coffee Creek.

3/28/2008
Watershed Assessment Unit (WAU) Results

HUC11: 04120101010
WAU Description: Conneaut Creek; Lake Erie tributaries (East of Ashtabula River to West of Conneaut Creek)

Integrated Report Assessment Category: 2
Next Scheduled Monitoring: 2014
Priority Points:

Aquatic Life Use Assessment
Subcategories of ALU: EWH
Impairment: No (1)
Sampling Year(s): 2003, 2005-2007

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Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)
No. Ambient Sites: 3
No. of NPDES MOR Sites: 1
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Nitrate Indicator:
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 19.10
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
New biological monitoring in Conneaut Creek in 2003 (the lower 2 miles in the Lake Erie influenced reaches) and from 2005-2007 (primarily free-flowing reaches from the State Line to Conneaut) revealed full attainment of the designated Exceptional Warmwater Habitat aquatic life use. Minor non-attainment present at one sampling location during previous sampling in the lower lake-influenced reach of Conneaut Creek was not detected in 2003.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 04120101060
WAU Description: Lake Erie tributaries (East of Conneaut Creek)
WAU Size (mi²): 1.5

Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2014
Priority Points:

Aquatic Life Use Assessment
Subcategories of ALU: CWH
Impairment: Unknown (3)
Sampling Year(s):

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High Magnitude Causes: CWH
High Magnitude Sources:

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)
Cause:
No. Ambient Sites: No. Ambient Sampling Records:
No. of NPDES MOR Sites: No. of NPDES MOR Records:
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
This is a very tiny watershed within Ohio. Most of it extends into Pennsylvania. The only stream in Ohio within this reach is Turkey Creek, with chemical data from 1981. Recent Lake Erie shoreline data are available.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi$^2$):  9.0
04120200 010  Lake Erie Islands

Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2014
Priority Points: 3

Aquatic Life Use Assessment

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High Magnitude Causes
High Magnitude Sources

Recreation Use Assessment

Subcategory of Use: Primary Contact
Impairment: Unknown (3)
Cause:

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Other:

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Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment:
Cause:

Nitrate Indicator:
Pesticide Indicator:

Fish Tissue Assessment

Waters Sampled: No
Impairment: Unknown (3)

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WAU Comments
No data of any kind have ever been collected by the Ohio EPA on the Lake Erie Islands. Only shoreline data on Lake Erie have been collected.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 149.1
05030101 070  Middle Fork Little Beaver Creek

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2018
Priority Points: 2

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH
Impairment: Yes (4A-TMDL)
Sampling Year(s): 1999

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High Magnitude Causes

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<th>Nonirrigated Crop Production</th>
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<tbody>
<tr>
<td>Pesticides</td>
<td>Natural Limits (Wetlands)</td>
<td>Contaminated Sediments</td>
<td>Surface Mining</td>
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<tr>
<td>Unionized Ammonia</td>
<td></td>
<td>Major Municipal Point Source</td>
<td>Channelization - Ag.</td>
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<tr>
<td>Nutrients</td>
<td></td>
<td>Removal of Riparian Veg. - Ag.</td>
<td>Channelization - Devel.</td>
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<tr>
<td>Siltation</td>
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<td>Confined Animal Feeding Operations (NPS)</td>
<td>Spills</td>
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<tr>
<td>Organic Enrichment/DO</td>
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<td>Pasture Land</td>
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<td>Salinity/TDS/Chlorides</td>
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<td>Onsite Wastewater Systems (Septic Tanks)</td>
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<td>Direct Habitat Alterations</td>
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<td>Urban Runoff/Storm Sewers (NPS)</td>
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</table>

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)
No. Ambient Sites: 0
No. Ambient Sampling Records: 0
No. of NPDES MOR Sites: 4
No. of NPDES MOR Records: 157
Geometric Mean: 85
75th %ile: 380
90th %ile: 1100

Other: A "Dermal Contact Advisory" is in effect for Middle Fork Little Beaver Creek due to Mirex contamination. The area under the advisory is from Alternate St. Rt. 14 at Allen Rd. near Salem to St. Rt. 11 south of Lisbon (Columbiana County).

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)
Stream Miles Monitored: 38.40
Stream Miles Impaired: 38.40
Pollutants (Waterbody): PCBs, Mirex (Middle Fork Little Beaver Creek)

Lake Acres Monitored: 0.0
Lake Acres Impaired: 0.0

WAU Comments
A report developing TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the Little Beaver Creek basin was approved by U.S. EPA on September 28, 2005. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. Monitoring in support of the TMDLs was conducted in the watershed in 1999. Recent bacteria data indicated no impairment of the recreation use. 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.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 111.2
05030101 080  West Fork Little Beaver Creek

Integrated Report Assessment Category: 4A
Next Scheduled Monitoring: 2018

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH
Impairment: Yes (4A-TMDL)
Sampling Year(s): 1999

<table>
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<tr>
<th>Stream Size Category</th>
<th>Data Available</th>
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<th>WAU Score</th>
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<td>Secondary Tributaries</td>
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<tr>
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High Magnitude Causes
Cause Unknown
Silting
Flow Alteration
Natural Limits (Wetlands)
Nutrients
Organic Enrichment/DO
Unionized Ammonia
Pathogens
Pasture Land
Channelization - Agriculture
Channelization - Development
Upstream Impoundment
Removal of Riparian Vegetation - Ag.
Natural
Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1-Historical)

<table>
<thead>
<tr>
<th>No. Ambient Sites</th>
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<th>Geometric Mean</th>
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<td>1</td>
<td>16</td>
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Public Drinking Water Supply Assessment
Location(s): Cold Run @RM 4.96, Salem Reservoir, Unnamed Tributary (Cold Run RM 4.97) @RM 1.42 [Salem]

Impairment: Unknown (3-Insufficient Data)
Cause:
Nitrate Indicator: Insufficient Data
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)

Stream Miles Monitored: 4.10 Stream Miles Impaired: Pollutants (Waterbody):

Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments
Development of TMDLs for pollutants impairing the aquatic life beneficial use in the Little Beaver Creek basin is in progress. Intensive monitoring in support of the TMDLs was conducted in the watershed in 1999.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05030101 090  Little Beaver Creek (downstream Middle and West Forks to mouth)  WAU Size (mi²): 140.1

Integrated Report Assessment Category: 5  Priority Points: 3
Next Scheduled Monitoring: 2018

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH,LRW  Impairment: Yes (4A-TMDL)
Sampling Year(s): 1999

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>% Attainment</th>
<th>WAU Score</th>
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<td>9 Site(s)</td>
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<td>1 Site(s)</td>
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<tr>
<td>50-500 mi²</td>
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High Magnitude Causes
- Unionized Ammonia
- Nutrients
- Siltation
- Organic Enrichment/DO
- Flow Alteration
- Direct Habitat Alterations
- Pathogens
- Natural Limits (Wetlands)

High Magnitude Sources
- Major Industrial Point Source
- Combined Sewer Overflows
- Pasture Land
- Surface Mining
- Subsurface Mining
- Channelization - Development
- Removal of Riparian Vegetation - Development
- Natural

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)  Cause: Geometric Mean: 201
No. Ambient Sites: 3  No. Ambient Sampling Records: 20  75th %ile: 495
No. of NPDES MOR Sites: 2  No. of NPDES MOR Records: 62  90th %ile: 839
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5)
Stream Miles Monitored: 18.10  Stream Miles Impaired: 10.80  Pollutants (Waterbody): PCBs (Little Beaver Creek)
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
A report developing TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the Little Beaver Creek basin was approved by U.S. EPA on September 28, 2005. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. Monitoring in support of the TMDLs was conducted in the watershed in 1999. 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.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 WAU Description WAU Size (mi²): 45.2
05030101 100 Ohio River tributaries (downstream Little Beaver Creek to upstream Yellow Creek)

Integrated Report Assessment Category: 5 Priority Points: 1
Next Scheduled Monitoring: 2020

Aquatic Life Use Assessment

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>% Attainment</th>
<th>WAU Score</th>
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<tbody>
<tr>
<td>Secondary Tributaries</td>
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<tr>
<td>&lt; 5 mi²</td>
<td>7 Site(s)</td>
<td>1 Site(s)</td>
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</tr>
<tr>
<td>Primary Tributaries</td>
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</tr>
<tr>
<td>5-20 mi²</td>
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<td>0 Site(s)</td>
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</tr>
<tr>
<td>20-50 mi²</td>
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<tr>
<td>Principal Streams</td>
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<td>Miles</td>
<td>Miles</td>
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</table>

Fish-Passage Barrier
Nutrients
Excess Algal Growth
Sedimentation/Siltation
Metals
pH
Total Dissolved Solids
Direct Habitat Alterations
Natural Conditions (Flow or Habitat)

Recreation Use Assessment
Subcategory of Use: Primary Contact Cause: Geometric Mean: 199
Impairment: No (1) No. of Ambient Sites: 11 No. of Ambient Sampling Records: 26 75th %ile: 518
No. of NPDES MOR Sites: 0 No. of NPDES MOR Records: 0 90th %ile: 1750
Other:

Public Drinking Water Supply Assessment
Location(s): Little Yellow Creek@ RM 4.20 [Wellsville-Buckeye W.D.]

Impairment: No (1) Nitrate Indicator: Full Support
Cause: Pesticide Indicator: Full Support

Fish Tissue Assessment
Waters Sampled: Yes Impairment: No (1) Pollutants (Waterbody):
Stream Miles Monitored: 0.00 Stream Miles Impaired: Lake Acres Monitored: 170.0 Lake Acres Impaired:

WAU Comments
Intensive chemical, physical, and biological data were collected from this assessment unit in 2005 and 2006 to support development of TMDLs for pollutants impairing beneficial uses. The principal stream sampled in this assessment unit (comprised mostly of small watersheds directly tributary to the Ohio River) was Little Yellow Creek. Available bacteria data indicated no impairment of the recreation use and available fish tissue data from Highlandtown Lake indicated no contamination problems. Impairment of the designated or recommended aquatic life uses was widespread within the assessment unit. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05030101 180
WAU Description: Yellow Creek (headwaters to upstream Town Fork)
WAU Size (mi²): 118.7

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2020
Priority Points: 10

Aquatic Life Use Assessment
Subcategories of ALU: CWH, EWH, WWH
Impairment: Yes (5)
Sampling Year(s): 2005, 2006

<table>
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<tr>
<th>Stream Size Category</th>
<th>Raw Data No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary Tributaries</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 5 mi²</td>
<td>15 Site(s)</td>
<td>13 Site(s)</td>
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<tr>
<td>Primary Tributaries</td>
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<td></td>
</tr>
<tr>
<td>5-20 mi²</td>
<td>11 Site(s)</td>
<td>10 Site(s)</td>
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</tr>
<tr>
<td>20-50 mi²</td>
<td>2 Site(s)</td>
<td>2 Site(s)</td>
<td></td>
</tr>
<tr>
<td>Principal Streams</td>
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</tr>
<tr>
<td>50-500 mi²</td>
<td>3 Site(s)</td>
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</tbody>
</table>

High Magnitude Causes
- Organic Enrichment (Sewage) Biological Indicators
- Oxygen, Dissolved
- Natural Conditions (Flow or Habitat)

High Magnitude Sources
- On-Site Treatment Systems (Septic Tanks and Similar Decentralized Systems)
- Livestock (Grazing or Feeding Operations)
- Natural Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)

<table>
<thead>
<tr>
<th>No. Ambient Sites</th>
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<th>Geometric Mean</th>
<th>75th %ile</th>
<th>90th %ile</th>
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<td>30</td>
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Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)

<table>
<thead>
<tr>
<th>Stream Miles Monitored</th>
<th>Stream Miles Impaired</th>
<th>Pollutants (Waterbody)</th>
<th>PCBs (Yellow Creek)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.05</td>
<td>16.05</td>
<td></td>
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</table>

Lake Acres Monitored: 0.0
Lake Acres Impaired: 0.0

WUA Comments
Intensive chemical, physical, and biological data were collected from the Yellow Creek watershed in 2005 and 2006 to support development of TMDLs for pollutants impairing beneficial uses. Principal streams sampled in this assessment unit included Yellow Creek, Elkhorn Creek, Center Fork, Upper North Fork, and Long Run. Available bacteria data indicated an impairment of the recreation use. Except for a handful of sites, the designated or recommended aquatic life uses were met at all sites and aquatic communities, in general, were high quality. The 2006 Integrated Report assessment of available fish tissue data from Yellow Creek 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. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05030101 190
WAU Description: Yellow Creek (upstream Town Fork to mouth)

WAU Size (mi²): 120.4
Priority Points: 8
Next Scheduled Monitoring: 2020

Integrated Report Assessment Category: 5

Aquatic Life Use Assessment
Subcategories of ALU: CWH, EWH, WWH, LRW
Impairment: Yes (5)
Sampling Year(s): 2005, 2006

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<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
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<tbody>
<tr>
<td>Secondary Tributaries</td>
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High Magnitude Causes
- Metals
- Sulfates
- pH
- Sedimentation/Siltation
- Direct Habitat Alterations
- Other Flow Regime Alterations
- Fish-Passage Barrier

High Magnitude Sources
- Acid Mine Drainage
- Surface Mining
- Subsurface Mining
- Off-Road Vehicles
- Upstream Impoundments
- Natural Sources
- Hydrostructure Impacts on Fish Passage

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)

<table>
<thead>
<tr>
<th>No. Ambient Sites: 37</th>
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Public Drinking Water Supply Assessment
Location(s): Riley Run @RM 2.83 [Salineville]

Impairment: Unknown (3-Insufficient Data)
Nitrate Indicator: Insufficient Data
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)

Stream Miles Monitored: 5.45
Stream Miles Impaired: 5.45
Pollutants (Waterbody): PCBs (Yellow Creek, North Fork Yellow Creek)

Lake Acres Monitored: 25.0
Lake Acres Impaired: 5.45

WAU Comments

Intensive chemical, physical, and biological data were collected from the Yellow Creek watershed in 2005 and 2006 to support development of TMDLs for pollutants impairing beneficial uses. Principal streams sampled in this assessment unit included Yellow Creek, Town Fork, Brush Creek, Riley Run, and North Fork Yellow Creek. Available bacteria data indicated an impairment of the recreation use. Except for a handful of sites, the designated or recommended aquatic life uses were met at all sites and aquatic communities, in general, were high quality. The 2006 Integrated Report assessment of available fish tissue data from Yellow Creek 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. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 05030101 210
WAU Description Ohio River tributaries (downstream Yellow Creek to upstream Cross Creek)
WAU Size (mi²): 70.6

Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2010
Priority Points:

Aquatic Life Use Assessment
Subcategories of ALU: CWH, WWH
Impairment: Unknown (3)
Sampling Year(s):

<table>
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<th>% Attainment Partial</th>
<th>% Attainment Non</th>
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</tr>
<tr>
<td>&lt; 5 mi²</td>
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<td>Site(s)</td>
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<td>Site(s)</td>
<td>Site(s)</td>
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<tr>
<td>Principal Streams</td>
<td>Site(s)</td>
<td>Site(s)</td>
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<td></td>
</tr>
<tr>
<td>50-500 mi²</td>
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<td>Site(s)</td>
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High Magnitude Causes
High Magnitude Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)
Cause: Geometric Mean:

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<td>Other:</td>
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Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

<table>
<thead>
<tr>
<th>Impairment:</th>
<th>Nitrate Indicator:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cause:</td>
<td>Pesticide Indicator:</td>
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Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)

Stream Miles Monitored: 0.00 Stream Miles Impaired: Pollutants (Waterbody):

Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments
A small amount of data were collected in this watershed, but there are not enough sampling locations to do a complete assessment. Only one biological reference site (Wills Creek) has been sampled in this assessment unit since 1987.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05030101 340  WAU Description: Cross Creek  WAU Size (mi²): 127.5

Integrated Report Assessment Category: 5  Priority Points: 2
Next Scheduled Monitoring: 2010

Aquatic Life Use Assessment
Subcategories of ALU: CWH, WWH, LRW  Impairment: Unknown (3)
Sampling Year(s):

<table>
<thead>
<tr>
<th>Stream Size Category</th>
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<th>% Attainment</th>
<th>WAU Score</th>
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<tbody>
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<td>Secondary Tributaries</td>
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</tr>
<tr>
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<td>Site(s)</td>
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<td>Primary Tributaries</td>
<td>Site(s)</td>
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<td>5-20 mi²</td>
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High Magnitude Causes: 
High Magnitude Sources:

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)  Cause: Geometric Mean: 412
No. Ambient Sites: 0  No. Ambient Sampling Records: 0  75th %ile: 715
No. of NPDES MOR Sites: 3  No. of NPDES MOR Records: 66  90th %ile: 1000
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Cause:
Nitrate Indicator:
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5)
Stream Miles Monitored: 20.60  Stream Miles Impaired: 20.60  Pollutants (Waterbody): PCBs (Cross Creek)
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
A small amount of biological and water quality data has been collected in this watershed, but there were not enough sampling locations to do a complete aquatic life use assessment. The only recent biological sampling has been at reference sites. Fish tissue data were collected in 2000 and were the determining factor in the Category 5 listing.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05030102 010  WAU Description: Tributaries to Pymatuning Reservoir (within Ohio)
WAU Size (m²): 40.7

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

Aquatic Life Use Assessment
Subcategories of ALU: WWH  Impairment: Unknown (3)
Sampling Year(s):

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High Magnitude Causes

Recreation Use Assessment
Subcategory of Use: Primary Contact  Impairment: Unknown (3-Indeterminate Data)  Cause: None
Geometric Mean: 274 75th %ile: 593 90th %ile: 1129

Public Drinking Water Supply Assessment
Location(s): Shenango River @RM 68.40 (Pymatuning Reservoir) [ODNR-Pymatuning S.P.]
Impairment: No (1)  Cause: None
Nitrate Indicator: Full Support  Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5)
Stream Miles Monitored: 0.00  Stream Miles Impaired: Pollutants (Waterbody): PCBs (Pymatuning Reservoir)
Lake Acres Monitored: 3580.0  Lake Acres Impaired: 3580.0

WAU Comments
The 2006 Integrated Report assessment of fish tissue data from Pymatuning Reservoir 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 is scheduled in this assessment unit in 2008 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 149.5
05030102 030  Pymatuning Creek

Integrated Report Assessment Category: 5  Priority Points: 1
Next Scheduled Monitoring: 2008

Aquatic Life Use Assessment
Subcategories of ALU:  WWH  Impairment:  Yes (5-Historical)  Sampling Year(s): 1994

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High Magnitude Causes
- Organic Enrichment/DO
- Flow Alterations
- Direct Habitat Alterations
- Pathogens

High Magnitude Sources
- Urban Runoff/Storm Sewers (NPS)
- Channelization - Agriculture
- Natural

Recreation Use Assessment
Subcategory of Use:  Primary Contact
Impairment:  Unknown (3)

Cause:  No Public Drinking Water Supply Intakes

Nitrate Indicator:

Pesticide Indicator:

Public Drinking Water Supply Assessment
Location(s):  No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled:  Yes  Impairment:  Unknown (3-Indeterminate Data)
Stream Miles Monitored:  28.20  Stream Miles Impaired:  Pollutants (Waterbody):
Lake Acres Monitored:  0.0  Lake Acres Impaired:  

WAU Comments
Biological and water quality data collected in 1994 were used in the 2002 Integrated Report which resulted in a Category 5 (impaired) listing for the aquatic life beneficial use. These data have exceeded the ten-year threshold and are now considered historical. However, while reflecting the current status that insufficient data are available to assess beneficial 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 this assessment unit in 2008 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05030102 050
WAU Description: Yankee Creek; Little Yankee Creek

WAU Size (mi²): 94.6

Integrated Report Assessment Category: 5
Priority Points: 1
Next Scheduled Monitoring: 2008

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (5-Historical)
Sampling Year(s): 1994

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High Magnitude Causes
- Nutrients
- Flow Alteration
- Direct Habitat Alterations

High Magnitude Sources
- Major Municipal Point Source
- Urban Runoff/Storm Sewers (NPS)
- Hydromodification - Development
- Habitat Modifications o/than Hydromod.
- Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)
No. Ambient Sites: 0
No. Ambient Sampling Records: 0
No. of NPDES MOR Sites: 1
No. of NPDES MOR Records: 56

Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: No
Cause: No
Nitrate Indicator: No
Pesticide Indicator: No

Fish Tissue Assessment
Waters Sampled: No
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody)
Lake Acres Monitored: 0.0
Lake Acres Impaired: Pollutants (Waterbody)

WAU Comments
Biological and water quality data collected in 1994 were used in the 2002 Integrated Report which resulted in a Category 5 (impaired) listing for the aquatic life beneficial use. These data have exceeded the ten-year threshold and are now considered historical. However, while reflecting the current status that insufficient data are available to assess beneficial 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 this assessment unit in 2008 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05030103 010
WAU Description: Mahoning River (headwaters to downstream Beech Creek)
WAU Size (m²): 129.2

Integrated Report Assessment Category: 5
Priority Points: 5
Next Scheduled Monitoring: 2022

Aquatic Life Use Assessment
Subcategories of ALU: CWH, WWH
Impairment: Yes (5)
Sampling Year(s): 2006

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High Magnitude Causes
Sedimentation/Siltation
Other Flow Regime Alterations
Alteration in Stream-Side or Littoral Vegetative Covers
Nutrient/Eutrophication Biological Indicators
Direct Habitat Alterations
Natural Causes (Flow or Habitat)
Fish Kills

High Magnitude Sources
Municipal (Urbanized High Density Area)
Dam or Impoundment
Agriculture
Loss of Riparian Habitat
Channelization
Municipal Point Source Discharges
Natural Sources
Unrestricted Cattle Access
Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
No. Ambient Sites: 21
No. of NPDES MOR Sites: 4

Public Drinking Water Supply Assessment
Location(s): Mahoning River @RMs 83.55 [Alliance] and 91.50 [Sebring]

Impairment: No (1)
Cause: Pathogens
Geometric Mean: 580
75th %ile: 1498
90th %ile: 3870
Nitrate Indicator: Full Support
Pesticide Indicator: Insufficient Data, Watch List

Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)
Stream Miles Monitored: 5.57
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
Intensive chemical, physical, and biological monitoring was conducted in the assessment unit in 2006 as part of monitoring in the upper Mahoning River watershed to develop TMDLs for pollutants causing beneficial use impairments. Principal streams sampled included the Mahoning River and Beech Creek. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 118.7
05030103 020  Mahoning River (downstream Beech Creek to downstream Berlin Dam)


Aquatic Life Use Assessment
Subcategories of ALU: WWH  Impairment: Yes (5)  Sampling Year(s): 2006

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<th>Stream Size Category</th>
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High Magnitude Causes
Other Flow Regime Alterations
Sedimentation/Siltation
Nutrient/Eutrophication Biological Indicators
Alterations in Stream-Side or Littoral Vegetative Covers
Natural Conditions (Flow or Habitat)

High Magnitude Sources
Upstream Impoundments
Channelization
Municipal (Urbanized High Density Area)
Agriculture
Unrestricted Cattle Access
Dam or Impoundment
Natural Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)  Cause: Pathogens  Geometric Mean: 359
No. Ambient Sites: 12  No. Ambient Sampling Records: 76  75th %ile: 1325
No. of NPDES MOR Sites: 1  No. of NPDES MOR Records: 24  90th %ile: 4920
Other:

Public Drinking Water Supply Assessment
Location(s): Deer Creek @RM 0.54 (Walborn Reservoir) [Alliance]

Impairment: No (1)  Nitrate Indicator: Full Support
Cause: Pathogens  Pesticide Indicator: Full Support, Watch List

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5)

Stream Miles Monitored: 0.00  Stream Miles Impaired: Pollutants (Waterbody): PCBs (Berlin Lake)
Lake Acres Monitored: 4573.0  Lake Acres Impaired: 3590.0

WAU Comments
Intensive chemical, physical, and biological monitoring was conducted in the assessment unit in 2006 as part of monitoring in the upper Mahoning River watershed to develop TMDLs for pollutants causing beneficial use impairments. Principal streams sampled included Deer Creek and Mill Creek. The entirety of the Mahoning River mainstem in this assessment unit is impounded as Berlin Lake. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information. The 2004 Integrated Report assessment of fish tissue data documented body burdens of one or more pollutants at levels in Berlin Lake exceeding the threshold level upon which Ohio Water Quality Standards human health criteria are based which resulted in listing this assessment unit as impaired for fish consumption.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 167.1
05030103 030 Mahoning River (downstream Berlin Dam to downstream West Branch)

Integrated Report Assessment Category: 5  Priority Points: 7
Next Scheduled Monitoring: 2022

Aquatic Life Use Assessment

Subcategories of ALU: WWH,LRW  Impairment: Yes (5)  Sampling Year(s): 2003, 2006

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High Magnitude Causes
- Oxygen, Dissolved
- Organic Enrichment (Sewage) Biological Indicators
- Other Flow Regime Alterations
- Direct Habitat Alterations
- Solids (Suspended/Bedload)
- Turbidity
- Sedimentation/Siltation
- Nutrient/Eutrophication Biological Indicators
- Alterations of Stream-Side or Littoral Vegetative Covers
- Natural Conditions (Flow or Habitat)

High Magnitude Sources
- Channelization
- Dam or Impoundment
- Upstream Impoundments
- Impacts from Hydrostructure Flow Regulation/Modification
- Streambank Modifications/Destabilization
- On-Site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Natural Sources

Recreation Use Assessment

Subcategory of Use: Primary Contact

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<th>Impairment</th>
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Other:

Public Drinking Water Supply Assessment

Location(s): Mahoning River @RMs 56.47 [Newton Falls] and 69.18 [Mahoning Valley S.D.]; West Branch @RM 13.25 (W. Branch/Michael J. Kirwan Res) [ODNR-West Branch S.P.]; Berlin Reservoir [Mahoning Valley S.D.]

Impairment: No (1)  Cause: Pathogens  Geometric Mean: 211

Nitrate Indicator: Full Support  Pesticide Indicator: Insufficient Data

Fish Tissue Assessment

Waters Sampled: Yes  Impairment: Yes (5)

Stream Miles Monitored: 21.23  Stream Miles Impaired: 14.83  Pollutants (Waterbody): PCBs (Mahoning River)

Lake Acres Monitored: 12.0  Lake Acres Impaired:

WAU Comments

Intensive chemical, physical, and biological monitoring was conducted in the assessment unit in 2006 as part of monitoring in the upper Mahoning River watershed to develop TMDLs for pollutants causing beneficial use impairments. Principal streams sampled included the Mahoning River, Kale Creek, and West Branch Mahoning River. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information. Additionally, the 2004 Integrated Report assessment of fish tissue data documented body burdens of pollutants in the Mahoning River mainstem at levels reflecting a violation(s) of Ohio Water Quality Standards criteria which resulted in listing as impaired for fish consumption. 2003 biological data focused on a site-specific assessment, conducted in collaboration with the Army Corps of Engineers, of the Ravenna Arsenal complex in the West Branch Mahoning River subwatershed.
HUC11          WAU Description                  WAU Size (mi²): 126.9
05030103 040  Mahoning River (downstream West Br. to upstream Duck Cr.); excluding
Mahoning River dst. Eagle Cr.

Integrated Report Assessment Category: 5          Priority Points: 5
Next Scheduled Monitoring: 2022

Aquatic Life Use Assessment
Subcategories of ALU: CWH,WWH
Impairment: Yes (5)
Sampling Year(s): 2003, 2006, 2007

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High Magnitude Causes
- Oxygen, Dissolved
- Organic Enrichment (Sewage) Biological Indicators
- Direct Habitat Alterations
- Other Flow Regime Alterations
- Natural Conditions (Flow or Habitat)
- Oil and Grease
- Impairment Unknown
- Sedimentation/Siltation
- Nutrient/Eutrophication Biological Indicators

High Magnitude Sources
- Channelization
- Dam or Impoundment
- Impacts from Hydrostructure Flow Regulation/Modification
- Natural Sources
- Source Unknown
- Package Plant or Other Permitted Small Flows Discharges
- Agriculture

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)
No. Ambient Sites: 16
No. Ambient Sampling Records: 77
No. of NPDES MOR Sites: 5
No. of NPDES MOR Records: 122

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)
Stream Miles Monitored: 15.75
Stream Miles Impaired: 8.65
Pollutants (Waterbody): PCBs (Mahoning River)
Lake Acres Monitored: 11.0
Lake Acres Impaired:

WAU Comments
Intensive chemical, physical, and biological monitoring was conducted in the assessment unit in 2006 as part of monitoring in the upper Mahoning River watershed to develop TMDLs for pollutants causing beneficial use impairments. Principal streams sampled included the Mahoning River, Eagle Creek, and South Fork Eagle Creek. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information. A report developing the TMDL for bacterial contaminants impairing the recreation beneficial use in the Mahoning River basin including this Mahoning River assessment unit was approved by the U.S. EPA on September 17, 2004. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. Additionally, the 2004 Integrated Report assessment of fish tissue data documented body burdens of pollutants in the Mahoning River mainstem at levels reflecting a violation(s) of Ohio Water Quality Standards criteria which resulted in listing as impaired for fish consumption. 2003 biological data focused on a site-specific assessment, conducted in collaboration with the Army Corps of Engineers, of the Ravenna Arsenal complex in the Eagle Creek subwatershed.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05030103 050  WAU Description: Mahoning River (upstream Duck Creek to upstream Mosquito Creek); excluding Mahoning R. mainstem
WAU Size (mi²): 87.6

Integrated Report Assessment Category: 3  Priority Points:  
Next Scheduled Monitoring: 2013

Aquatic Life Use Assessment
Subcategories of ALU: WWH, LRW  Impairment: Unknown (3)  Sampling Year(s):

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
<th>High Magnitude Causes</th>
<th>High Magnitude Sources</th>
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Recreation Use Assessment
Subcategory of Use: Primary Contact  Impairment: Unknown (3-Indeterminate Data)  Cause:  Geometric Mean: 377
No. Ambient Sites: 1  No. Ambient Sampling Records: 31  75th %ile: 585
No. of NPDES MOR Sites: 0  No. of NPDES MOR Records: 0  90th %ile: 730
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: No  Impairment: Unknown (3)
Stream Miles Monitored: 0.00  Stream Miles Impaired: Pollutants (Waterbody)
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
A report developing the TMDL for bacterial contaminants impairing the recreation beneficial use in the Mahoning River basin including the Mahoning River mainstem was approved by the U.S. EPA on September 17, 2004. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. No data are available to assess the aquatic life uses or fish consumption status of this assessment unit.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 138.1
05030103 060  Mosquito Creek

Integrated Report Assessment Category: 5  Priority Points: 1
Next Scheduled Monitoring: 2013

Aquatic Life Use Assessment
Subcategories of ALU: WWH  Sampling Year(s): 1990, 1994
Impairment: Yes (5-Historical)

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<th>Stream Size Category</th>
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High Magnitude Causes
Suspended Solids
High Magnitude Sources
Minor Industrial Point Source
Major Municipal Point Source
Upstream Impoundment

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)  Cause: Geometric Mean: 235
No. Ambient Sites: 0  No. Ambient Sampling Records: 0  75th %ile: 450
No. of NPDES MOR Sites: 1  No. of NPDES MOR Records: 45  90th %ile: 1046
Other:

Public Drinking Water Supply Assessment
Location(s): Mosquito Creek @RM 12.49 (Reservoir) [Warren]

Impairment: No (1)  Nitrate Indicator: Full Support
Cause: Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 12.30  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 7850.0  Lake Acres Impaired:

WAU Comments
Biological and water quality data collected in 1990 and 1994 from Mosquito Creek were used in the 2002 Integrated Report which resulted in a Category 5 (impaired) listing for the aquatic life beneficial use. These data have exceeded the ten-year threshold and are now considered historical. However, while reflecting the current status that no data are available to assess beneficial 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 M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 130.5
05030103 070  Mahoning River (downstream Mosquito Creek to upstream Mill Creek);
   excluding Mahoning R. mainstem

Integrated Report Assessment Category: 5  Priority Points: 1
Next Scheduled Monitoring: 2013

Aquatic Life Use Assessment
Subcategories of ALU: WWH  Impairment: Yes (5-Historical)  Sampling Year(s): 1994

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High Magnitude Causes
Metals
Unionized Ammonia
Nutrients
Organic Enrichment/DO
Direct Habitat Alterations
Suspended Solids

Recreation Use Assessment
Subcategory of Use: Primary Contact  Impairment: Unknown (3-Indeterminate Data)  Cause: Geometric Mean: 33
No. Ambient Sites: 0  No. Ambient Sampling Records: 0  75th %ile: 100
No. of NPDES MOR Sites: 1  No. of NPDES MOR Records: 58  90th %ile: 679
Other:

Public Drinking Water Supply Assessment
Location(s): Meander Creek @RM 2.96 (Meander Cr Reservoir) [Mahoning Valley S.D.]

Impairment: No (1)  Cause: Nitrater Indicator: Full Support
   Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 11.30  Stream Miles Impaired: Pollutants (Waterbody):
   Lake Acres Monitored: 2195.0  Lake Acres Impaired:

WAU Comments
Biological and water quality data collected in 1994 from this assessment unit were used in the 2002 Integrated Report which resulted in a Category 5 (impaired) listing for the aquatic life beneficial use. These data have exceeded the ten-year threshold and are now considered historical. However, while reflecting the current status that no data are available to assess beneficial 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. A report developing the TMDL for bacterial contaminants impairing the recreation beneficial use in the Mahoning River basin including the Mahoning River mainstem was approved by the U.S. EPA on September 17, 2004. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05030103 080
WAU Description: Mahoning River (upstream Mill Creek to mouth); excluding Mahoning R. mainstem
WAU Size (mi^2): 185.7

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2013
Priority Points: 1

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (5-Historical)
Sampling Year(s): 1994

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High Magnitude Causes
Cause Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)
Cause: Major Municipal Point Source
No. Ambient Sites: 0
No. Ambient Sampling Records: 0
No. of NPDES MOR Sites: 2
No. of NPDES MOR Records: 107

Public Drinking Water Supply Assessment
Location(s): Yellow Creek @RM 2.0 (Lake Hamilton), Dry Run @RM 2.86 (Lake McKelvey) [Campbell]; Yellow Creek @RM 8.40 (Lake Evans), Burgess Run @RM 2.0 (Burgess Lake) [Struthers- Aqua Ohio]

Nitrate Indicator: Full Support
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 1.90
Stream Miles Impaired: Pollutants (Waterbody)
Lake Acres Monitored: 148.0
Lake Acres Impaired:

WAU Comments
Biological and water quality data collected in 1994 from this assessment unit were used in the 2002 Integrated Report which resulted in a Category 5 (impaired) listing for the aquatic life beneficial use. These data have exceeded the ten-year threshold and are now considered historical. However, while reflecting the current status that no data are available to assess beneficial 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. A report developing the TMDL for bacterial contaminants impairing the recreation beneficial use in the Mahoning River basin including the Mahoning River mainstem was approved by the U.S. EPA on September 17, 2004. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 180.5
05030106 010  Ohio River tributaries (downstream Cross Creek to downstream Short Creek)  0.0

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

Aquatic Life Use Assessment

| Subcategories of ALU: WWH,LRW,LWH | Impairment: Unknown (3) |

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High Magnitude Causes High Magnitude Sources

Recreation Use Assessment

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<tr>
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<td>No. of NPDES MOR Records: 80</td>
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Public Drinking Water Supply Assessment

Location(s): Unnamed trib (Liming Creek RM 1.90) @RM 0.35 (Tappan Lake) [Cadiz]

| Impairment: No (1) |
| Cause: |
| Nitrate Indicator: Full Support |
| Pesticide Indicator: Full Support |

Fish Tissue Assessment

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<th>Waters Sampled: Yes</th>
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<tbody>
<tr>
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<tr>
<td>Cause:</td>
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<tr>
<td>Pollutants (Waterbody):</td>
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Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments

Bacteria data available for the 2004 Integrated Report indicated an impairment of the Primary Contact Recreation use and triggered a Category 5 listing. However, more recent bacteria data indicated that the recreation use is not impaired. More intensive monitoring of this watershed is needed to confirm the status and address other beneficial uses.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05030106 040
WAU Description: Ohio River tributaries (downstream Short Creek to downstream Wheeling Creek)
WAU Size (mi²): 130.2

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2010
Priority Points: 7

Aquatic Life Use Assessment
Subcategories of ALU: WWH,WWH-L,MWH-C
Impairment: Yes (5)
Sampling Year(s): 2002

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Impairment:
- Siltation
- Iron
- Subsurface Mining

Recruitment Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
Cause: Pathogens
Geometric Mean: 34
75th %ile: 400
90th %ile: 2227

Public Drinking Water Supply Assessment
Location(s): Jug Run @RM 3.18 (Provident Reservoir) [St. Clairesville]
Impairment: No (1)
Nitrate Indicator: Full Support
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)
Stream Miles Monitored: 14.70
Stream Miles Impaired: 14.70
Pollutants (Waterbody): PCBs (Wheeling Creek)

Lake Acres Monitored: 0.0
Lake Acres Impaired: 0.0

WAU Comments
Limited monitoring in the Wheeling Creek watershed was conducted in 2002. Sites were located in the Fall Run subwatershed and in Wheeling Creek bracketing Fall Run. Sampling was completed in collaboration with the Ohio Department of Natural Resources/Division of Mineral Resources Management and the Army Corps of Engineers/Pittsburgh District as part of an Acid Mine Drainage Abatement Program (AMDAP) project to mitigate acid seeps in the Fall Run subwatershed. A larger AMDAP project covering the entire Wheeling Creek basin (nearly all of which has been affected by subsurface mining) is being considered. The 2006 Integrated Report assessment of available fish tissue data from Wheeling Creek 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 2002 survey is available at www.epa.state.oh.us/dsw/document_index/psdindx.html (EAS/2002-12-9).
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05030106 100
WAU Description: Ohio River tributaries (downstream Wheeling Creek to downstream McMahon Creek)
WAU Size (mi²): 97.3

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

Aquatic Life Use Assessment
Subcategories of ALU: WWH,LRW
Impairment: Unknown (3)
Sampling Year(s):

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<th>Stream Size Category</th>
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Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)
Cause: High Magnitude

Public Drinking Water Supply Assessment
Location(s): Little McMahon Creek @RM 6.6 (St. Clairsville Reservoir) [St. Clairesville]
Impairment: No (1)
Nitrate Indicator: Full Support
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 6.90
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 117.0
Lake Acres Impaired:

WAU Comments
A small amount of aquatic life data was available for this watershed, but there were not enough sampling locations to do a complete assessment. The vast majority of the data in this watershed was collected in 1983.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 | WAU Description | WAU Size (mi²): 229.8
——— | ———- | ———-
05030106 110 | Ohio River tributaries (downstream McMahon Creek to downstream Fish Creek [WV]) |

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

Aquatic Life Use Assessment

<table>
<thead>
<tr>
<th>Subcategories of ALU:</th>
<th>EWH,WWH,LRW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impairment:</td>
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<table>
<thead>
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<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
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<tr>
<td>Secondary Tributaries</td>
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<tr>
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<td>1 Site(s)</td>
<td>58.3 29.2 12.5</td>
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<tr>
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Impairment: 5

High Magnitude Causes
Flow Alteration: Natural
Cause Unknown: Source Unknown

Recreation Use Assessment

Subcategory of Use: Primary Contact
Impairment: No (1)
No. Ambient Sites: 0
No. of NPDES MOR Sites: 3

Geometric Mean: 137
75th %ile: 360
90th %ile: 676

Public Drinking Water Supply Assessment

Location(s): Unnamed trib (North Fork RM 10.0) @RM 0.55 (Res #1 and #3), Slope Creek @RM 1.85 Slope Creek Res) [Barnesville]

Impairment: Unknown (3-Insufficient Data)
Nitrate Indicator: Insufficient Data
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment

Waters Sampled: Yes
Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired: 

WAU Comments
There are numerous biological reference sites on Captina Creek and several tributaries within the watershed. The mainstem coverage is adequate to assess water quality, but many tributaries have never been sampled. The smaller Ohio River tributaries have not been sampled since 1983.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11    WAU Description    WAU Size (mi²): 123.8
05030201 010 Ohio River tributaries (downstream Fish Creek [WV] to downstream Sunfish Creek)

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

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH
Impairment: Yes (5)
Sampling Year(s): 1996, 2000

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<th>WAU Score</th>
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Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5-Historical)
Cause: Pathogens
Geometric Mean: 230
No. Ambient Sites: 0
No. Ambient Sampling Records: 0
75th %ile: 1100
No. of NPDES MOR Sites: 2
No. of NPDES MOR Records: 19
90th %ile: 2460

Public Drinking Water Supply Assessment
Location(s): Sunfish Creek @ RM 25.50, Unnamed trib (Sunfish Creek RM 24.55) @RM 0.15 and 0.80 [Woodsfield]
Impairment: Unknown (3-Insufficient Data)
Cause:
Nitrate Indicator: Insufficient Data
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody)
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11    WAU Description       WAU Size (mi²): 136.5
05030201 020    Ohio River tributaries (downstream Sunfish Creek to upstream Muskingum River)

Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2010

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH
Impairment: Unknown (3)
Sampling Year(s):

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<th>No. Attaining</th>
<th>% Attainment</th>
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<td>20-50 mi²</td>
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<td>Site(s)</td>
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<td>Principal Streams</td>
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<td>50-500 mi²</td>
<td>Site(s)</td>
<td>Site(s)</td>
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High Magnitude Causes
High Magnitude Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1-Historical)
No. Ambient Sites: 0
No. of NPDES MOR Sites: 1
No. Ambient Sampling Records: 0
No. of NPDES MOR Records: 18

Geometric Mean: 156
75th %ile: 388
90th %ile: 790

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: No
Cause: No
Nitrate Indicator: No
Pesticide Indicator: No

Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired: 0.0

WAU Comments
A small amount of data were collected in this watershed, but there are not enough sampling locations to do a complete aquatic life assessment.
One biological reference site was sampled on Leith Run in 2000.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 148.9
05030201 090  Little Muskingum River (headwaters to upstream Clear Fork)

Integrated Report Assessment Category: 5
Priority Points: 3
Next Scheduled Monitoring: 2015

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH
Impairment: Yes (5)
Sampling Year(s): 2000

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High Magnitude Causes

- Siltation
- Nonirrigated Crop Production
- Pasture Land

High Magnitude Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)
Cause:
No. Ambient Sites: No. Ambient Sampling Records:
No. of NPDES MOR Sites: No. of NPDES MOR Records:
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)

Stream Miles Monitored: 0.00
Stream Miles Impaired:
Pollutants (Waterbody):

Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
An intensive biological and water quality survey was conducted in the Little Muskingum River watershed in 2000.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 165.7
05030201 100  Little Muskingum River (upstream Clear Fork to mouth)  

Integrated Report Assessment Category: 5  
Next Scheduled Monitoring: 2015  
Priority Points: 4  

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH  
Impairment: Yes (5)  
Sampling Year(s): 1996, 2000  

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<td>75th %ile:</td>
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<td></td>
<td>90th %ile:</td>
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High Magnitude Causes
- Nutrients
- Siltation
- Flow Alteration

High Magnitude Sources
- Nonirrigated Crop Production
- Pasture Land
- Onsite Wastewater Systems (Septic Tanks)

Recreation Use Assessment
Subcategory of Use: Primary Contact  
Impairment: Unknown (3)  
No. Ambient Sites: No. Ambient Sampling Records:  
No. of NPDES MOR Sites: No. of NPDES MOR Records:  
Other:  
Cause: Geometric Mean:  
75th %ile: 
90th %ile: 

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes  
Impairment: Nitrate Indicator:  
Cause: Pesticide Indicator:  

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Historical Data)  
Stream Miles Monitored: 0.00  Stream Miles Impaired: Pollutants (Waterbody):  
Lake Acres Monitored: 0.0  Lake Acres Impaired:  

WAU Comments
An intensive biological and water quality survey was conducted in the Little Muskingum River watershed in 2000.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05030201 110
WAU Description: East Fork Duck Creek
WAU Size (mi²): 136.2

Integrated Report Assessment Category: 5
Priority Points: 3
Next Scheduled Monitoring: 2020

Aquatic Life Use Assessment
Subcategories of ALU: WWH,LWH
Impairment: Yes (4A-TMDL)
Sampling Year(s): 1998, 2000

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High Magnitude Causes
- pasture land
- Highway/Road/bridge/sewer line
- urban runoff/storm sewers (NPS)
- surface mining
- acid mine drainage
- onsite wastewater systems (septic tanks)
- bridge construction
- source unknown

High Magnitude Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
Cause: Pathogens
No. Ambient Sites: 0
No. Ambient Sampling Records: 0
No. of NPDES MOR Sites: 0
No. of NPDES MOR Records: 0

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: No
Cause: None

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 2.00
Stream Miles Impaired: Pollutants (Waterbody)
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
TMDLs for pollutants impairing the aquatic life beneficial use in the Duck Creek watershed were approved by the U.S. EPA on September 23, 2003. Monitoring in support of the TMDL was conducted in 2000. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. Recent bacteria data have indicated a recreation use impairment.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  | WAU Description  | WAU Size (mi²): 149.6
05030201 120 Duck Creek; West Fork Duck Creek

Integrated Report Assessment Category: 5
Priority Points: 5
Next Scheduled Monitoring: 2020

Aquatic Life Use Assessment
Subcategories of ALU: WWH,LRW LWH
Impairment: Yes (4A-TMDL)

| Stream Size Category | Raw Data Available | No. Attaining | % Attainment | WAU Score
<table>
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<tr>
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<tr>
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High Magnitude Causes
Unknown Toxicity
Siltation
Organic Enrichment/DO
Flow Alteration
Urban Runoff/Storm Sewers (NPS)
Surface Mining
Onsite Wastewater Systems (Septic Tanks)
Upstream Impoundment
Flow Reg./Mod. - Development
Spills

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
Cause: Pathogens
Geometric Mean: 516
75th %ile: 775
90th %ile: 1913

Public Drinking Water Supply Assessment
Location(s): Wolf Run @RM 0.7 (Wolf Run Lake), Dog Run @RM 1.35 (Caldwell Lake) [Caldwell]
Impairment: No (1)
Nitrate Indicator: Full Support
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)
Stream Miles Monitored: 13.20
Stream Miles Impaired: 11.20
Pollutants (Waterbody): PCBs, DDT (Duck Creek)
Lake Acres Monitored: 209.0
Lake Acres Impaired: 11.20

WAU Comments
TMDLs for pollutants impairing the aquatic life beneficial use in the Duck Creek watershed were approved by the U.S. EPA on September 23, 2003. Monitoring in support of the TMDL was conducted in 2000. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. 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. Recent bacteria data have indicated a recreation use impairment.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05030202 010
WAU Description: Ohio River tributaries (downstream Muskingum R. to upstream Hocking River); Little Hocking River
WAU Size (mi²): 141.3

Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2014
Priority Points:

Aquatic Life Use Assessment
- Subcategories of ALU: WWH
- Impairment: Unknown (3)
- Sampling Year(s):

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<td>Primary Tributaries</td>
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<td>5-20 mi²</td>
<td>Site(s)</td>
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<td>20-50 mi²</td>
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<td>Site(s)</td>
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Recreation Use Assessment
- Subcategory of Use: Primary Contact
- Impairment: Unknown (3)
- Cause: 
- Geometric Mean:

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<tr>
<td>Full</td>
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Public Drinking Water Supply Assessment
- Location(s): No Public Drinking Water Supply Intakes
- Impairment: 
- Cause: 

Fish Tissue Assessment
- Waters Sampled: Yes
- Impairment: Unknown (3-Indeterminate Data)
- Stream Miles Monitored: 0.00
- Stream Miles Impaired: Pollutants (Waterbody):
- Lake Acres Monitored: 160.0
- Lake Acres Impaired: 

WAU Comments
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

### Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2014

#### HUC11: 05030202 020
WAU Description: Ohio River tributaries (downstream Hocking River to upstream Shade River)
WAU Size (mi²): 27.9

### Aquatic Life Use Assessment
- **Subcategories of ALU:** EWH, WWH
- **Impairment:** Unknown (3)
- **Sampling Year(s):**

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<tr>
<td>Secondary Tributaries</td>
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<td></td>
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<td>Site(s)</td>
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<tr>
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</table>

#### High Magnitude Causes
- Aquatic Life Use Assessment
- Recreation Use Assessment
- Public Drinking Water Supply Assessment
- Fish Tissue Assessment

#### Recreation Use Assessment
- **Subcategory of Use:** Primary Contact
- **Impairment:** Unknown (3)
- **Cause:**
- **Geometric Mean:**

#### Public Drinking Water Supply Assessment
- **Location(s):** No Public Drinking Water Supply Intakes
- **Impairment:**
- **Cause:**

#### Fish Tissue Assessment
- **Waters Sampled:** No
- **Impairment:** Unknown (3)
- **Pollutants (Waterbody):**

#### WAU Comments
No data have ever been collected on streams in this watershed.

---

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 128.9
05030202 030  Middle Branch and West Branch Shade River

Integrated Report Assessment Category: 3  Priority Points:
Next Scheduled Monitoring: 2014

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH
Impairment: Unknown (3)

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>No. Attaining</th>
<th>% Attainment Full</th>
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<th>Non</th>
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High Magnitude Causes  High Magnitude Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)

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<tr>
<th>Site(s)</th>
<th>Miles</th>
<th>Site(s)</th>
<th>Miles</th>
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Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

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<th>Nitrate Indicator:</th>
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<thead>
<tr>
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<th>Pesticide Indicator:</th>
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Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
A small amount of data were collected in this watershed, but there are not enough sampling locations to do a complete assessment. Another survey of the watershed is needed to reassess the status.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 92.1
05030202 040 Shade River (Middle Branch and West Branch to mouth)

Integrated Report Assessment Category: 5  Priority Points: 2
Next Scheduled Monitoring: 2014

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH  Sampling Year(s):
Impairment: Unknown (3)

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<th>% Attainment</th>
<th>WAU Score</th>
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<td></td>
<td>Site(s)</td>
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Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)  Cause: Geometric Mean:
No. Ambient Sites:  No. 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
Waters Sampled: Yes  Impairment: Yes (5)
Stream Miles Monitored: 5.20  Stream Miles Impaired: 5.20  Pollutants (Waterbody): PCBs (Shade River)
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
The 2006 Integrated Report assessment of fish tissue data from the Shade River 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 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi$^2$): 81.7
05030202 050 Ohio River tributaries (downstream Shade River to upstream Leading Creek)

Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2014
Priority Points:

Aquatic Life Use Assessment

<table>
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<th>Subcategories of ALU</th>
<th>Impairment</th>
<th>Sampling Year(s):</th>
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<td>Primary Tributaries</td>
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<td>5-20 mi$^2$</td>
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<tr>
<td>50-500 mi$^2$</td>
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<td>High Magnitude Causes</td>
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<td>Miles</td>
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Recreation Use Assessment

Subcategory of Use: Primary Contact
Impairment: Unknown (3)
Cause: 
No. Ambient Sites: 
No. of NPDES MOR Sites: 
Other:

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment: 
Cause: 
Nitrate Indicator: 
Pesticide Indicator:

Fish Tissue Assessment

Waters Sampled: Yes  Impairment: No (1)
Stream Miles Monitored: 0.00  Stream Miles Impaired: 
Pesticide Indicators:
Lake Acres Monitored: 104.0  Lake Acres Impaired: 
Pollutants (Waterbody):

WAU Comments

A small amount of data were collected in this watershed, but there are not enough sampling locations to do a complete assessment.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05030202 090
WAU Description: Leading Creek

WAU Size (m²): 150.1

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2019
Priority Points: 4

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (5)
Sampling Year(s): 2004, 2005

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<th>WAU Score</th>
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<td>48.7 8.50 42.8</td>
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High Magnitude Causes
- Salinity/TDS/Chlorides
- Direct Habitat Alterations (Sand Bedload)
- pH
- Siltation
- Natural Limits (Low Flow)

High Magnitude Sources
- Surface Mining
- Subsurface Mining
- Acid Mine Drainage
- Nonirrigated Crop Production
- Natural

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)

<table>
<thead>
<tr>
<th>No. Ambient Sites</th>
<th>No. Ambient Sampling Records</th>
<th>Geometric Mean</th>
<th>75th %ile</th>
<th>90th %ile</th>
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<td>17</td>
<td>29</td>
<td>395</td>
<td>860</td>
<td>2160</td>
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Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)

Pollutants (Waterbody):

WAU Comments
A report completed by a U.S. EPA contractor developing TMDLs for pollutants impairing aquatic life uses in the Leading Creek watershed was approved by U.S. EPA on January 9, 2008. Monitoring in support of the TMDLs was conducted in 2004 and 2005 by the Midwest Biodiversity Institute (aquatic life use assessment) and the Leading Creek Improvement Committee (recreation use assessment). This TMDL report addresses total dissolved solids, total suspended solids, and chlorides in the watershed but TMDLs are still needed for nutrients, bacteria, and pH. As such, the assessment unit will remain Category 5 until TMDLs for all pollutants impairing all beneficial uses have been developed. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 | WAU Description | WAU Size (mi²): 88.8
05030202 100 Ohio River tributaries (downstream Leading Creek to upstream Kanawha River [WV])

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2014
Priority Points: 1

Aquatic Life Use Assessment

Subcategories of ALU: WWH,LRW
Impairment: Yes (5-Historical)
Sampling Year(s): 1982, 1990, 1993

<table>
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</tr>
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<td>Miles</td>
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High Magnitude Causes
- Metals
- pH
- Siltation
- Flow Alteration
- Direct Habitat Alterations

High Magnitude Sources
- Industrial Point Sources
- Nonirrigated Crop Production
- Surface Mining
- Subsurface Mining
- Natural

Recreation Use Assessment

Subcategory of Use: Primary Contact
Impairment: Unknown (3)
Cause: Unknown (3)
No. Ambient Sites: No. 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

Waters Sampled: No
Impairment: Unknown (3)
Stream Miles Monitored: Pollutants (Waterbody):
Lake Acres Monitored: Lake Acres Impaired:

WAU Comments

Biological and water quality data collected from Campaign Creek (1993), Kyger Creek (1990) and Bell Lick Run (1982) were used in the 2002 Integrated Report which resulted in a Category 5 (impaired) listing for the aquatic life beneficial use. These data have exceeded the ten-year threshold and are now considered historical. However, while reflecting the current status that no data are available to assess beneficial 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 M2
Watershed Assessment Unit (WAU) Results

HUC11: 05030204 010
WAU Description: Hocking River (headwaters to Enterprise); excluding Rush Creek and Clear Creek
WAU Size (mi²): 132.0
Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2019
Priority Points: 10

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C
Impairment: Yes (5)
Sampling Year(s): 2004

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High Magnitude Causes
Direct Habitat Alterations
Siltation
Nutrients
Organic Enrichment/DO

High Magnitude Sources
Channelization - Agriculture
Nonirrigated Crop Production
Removal of Riparian Vegetation - Agriculture
Major Municipal Point Source
Combined Sewer Overflow
Natural

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)

<table>
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<tr>
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Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)

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<tr>
<th>Stream Miles Monitored</th>
<th>Stream Miles Impaired</th>
<th>Pollutants (Waterbody)</th>
<th>Lake Acres Monitored</th>
<th>Lake Acres Impaired</th>
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<td>21.80</td>
<td>21.80</td>
<td>PCBs (Hocking River)</td>
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WAU Comments
Development of TMDLs for pollutants impairing beneficial uses is underway in the Hocking River watershed. Monitoring in support of TMDL development was conducted in 2004. Significant streams sampled in this assessment unit included the Hocking River, Pleasant Run, and Hunters Run.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²):  98.9
05030204 020  Rush Creek (headwaters to upstream Little Rush Creek)

Integrated Report Assessment Category:  5
Priority Points:  1
Next Scheduled Monitoring:  2019

Aquatic Life Use Assessment
Subcategories of ALU:  WWH,LRW
Impairment:  Yes (5)
Sampling Year(s):  2004

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<td>20-50 mi²</td>
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WAU Comments
Development of TMDLs for pollutants impairing beneficial uses is underway in the Hocking River watershed. Monitoring in support of TMDL development was conducted in 2004. Significant streams sampled in this assessment unit included Rush Run, Center Branch, and Somerset Creek.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05030204 030
WAU Description: Rush Creek (upstream Little Rush Creek to mouth)

WAU Size (mi²): 136.0

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2019
Priority Points: 5

Aquatic Life Use Assessment
Subcategories of ALU: CWH, WWH, MWH-C, LRW
Impairment: Yes (5)
Sampling Year(s): 2004

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High Magnitude Causes
Organic Enrichment/DO
Nutrients
Direct Habitat Alterations
Siltation

High Magnitude Sources
Other (Nonpermitted Industrial Stormwater)
Minor Municipal Point Source
Removal of Riparian Vegetation - Agriculture
Nonirrigated Crop Production
Channelization - Agriculture
Upstream Impoundment
Natural

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
No. Ambient Sites: 20
No. Ambient Sampling Records: 136
No. of NPDES MOR Sites: 1
No. of NPDES MOR Records: 16

Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Yes
Cause: Pathogens
Geometric Mean: 388
75th %ile: 1070
90th %ile: 2570

Nitrate Indicator:
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 2.10
Stream Miles Impaired: Pollutants (Waterbody)
Lake Acres Monitored: 343.0
Lake Acres Impaired:

WAU Comments
Development of TMDLs for pollutants impairing beneficial uses is underway in the Hocking River watershed. Monitoring in support of TMDL development was conducted in 2004. Significant streams sampled in this assessment unit included Rush Creek, Little Rush Creek, Raccoon Run, and Indian Creek.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 91.8
05030204 040 Clear Creek

Integrated Report Assessment Category: 2
Next Scheduled Monitoring: 2019

Aquatic Life Use Assessment
Subcategories of ALU: CWH, WWH  Sampling Year(s): 2004
Impairment: No (1)

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Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)  Cause: Geometric Mean: 382
No. Ambient Sites: 13  No. Ambient Sampling Records: 77  75th %ile: 598
No. of NPDES MOR Sites: 1  No. of NPDES MOR Records: 17  90th %ile: 1270

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 4.80  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
Development of TMDLs for pollutants impairing beneficial uses is underway in the Hocking River watershed. Monitoring in support of TMDL development was conducted in 2004. Significant streams sampled in this assessment unit included Clear Creek.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 126.3
05030204 050  Hocking River (Enterprise to upstream Monday Creek); excluding Hocking R. mainstem dst. Scott Creek

Integrated Report Assessment Category: 5  Priority Points: 6
Next Scheduled Monitoring: 2019

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (5)
Sampling Year(s): 2004

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<th>Stream Size Category</th>
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<th>WAU Score</th>
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High Magnitude Causes

- Siltation
- Direct Habitat Alterations
- Nutrients
- pH
- Natural Limits
- Cause Unknown
- Organic Enrichment/DO

High Magnitude Sources

- Removal of Riparian Vegetation - Agriculture
- Streambank Modification/Destabilization - Ag.
- Acid Mine Drainage
- Natural
- Source Unknown
- Pasture Land
- Upstream Impoundment

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)
Cause: Geometric Mean: 337
No. Ambient Sites: 23
No. Ambient Sampling Records: 115
75th %ile: 700
No. of NPDES MOR Sites: 0
No. of NPDES MOR Records: 0
90th %ile: 1660
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: No
Cause: No

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5)
Stream Miles Monitored: 4.44  Stream Miles Impaired: 4.44
Pollutants (Waterbody): PCBs (Hocking River)
Lake Acres Monitored: 354.0  Lake Acres Impaired:

WAU Comments
Development of TMDLs for pollutants impairing beneficial uses is underway in the Hocking River watershed. Monitoring in support of TMDL development was conducted in 2004. Significant streams sampled in this assessment unit included the Hocking River, Scott Creek, and Oldtown Creek.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

WUC11: 05030204 060  Monday Creek

Watershed Assessment Unit (WAU) Results

Integrated Report Assessment Category: 4A

Priority Points: 3

Next Scheduled Monitoring: 2019

Aquatic Life Use Assessment

Subcategories of ALU: WWH, LRW
Impairment: Yes (4A-TMDL)
Sampling Year(s): 2001

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<tr>
<td>5-20 mi²</td>
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<tr>
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<td>6.6 12.2</td>
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<td>50-500 mi²</td>
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</table>

High Magnitude Causes

- Metals
- pH
- Siltation
- Flow Alteration

High Magnitude Sources

- Surface Mining
- Acid Mine Drainage

Recreation Use Assessment

Subcategory of Use: Primary Contact
Impairment: No (1)
No. Ambient Sites: 56
No. of NPDES MOR Sites: 0
Other:

Geometric Mean: 91
75th %ile: 300
90th %ile: 577

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment: No
Cause: Nitrate Indicator
Pesticide Indicator:

Fish Tissue Assessment

Waters Sampled: No
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody)
Lake Acres Monitored: 0.00
Lake Acres Impaired:

WAU Comments

The "Hocking River Basin, Ohio, Monday Creek Sub-basin Ecosystem Restoration Project Feasibility Report and Draft Environmental Assessment" was approved by U.S. EPA on September 22, 2005, as a Total Maximum Daily Load (TMDL) report. This multi-agency effort, led by the U.S. Army Corps of Engineers-Huntington District (U.S. ACE) and the Ohio Department of Natural Resources and including the direct involvement of the local watershed group, culminated in a document that satisfied multiple program requirements (including TMDLs for pollutants impairing aquatic life uses) and prioritized Monday Creek for implementation funding from a variety of sources. The report is available at http://www.epa.state.oh.us/dsw/tmdl/MondayCreekTMDL.html. Monitoring in support of the assessment effort was conducted in 2001.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05030204 070
WAU Description: Sunday Creek
WAU Size (mi²): 138.7

Integrated Report Assessment Category: 4A
Next Scheduled Monitoring: 2019
Priority Points: 

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH, LRW, LWH
Impairment: Yes (4A-TMDL)
Sampling Year(s): 2001

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
<th>Full</th>
<th>Partial</th>
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High Magnitude Causes
- Metals
- pH
- Siltation
- Flow Alteration

High Magnitude Sources
- Surface Mining
- Acid Mine Drainage

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (4A-TMDL)
Cause: Pathogens
Geometric Mean: 1362
75th %ile: 2750
90th %ile: 5800

Public Drinking Water Supply Assessment
Location(s): East Branch Sunday Creek @RM 0.23 [Burr Oak Regional]

ImPAIRMENT: No (1)
Nitrate Indicator: Full Support
Pesticide Indicator: Full Support

Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)

Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody)

Lake Acres Monitored: 0.0
Lake Acres Impaired: 

WAU Comments
TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the Sunday Creek watershed were approved by U.S. EPA on March 31, 2006. Monitoring in support of the TMDL development was conducted in 2001. The impairment in this watershed that results from acid mine drainage (AMD) will be addressed by implementing prescriptions found in the Acid Mine Drainage Abatement and Treatment (AMDAT) plan that was produced by the Sunday Creek Watershed Group. The watershed action plan, which was also produced by the Sunday Creek Watershed Group, will be instrumental in providing implementation action items that address bacteria and habitat issues. Currently, impairments related to bacteria are to be mitigated primarily by improving home sewage treatment. See http://www.epa.state.oh.us/dsw/tmdl/SundayCreekTMDL.html for more information.
HUC11  WAU Description  WAU Size (m²): 102.4
05030204 080 Hocking River (downstream Monday Creek to Athens/RM 33.1); excluding Hocking R. mainstem

Integrated Report Assessment Category: 5  Priority Points: 7
Next Scheduled Monitoring: 2019

Aquatic Life Use Assessment
Subcategories of ALU: WWH,LRW  Sampling Year(s): 2004
Impairment: Yes (5)

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<th>Stream Size Category</th>
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High Magnitude Causes
- pH
- Siltation
- Nutrients
- Organic Enrichment/DO
- Flow Alteration

High Magnitude Sources
- Acid Mine Drainage
- Streambank Modification/Destabilization - Ag.
- Removal of Riparian Vegetation - Agriculture
- Onsite Wastewater Systems (Septic Tanks)
- Pasture Land
- Natural
- Upstream Impoundment
- Channelization - Agriculture

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)

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<td>75th %ile: 1673</td>
<td>90th %ile: 5670</td>
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Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Yes  Cause: Pathogens

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 0.00  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 178.0  Lake Acres Impaired:

WAU Comments
Development of TMDLs for pollutants impairing beneficial uses is underway in the Hocking River watershed. Monitoring in support of TMDL development was conducted in 2004. Significant streams sampled in this assessment unit included Margaret Creek.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 144.6
05030204 090 Federal Creek

Integrated Report Assessment Category: 5  Priority Points: 5
Next Scheduled Monitoring: 2019

Aquatic Life Use Assessment
Subcategories of ALU:  EWH,WWH
Impairment:  Yes (5)  Sampling Year(s): 2004, 2006

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<td>9 Site(s)</td>
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High Magnitude Causes
- Sedimentation/Siltation
- Organic Enrichment/DO
- Nutrients
- Other Flow Alterations
- Natural Conditions (Flow or Habitat)
- Aluminum
- Streambank Modifications/Destabilization
- Loss of Riparian Vegetation
- Natural Sources
- On-Site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Acid Mine Drainage

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)  Cause: Pathogens  Geometric Mean: 390
No. Ambient Sites: 38  No. Ambient Sampling Records: 131
No. of NPDES MOR Sites: 0  No. of NPDES MOR Records: 0
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Nitrate Indicator:
Cause:  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 7.80  Stream Miles Impaired: 7.80
Lake Acres Monitored: 0.0  Lake Acres Impaired: 0.0

WAU Comments
Development of TMDLs for pollutants impairing beneficial uses is underway in the Hocking River watershed. Monitoring in support of TMDL development was conducted in the Federal Creek assessment unit in 2004. Significant streams sampled in this assessment unit included Federal Creek, Sharps Fork, and McDougall Branch. Limited follow-up monitoring at sites in Federal Creek was conducted in 2006. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 WAU Description WAU Size (mi²): 109.7
05030204 100 Hocking River (downstream Athens/RM 33.1 to mouth); excluding Federal
Creek and Hocking R. mainstem

Integreated Report Assessment Category: 5 Priority Points: 4
Next Scheduled Monitoring: 2019

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (5)
Sampling Year(s): 2004

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<td>Principal Streams</td>
<td>Site(s)</td>
<td>Miles</td>
<td>Miles</td>
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High Magnitude Causes
Siltation Natural
Salinity/TDS/Chlorides Removal of Riparian Vegetation - Agriculture
Organic Enrichment/DO Acid Mine Drainage
Flow Alteration Upstream Impoundment
Nutrients Hydromodification - Development

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1) Cause: Geometric Mean: 156
No. Ambient Sites: 11 No. Ambient Sampling Records: 53 75th %ile: 290
No. of NPDES MOR Sites: 0 No. of NPDES MOR Records: 0 90th %ile: 662
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes Impairment: No (1)
Stream Miles Monitored: 0.00 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 161.0 Lake Acres Impaired:

WAU Comments
Development of TMDLs for pollutants impairing beneficial uses is underway in the Hocking River watershed. Monitoring in support of TMDL development was conducted in 2004. Significant streams sampled in this assessment unit included Strouds Run, Jordan Run, Willow Creek, and Fourmile Creek.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 151.0
05040001 010  Tuscarawas River (headwaters to downstream Wolf Creek)  Priority Points: 6

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2017

Aquatic Life Use Assessment
Subcategories of ALU: WWH, MWH-C
Impairment: Yes (5)
Sampling Year(s): 2003, 2004, 2005

<table>
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<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>% Attainment</th>
<th>WAU Score</th>
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High Magnitude Causes
Direct Habitat Alterations
Siltation
Organic Enrichment/DO
Flow Alteration
Natural Limits (Wetlands)

High Magnitude Sources
Channelization - Development
Land Development/Suburbanization
Major Municipal Point Source
Minor Municipal Point Source
Flow Regulation/Modification
Natural

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)
Sampling Year(s): 2003, 2004, 2005

No. Ambient Sites: 25
No. of NPDES MOR Sites: 6

Cause:

Geometric Mean: 377
75th %ile: 785
90th %ile: 1640

Public Drinking Water Supply Assessment
Location(s): Wolf Creek @RM 5.12 (Reservoir) [Barberton]

Impairment: Unknown (3-Insufficient Data)
Nitrate Indicator: Insufficient Data
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)

Stream Miles Monitored: 8.71
Stream Miles Impaired: 8.71
Waterbody: Tuscarawas River,
Pollutants: PCBs

Lake Acres Monitored: 80.0
Lake Acres Impaired: 80.0
Hexachlorobenzene
(Tuscarawas River,
Nesmith Lake, Portage)

WAU Comments
Intensive chemical, physical habitat, and biological sampling was conducted in the assessment unit in 2003 and 2004 as part of monitoring in the Tuscarawas River watershed to develop TMDLs for pollutants causing beneficial use impairments.
Ohio EPA 2008 Integrated Report Section M2  
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m$^2$): 187.6  
05040001 020  Chippewa Creek

Integrated Report Assessment Category: 5  
Next Scheduled Monitoring: 2017  
Priority Points: 8

Aquatic Life Use Assessment
Subcategories of ALU: WWH, MWH-C  
Impairment: Yes (5)  
Sampling Year(s): 2004

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High Magnitude Causes
- Direct Habitat Alterations
- Flow Alteration
- Siltation
- Organic Enrichment/DO
- Nutrients
- Cause Unknown

High Magnitude Sources
- Nonirrigated Crop Production
- Pasture Land
- Land Development/Suburbanization
- Upstream Impoundment
- Major Municipal Point Source
- Minor Municipal Point Source
- Sludge
- Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact  
Impairment: Yes (5)  
No. Ambient Sites: 32  
No. of NPDES MOR Sites: 9

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<tr>
<td>90th %ile: 4154</td>
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Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  
Cause: Pathogens

Fish Tissue Assessment
Waters Sampled: Yes  
Impairment: Yes (5)  
Stream Miles Monitored: 12.30  
Stream Miles Impaired: 12.30  
Pollutants (Waterbody): PCBs, Hexachlorobenzene

Lake Acres Monitored: 0.0  
Lake Acres Impaired:  

WAU Comments
Intensive chemical, physical, and biological sampling was conducted in the assessment unit in 2004 as part of monitoring in the Tuscarawas River watershed to develop TMDLs for pollutants causing beneficial use impairments. The 2006 Integrated Report assessment of available fish tissue data from Chippewa Creek 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 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 | WAU Description | WAU Size (mi²): |
------|-----------------|----------------|
05040001 030 | Tuscarawas River (dst. Wolf Cr. to dst. Sippo Cr.); excluding Chippewa Cr. and Tusc. dst. Chippewa | 169.5 |

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2017
Priority Points: 10

Aquatic Life Use Assessment
Subcategories of ALU: WWH, MWH-C
Impairment: Yes (5)
Sampling Year(s): 2002, 2003, 2004

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High Magnitude Causes
- Direct Habitat Alterations
- Flow Alteration
- Siltation
- Organic Enrichment/DO
- Nutrients
- Salinity/TDS/Chlorides

High Magnitude Sources
- Nonirrigated Crop Production
- Pasture Land
- Land Development/Suburbanization
- Onsite Wastewater Systems (Septic Tanks)
- Upstream Impoundment
- Major Municipal Point Source
- Industrial Land Treatment
- Flow Regulation/Modification

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
No. Ambient Sites: 21
No. Ambient Sampling Records: 112
No. of NPDES MOR Sites: 4
No. of NPDES MOR Records: 129

Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Yes
Cause: Pathogens

Fish Tissue Assessment
Waters Sampled: Yes
Stream Miles Monitored: 7.47
Stream Miles Impaired: 7.47
Pollutants (Waterbody): PCBs, Hexachlorobenzene (Tuscarawas River)

WAU Comments
Intensive chemical, physical, and biological sampling was conducted in the assessment unit in 2003 and 2004 as part of monitoring in the Tuscarawas River watershed to develop TMDLs for pollutants causing beneficial use impairments.
05040001 040 Sandy Creek (headwaters to downstream Still Fork)

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2012

Priority Points: 2

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Unknown (3)
Sampling Year(s):

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<tr>
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<tr>
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<tr>
<td>20-50 mi²</td>
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<td>Principal Streams</td>
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High Magnitude Causes
High Magnitude Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)
Cause: Geometric Mean:
No. Ambient Sites: No. 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
Waters Sampled: Yes Impairment: Yes (5)
Stream Miles Monitored: 6.83 Stream Miles Impaired: 5.63 Pollutants (Waterbody): PCBs (Sandy Creek)
Lake Acres Monitored: 41.0 Lake Acres Impaired:

WAU Comments
No recent biological community and water quality data were available for this assessment unit to determine status of the aquatic life uses. As such, this assessment unit was listed as Category 3 (unassessed) in the 2002 Integrated Report. However, 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 and was thus listed as impaired for fish consumption.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 187.9
05040001 050  Nimishillen Creek

Integrated Report Assessment Category: 5  Priority Points: 6
Next Scheduled Monitoring: 2017

Aquatic Life Use Assessment
Impairment: Yes (5)

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<td>0 Site(s)</td>
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High Magnitude Causes
Nutrients  Direct Habitat Alterations
Nitrates  Sedimentation/Siltation
Ammonia  Improvement Unknown
Other Flow Regime Alterations
Sulfates
pH
Temperature, Water
Oxygen, Dissolved
Organic Enrichment (Sewage) Biological Indicators

High Magnitude Sources
Urban Runoff/Storm Sewers
Municipal (Urbanized High Density Area)
Spills
Industrial Point Sources
Municipal Point Sources
Subsurface (Hardrock) Mining
Agriculture
Channelization
On-Site Treatment Systems (Septic Systems and Similar Decentralized Systems)
Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)  Cause: Pathogens  Geometric Mean: 970
No. Ambient Sites: 32  No. Ambient Sampling Records: 169  75th %ile: 2200
No. of NPDES MOR Sites: 5  No. of NPDES MOR Records: 201  90th %ile: 5621

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Nitrate Indicator:
Cause: Pathogens  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5)
Stream Miles Monitored: 20.40  Stream Miles Impaired: 15.60  Pollutants (Waterbody): PCBs (Nimishillen Creek, Middle Branch Nimishillen Creek)
Lake Acres Monitored: 0.0  Lake Acres Impaired: 0.0

WAU Comments
Chemical, physical, and biological sampling was conducted in the Nimishillen Creek watershed in 2003, 2004, and 2005 as part of monitoring in the Tuscarawas River basin to develop TMDLs for pollutants causing beneficial use impairments. Significant streams sampled included Nimishillen Creek, Middle Branch Nimishillen Creek, East Branch Nimishillen Creek, and West Branch Nimishillen Creek. 1998 data included in the assessment were restricted to a few sites in the Hurford Run sub-watershed. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.

3/28/2008
# Ohio EPA 2008 Integrated Report Section M2

## Watershed Assessment Unit (WAU) Results

### HUC11 WAU Description

05040001 060  
Sandy Creek (downstream Still Fork to mouth); excluding Nimishillen Creek

### Integrated Report Assessment Category: 5

Next Scheduled Monitoring: 2012

### Aquatic Life Use Assessment

Subcategories of ALU: WWH

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<th>Stream Size Category</th>
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**High Magnitude Causes**

- Cause Unknown
- Unknown Toxicity
- Siltation
- Direct Habitat Alterations

**High Magnitude Sources**

- Municipal Point Source
- Source Unknown
- Channelization - Agriculture
- Removal of Riparian Vegetation - Ag.

### Recreation Use Assessment

Subcategory of Use: Primary Contact

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### Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

**Impairment:**

**Cause:**

### Fish Tissue Assessment

Waters Sampled: Yes  
Stream Miles Monitored: 29.07  
Stream Miles Impaired: 29.07

**Pollutants (Waterbody): PCBs (Sandy Creek)**

Lake Acres Monitored: 0.0  
Lake Acres Impaired: 0.0

### WAU Comments

The upper portion of Sandy Creek was sampled by Ohio EPA Division of Emergency and Remedial Response from 1996 to 1998. Tributaries were sampled in 2002 by Ohio DNR Division of Wildlife.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 141.8
05040001 070  Conotton Creek (headwaters to downstream McGuire Creek)

Integrated Report Assessment Category: 3  Priority Points:
Next Scheduled Monitoring: 2012

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Unknown (3)

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<th>% Attainment</th>
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High Magnitude Causes
High Magnitude Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)  Cause:
No. Ambient Sites: 0  No. Ambient Sampling Records: 0
No. of NPDES MOR Sites: 1  No. of NPDES MOR Records: 8
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Cause:
Nitrate Indicator: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 3.12  Stream Miles Impaired:
Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
A small amount of data were collected in this watershed, but there are not enough sampling locations to do a complete assessment. The last major Ohio EPA survey done within this watershed was in 1982. Only two biological reference sites have been sampled since then.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05040001 080

WAU Description: Conotton Creek (downstream McGuire Creek to mouth)

WAU Size (mi²): 144.3

Integrated Report Assessment Category: 2
Next Scheduled Monitoring: 2012
Priority Points:

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Unknown (3)
Sampling Year(s):

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<tr>
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High Magnitude Causes: unknown
High Magnitude Sources: unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)
No. Ambient Sites: 0
No. of NPDES MOR Sites: 3
Other:

Geometric Mean: 369
75th %ile: 1100
90th %ile: 1990

Public Drinking Water Supply Assessment
Location(s): Indian Fork @RM 3.0 and 3.7 (Atwood Lake) [Atwood Park and Resort]
Impairment: No (1)
Nitrate Indicator: Full Support
Pesticide Indicator: Full Support

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 16.88
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 1540.0
Lake Acres Impaired:

Public Drinking Water Supply Assessment
Location(s): Indian Fork @RM 3.0 and 3.7 (Atwood Lake) [Atwood Park and Resort]
Impairment: No (1)
Nitrate Indicator: Full Support
Pesticide Indicator: Full Support

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 16.88
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 1540.0
Lake Acres Impaired:

WAU Comments
A small amount of data were collected in this watershed, but there are not enough sampling locations to do a complete assessment. The last major Ohio EPA survey done within this watershed was in 1982. Only one biological reference site has been sampled since then.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11    WAU Description    WAU Size (m²): 113.4
05040001 090 Tuscarawas River (downstream Sippo Creek to upstream Sugar Creek); excluding Tuscarawas R. mainstem

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2017
Priority Points: 6

Aquatic Life Use Assessment
Subcategories of ALU: WWH,LRW
Impairment: Yes (5)
Sampling Year(s): 2002, 2003, 2004

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High Magnitude Causes
- Siltation
- Metals
- pH
- Flow Alteration
- Nutrients

High Magnitude Sources
- Surface Mining
- Acid Mine Drainage
- Land Development/Suburbanization
- Nonirrigated Crop Production

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
Cause: Pathogens
Geometric Mean: 837
75th %ile: 2300
90th %ile: 5060

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: No Impairment: Unknown (3)
Stream Miles Monitored: 0.00 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0 Lake Acres Impaired: 153

WAU Comments
Intensive chemical, physical, and biological sampling was conducted in the assessment unit in 2003 and 2004 as part of monitoring in the Tuscarawas River watershed to develop TMDLs for pollutants causing beneficial use impairments.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05040001 100
WAU Description: Sugar Creek (headwaters to upstream Middle Fork)
WAU Size (m²): 97.3

Integrated Report Assessment Category: 4A
Next Scheduled Monitoring: 2017
Priority Points: 

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (4A-TMDL)
Sampling Year(s): 1998

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High Magnitude Causes
- Nutrients
- Siltation
- Organic Enrichment/DO
- Direct Habitat Alterations
- Natural Limits (Wetlands)

High Magnitude Sources
- Nonirrigated Crop Production
- Pasture Land
- Feedlots (Confined Animal Feeding Oper.)
- Animal Holding/Management Areas
- Onsite Wastewater Systems (Septic Tanks)
- Channelization - Agriculture
- Removal of Riparian Vegetation - Ag.
- Streambank Destabilization - Ag.
- Natural Conditions (Flow or Habitat)

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (4A-TMDL)
No. Ambient Sites: 10
No. of NPDES MOR Sites: 2
Cause: Pathogens
Geometric Mean: 1406
75th %ile: 2750
90th %ile: 10010

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: 
Cause: Pathogens

Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody)
Lake Acres Monitored: 0.0
Lake Acres Impaired: 

WAU Comments
TMDLs for pollutants impairing beneficial uses in the Sugar Creek watershed were approved by U.S. EPA on November 20, 2002 (aquatic life) and May 8, 2007 (recreation). Chemical, physical, and biological monitoring in support of the TMDLs was conducted in 1998 and 2005. See http://www.epa.state.oh.us/dsw/tmdl/SugarCreekTMDL.html for more information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05040001 110
WAU Description: South Fork Sugar Creek
WAU Size (mi²): 137.7

Integrated Report Assessment Category: 4A
Next Scheduled Monitoring: 2017
Priority Points:

Aquatic Life Use Assessment

Subcategories of ALU: WWH
Impairment: Yes (4A-TMDL)
Sampling Year(s): 1998

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<tr>
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High Magnitude Causes
- Cause Unknown
- Direct Habitat Alterations
- Iron
- Unionized Ammonia
- Nutrients
- pH
- Siltation
- Organic Enrichment/DO
- Flow Alteration

High Magnitude Sources
- Minor Industrial Point Source
- Nonirrigated Crop Production
- Pasture Land
- Surface Mining
- Industrial Land Treatment
- Channelization - Agriculture
- Flow Regulation/ Modification - Ag.
- Removal of Riparian Vegetation - Ag.

Recreation Use Assessment

Subcategory of Use: Primary Contact
Impairment: Yes (4A-TMDL)
Cause: Pathogens
No. Ambient Sites: 14
No. of NPDES MOR Sites: 3
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: N/A
Cause: N/A
Nitrate Indicator: N/A
Pesticide Indicator: N/A

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 2.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired: N/A

WAU Comments
TMDLs for pollutants impairing beneficial uses in the Sugar Creek watershed were approved by U.S. EPA on November 20, 2002 (aquatic life) and May 8, 2007 (recreation). Chemical, physical, and biological monitoring in support of the TMDLs was conducted in 1998 and 2005. See http://www.epa.state.oh.us/dsw/tmdl/SugarCreekTMDL.html for more information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11      WAU Description                    WAU Size (m²): 121.3
05040001 120 Sugar Creek (upstream Middle Fork to mouth); excluding South Fork

Integrated Report Assessment Category: 4A
Next Scheduled Monitoring: 2017
Priority Points:

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (4A-TMDL)  Sampling Year(s): 1998

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<tr>
<th>Stream Size Category</th>
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<th>WAU Score</th>
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<td></td>
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<tr>
<td>Primary Tributaries</td>
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High Magnitude Causes
- Unknown Toxicity
- Metals
- pH
- Siltation
- Direct Habitat Alterations
- Natural Limits (Wetlands)

High Magnitude Sources
- Major Industrial Point Source
- Nonirrigated Crop Production
- Streambank Destabilization - Ag.
- Pasture Land
- Surface Mining
- Natural Conditions (Flow or Habitat)
- Landfills
- Channelization - Agriculture
- Flow Reg./Mod. - Ag.
- Removal of Riparian Vegetation - Ag.

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (4A-TMDL)  Cause: Pathogens  Geometric Mean: 1178
No. Ambient Sites: 13  No. Ambient Sampling Records: 91  75th %ile: 2800
No. of NPDES MOR Sites: 3  No. of NPDES MOR Records: 64  90th %ile: 6440
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Nitrate Indicator:
Cause: Pathogens
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 0.40  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 420.0  Lake Acres Impaired:

WAU Comments
TMDLs for pollutants impairing beneficial uses in the Sugar Creek watershed were approved by U.S. EPA on November 20, 2002 (aquatic life) and May 8, 2007 (recreation). Chemical, physical, and biological monitoring in support of the TMDLs was conducted in 1998 and 2005. See http://www.epa.state.oh.us/dsw/tmdl/SugarCreekTMDL.html for more information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05040001 130
WAU Description: Tuscarawas River (downstream Sugar Cr. to upstream Stillwater Cr.); excluding Tuscarawas R. mainstem
WAU Size (mi²): 100.1
Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2017
Priority Points: 8

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C,LRW
Impairment: Yes (5)
Sampling Year(s): 2003, 2004

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<th>Stream Size Category</th>
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Impairments:
Siltation
Metals
Organic Enrichment/DO
Direct Habitat Alterations
Flow Alteration
pH

High Magnitude Causes
Surface Mining
Onsite Wastewater Systems (Septic Tanks)
Land Development/Suburbanization
Nonirrigated Crop Production
Pasture Land
Acid Mine Drainage

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
No. Ambient Sites: 13
No. Ambient Sampling Records: 55
No. of NPDES MOR Sites: 0
No. of NPDES MOR Records: 0
Other:

cause: Pathogens
Geometric Mean: 1806
75th %ile: 5950
90th %ile: 22800

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
Intensive chemical, physical, and biological sampling was conducted in the assessment unit in 2003 and 2004 as part of monitoring in the Tuscarawas River watershed to develop TMDLs for pollutants causing beneficial use impairments.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 122.1
05040001 140 Stillwater Creek (headwaters to downstream Boggs Fork)

Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2012

Aquatic Life Use Assessment
Subcategories of ALU: WWH,LWH
Impairment: Unknown (3)

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<td>Miles</td>
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Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)

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Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

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<td>Cause:</td>
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Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 2310.0
Lake Acres Impaired:

WAU Comments
A small amount of data were collected in this watershed, but there are not enough sampling locations to do a complete assessment. The only data are from two small streams in a reclaimed mining area owned by Ohio Department of Natural Resources, sampled in 2000.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  | WAU Description | WAU Size (mi²): 159.1
-------|----------------|----------------------
05040001 150  | Stillwater Creek (downstream Boggs Fork to downstream Brushy Fork) |

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2012
Priority Points: 1

Aquatic Life Use Assessment
Subcategories of ALU: WWH,LWH
Impairment: Yes (5-Historical)
Sampling Year(s): 1994, 1998

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<td>Site(s)</td>
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High Magnitude Sources
- Nonirrigated Crop Production
- Range Grazing - Riparian
- Pasture Land
- Channelization - Agriculture
- Surface Mining
- Flow Regulation/Modification

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)
No. Ambient Sites: 3
No. of NPDES MOR Sites: 0
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Yes
Cause: Nitrate Indicator: Non
Pesticide Indicator: Non

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 1800.0
Lake Acres Impaired: 0

WAU Comments
Biological and water quality data collected in 1994 and 1998 from this assessment unit were used in the 2004 Integrated Report which resulted in a Category 5 (impaired) listing for the aquatic life beneficial use. The 1994 data have exceeded the ten-year threshold and are now considered historical. There is not enough 1998 data to provide an adequate assessment. However, while reflecting the current status that insufficient data are available to assess beneficial 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.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05040001 160  WAU Description: Little Stillwater Creek
WAU Size (mi²): 111.0

Integrated Report Assessment Category: 5  Priority Points: 1
Next Scheduled Monitoring: 2012

Aquatic Life Use Assessment

Subcategories of ALU: WWH
Impairment: Yes (5)
Sampling Year(s): 2002, 2003

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</tr>
<tr>
<td></td>
<td>20-50 mi²</td>
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<td>0 Site(s)</td>
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<td>Principal Streams</td>
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<td>1 Site(s)</td>
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High Magnitude Causes
Cause Unknown

High Magnitude Sources
Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)

<table>
<thead>
<tr>
<th>Geometric Mean:</th>
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<tbody>
<tr>
<td>75th %ile:</td>
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<tr>
<td>90th %ile:</td>
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Cause:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: No
Cause:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00  Stream Miles Impaired: 0.00
Lake Acres Monitored: 0.0  Lake Acres Impaired: 0.0

WAU Comments
Data were collected by ODNR in 2003 from several small tributaries to Little Stillwater Creek and were limited to fish community samples.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 | WAU Description | WAU Size (m²): 92.7
05040001 170 | Stillwater Creek (downstream Brushy Fork to mouth); excluding Little Stillwater Creek

Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2012
Priority Points:

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Unknown (3)
Sampling Year(s):

| Stream Size Category | Raw Data Available | No. Attaining | % Attainment | WAU Score
|----------------------|-------------------|---------------|-------------|-------------
| Secondary Tributaries | Site(s)           | Site(s)       | Full        | Partial     | Non         |
| < 5 mi²              | Site(s)           | Site(s)       | Full        | Partial     | Non         |
| Primary Tributaries  | Site(s)           | Site(s)       | Full        | Partial     | Non         |
| 5-20 mi²             | Site(s)           | Site(s)       | Full        | Partial     | Non         |
| 20-50 mi²            | Site(s)           | Site(s)       | Full        | Partial     | Non         |
| Principal Streams    | Site(s)           | Site(s)       | Full        | Partial     | Non         |
| 50-500 mi²           | Site(s)           | Site(s)       | Full        | Partial     | Non         |

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)
Cause:
No. Ambient Sites: 0
No. Ambient Sampling Records: 0
No. of NPDES MOR Sites: 1
No. of NPDES MOR Records: 57
Other:

Geometric Mean: 65
75th %ile: 1200
90th %ile: 2333

Public Drinking Water Supply Assessment
Location(s): Stillwater Creek @RM 7.05 [Twin City W&S]

Impairment: Unknown (3-Insufficient Data)
Nitrate Indicator: Insufficient Data
Cause: Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
A small amount of data were collected in this watershed, but there are not enough sampling locations to do a complete assessment. There has been limited sampling on the lower portion of the Stillwater Creek mainstem. No data have been collected in any of the tributaries within this watershed.
OHIO EPA 2008 INTEGRATED REPORT SECTION M2
WATERSHED ASSESSMENT UNIT (WAU) RESULTS

HUC11  WAU Description  WAU Size (mi²): 124.7
05040001 180 Tuscarawas River (downstream Stillwater Cr. to upstream Evans Cr.); excluding Tuscarawas R. mainstem

Integrated Report Assessment Category: 5  Priority Points: 8
Next Scheduled Monitoring: 2017

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C  Impairment: Yes (5)  Sampling Year(s): 2003

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<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
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<td>3 Site(s)</td>
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<td>Principal Streams 50-500 mi²</td>
<td>Site(s)</td>
<td>Miles Miles</td>
<td>82 11 7</td>
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High Magnitude Causes
Organic Enrichment/DO
Direct Habitat Alterations
Siltation
Metals

High Magnitude Sources
Onsite Wastewater Systems (Septic Tanks)
Nonirrigated Crop Production
Pasture Land
Surface Mining

Recreation Use Assessment
Subcategory of Use: Primary Contact  Cause: Pathogens  Geometric Mean: 2060
No. of NPDES MOR Sites: 0  No. of NPDES MOR Records: 0  90th %ile: 26000
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Nitrate Indicator:
Cause:  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No  Impairment: Unknown (3)
Stream Miles Monitored: 0.00  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
Intensive chemical, physical, and biological sampling was conducted in the assessment unit in 2003 as part of monitoring in the Tuscarawas River watershed to develop TMDLs for pollutants causing beneficial use impairments.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2  
Watershed Assessment Unit (WAU) Results

<table>
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<th>HUC11</th>
<th>WAU Description</th>
<th>WAU Size (mi²): 116.4</th>
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<tr>
<td>05040001 190</td>
<td>Tuscarawas River (upstream Evans Creek to mouth); excluding Tuscarawas R. mainstem</td>
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Integrated Report Assessment Category: 5  
Priority Points: 9  
Next Scheduled Monitoring: 2017

Aquatic Life Use Assessment  
Subcategories of ALU: WWH  
Impairment: Yes (5)  
Sampling Year(s): 2003

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<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
<th>Full</th>
<th>Partial</th>
<th>Non</th>
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<tbody>
<tr>
<td>&lt; 5 mi²</td>
<td>Site(s)</td>
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<td>5-20 mi²</td>
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<td>Miles</td>
<td>Miles</td>
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High Magnitude Causes  
Cause Unknown  
Unionized Ammonia  
Nutrients  
Source Unknown  
Manure Lagoons  
Nonirrigated Crop Production  
Pasture Land

Recreation Use Assessment  
Subcategory of Use: Primary Contact  
Impairment: Yes (5)  
Cause: Pathogens  
Geometric Mean: 3073  
75th %ile: 4750

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<th>No. Ambient Sampling Records</th>
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<td>10</td>
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Other:

Public Drinking Water Supply Assessment  
Location(s): No Public Drinking Water Supply Intakes

Impairment:  
Cause:  
Nitrate Indicator:  
Pesticide Indicator:

Fish Tissue Assessment  
Waters Sampled: No  
Impairment: Unknown (3)  
Stream Miles Monitored: 0.00  
Stream Miles Impaired: Pollutants (Waterbody)  
Lake Acres Monitored: 0.0  
Lake Acres Impaired:  

WAU Comments  
Intensive chemical, physical, and biological sampling was conducted in the assessment unit in 2003 as part of monitoring in the Tuscarawas River watershed to develop TMDLs for pollutants causing beneficial use impairments.

M2-163  
3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11          WAU Description          WAU Size (mi²): 161.4
05040002 010  Black Fork Mohican River (headwaters to downstream Whetstone Creek)

Integrated Report Assessment Category: 5
Priority Points: 7
Next Scheduled Monitoring: 2007

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (5)
Sampling Year(s): 1998

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<th>WAU Score Full</th>
<th>Partial</th>
<th>Non</th>
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<td></td>
</tr>
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<td>12</td>
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<td>Site(s)</td>
<td>Site(s)</td>
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<td>42</td>
<td>46</td>
<td>12</td>
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<tr>
<td>20-50 mi²</td>
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<td>Principal Streams</td>
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High Magnitude Causes
Unknown Toxicity Major Industrial Point Source
Nutrients Urban Runoff/Storm Sewers (NPS)
Siltation Channelization - Agriculture
Direct Habitat Alterations Channelization - Development

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5-Historical)
Cause: Pathogens
Geometric Mean: 392

Public Drinking Water Supply Assessment
Location(s): Black Fork River @RMs 50.82, 53.88 and 54 and Marsh Run Creek @RM 0.05 [Shelby]

Public Drinking Water Supply Assessment
Location(s): Black Fork River @RMs 50.82, 53.88 and 54 and Marsh Run Creek @RM 0.05 [Shelby]

Impairment: Unknown (3-Insufficient Data)
Cause: Insufficient Data
Nitrate Indicator: Insufficient Data
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 18.60
Stream Miles Impaired: Pollutants (Waterbody)
Lake Acres Monitored: 1379.0
Lake Acres Impaired: 7

WAU Comments
Comprehensive chemical, physical, and biological monitoring was conducted in this assessment unit in 2007 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 139.7
05040002 020  Black Fork Mohican River (downstream Whetstone Creek to downstream Rocky Fork)

Integrated Report Assessment Category: 5  Priority Points: 6
Next Scheduled Monitoring: 2007

Aquatic Life Use Assessment

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Data Available</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
</tr>
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<tr>
<td>Primary Tributaries</td>
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<tr>
<td>5-20 mi²</td>
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<td>4 Site(s)</td>
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<td>20-50 mi²</td>
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<tr>
<td>Principal Streams</td>
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<td>0.00 100 0.00</td>
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High Magnitude Causes
Priority Organics  Major Industrial Point Source
Metals  Major Municipal Point Source
Nutrients  Domestic Wastewater Lagoon
Organic Enrichment/DO  Urban Runoff/Storm Sewer (NPS)
Direct Habitat Alterations  Onsite Wastewater Systems (Septic Tanks)
                        Hydromodification - Development
                        Channelization - Development

Recreation Use Assessment
Subcategory of Use: Primary Contact  Impairment: Yes (5-Historical)
Cause: Pathogens  Geometric Mean: 681
No. Ambient Sites: 0  No. Ambient Sampling Records: 0  75th %ile: 1500
No. of NPDES MOR Sites: 2  No. of NPDES MOR Records: 78  90th %ile: 4000
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Nitrate Indicator:
Cause:  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5)
Stream Miles Monitored: 14.30  Stream Miles Impaired: 14.30
Pollutants (Waterbody): PCBs (Rocky Fork Mohican River)
Lake Acres Monitored: 0.0  Lake Acres Impaired: 0.0

WAU Comments
The 2006 Integrated Report assessment of available fish tissue data from Rocky Fork Mohican River 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 this assessment unit in 2007 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 112.1
05040002 030 Clear Fork Mohican River (headwaters to downstream Cedar Fork)

Integrated Report Assessment Category: 5  Priority Points: 8
Next Scheduled Monitoring: 2007

Aquatic Life Use Assessment
Subcategories of ALU: CWH, WWH  Impairment: Yes (5)
Impairment: Sampling Year(s): 1998, 1999, 2004

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<td>Primary Tributaries</td>
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<td>3 Site(s)</td>
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High Magnitude Causes: Channelization-Development

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5-Historical)  Cause: Pathogens  Geometric Mean: 597
No. Ambient Sites: 0  No. Ambient Sampling Records: 0  75th %ile: 1300
No. of NPDES MOR Sites: 1  No. of NPDES MOR Records: 19  90th %ile: 2860
Other:

Public Drinking Water Supply Assessment
Location(s): Clear Fork River @RM 30.6 (Clear Fork Reservoir) [Mansfield]

Impairment: Unknown (3-Insufficient Data)  Nitrate Indicator: Insufficient Data, Watch List
Cause: Pathogens  Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 9.15  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 1010.0  Lake Acres Impaired:

WAU Comments
Most monitoring in this assessment unit was conducted during 1998 and 1999 and focused on the Clear Fork mainstem and its principal tributary Cedar Fork. 2004 sampling involved a site assessment of United Technologies in Lexington. A report on the findings of both biological and water quality surveys can be found at: www.epa.state.oh.us/dsw/document_index/psdindx.html. Comprehensive chemical, physical, and biological monitoring was conducted in this assessment unit in 2007 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

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

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Sampling Year(s): 1998
Impairment: No (1)

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High Magnitude Causes: Other:
High Magnitude Sources:

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1-Historical)
Cause: 
No. Ambient Sites: 0
No. of NPDES MOR Sites: 2
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:
Cause: 
Nitrate Indicator:
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 21.45
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
Monitoring in this assessment unit was conducted during 1998 and focused primarily on the Clear Fork mainstem downstream from Cedar Fork. 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.

Comprehensive chemical, physical, and biological monitoring was conducted in this assessment unit in 2007 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.

HUC11 WAU Description
05040002 040 Clear Fork Mohican River (downstream Cedar Fork to mouth)
WAU Size (mi²): 105.3
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 161.5
05040002 050 Jerome Fork Mohican River

Integrated Report Assessment Category: 5  Priority Points: 6
Next Scheduled Monitoring: 2007

Aquatic Life Use Assessment
Subcategories of ALU: WWH,LRW Impairment: Yes (5) Sampling Year(s): 1998

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<td>23.6</td>
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High Magnitude Causes: Nutrients  High Magnitude Sources: Major Municipal Point Source

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5-Historical) Cause: Pathogens Geometric Mean: 947
No. Ambient Sites: 0 No. Ambient Sampling Records: 0 75th %ile: 2700
No. of NPDES MOR Sites: 1 No. of NPDES MOR Records: 56 90th %ile: 6050
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 2.00  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
Comprehensive chemical, physical, and biological monitoring was conducted in this assessment unit in 2007 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 105.3
05040002 060  Muddy Fork Mohican River

Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2007

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Unknown (3)

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>No. Attaining</th>
<th>% Attainment Full</th>
<th>% Attainment Partial</th>
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<th>WAU Score Full</th>
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<td>Site(s)</td>
<td>Site(s)</td>
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<td>Site(s)</td>
<td>Site(s)</td>
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Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)
Causes:

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Public Drinking Water Supply Assessment
Location(s): Muddy Fork (Cinnamon Lake -impounded) [Cinnamon Lake]

Impairment: Unknown (3-Insufficient Data)
Nitrate Indicator: Insufficient Data
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)

<table>
<thead>
<tr>
<th>Stream Miles Monitored</th>
<th>Stream Miles Impaired</th>
<th>Pollutants (Waterbody)</th>
<th>Lake Acres Monitored</th>
<th>Lake Acres Impaired</th>
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WAU Comments
Comprehensive chemical, physical, and biological monitoring was conducted in this assessment unit in 2007 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 | WAU Description | WAU Size (mi²): 79.8
---|---|---
05040002 070 | Lake Fork Mohican River |

Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2007

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Unknown (3)
Sampling Year(s):

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<tr>
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<tr>
<td>Primary Tributaries</td>
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<td>Site(s)</td>
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<tr>
<td>5-20 mi²</td>
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<tr>
<td>20-50 mi²</td>
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<td>Principal Streams</td>
<td>Site(s)</td>
<td>Miles</td>
<td>Miles</td>
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</table>

High Magnitude Causes

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)
Cause: Other:
No. Ambient Sites: No Ambient Sampling Records: 75th %ile:
No. of NPDES MOR Sites: No. of NPDES MOR Records: 90th %ile:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
Comprehensive chemical, physical, and biological monitoring was conducted in this assessment unit in 2007 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.

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Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 138.8
05040002  080  Mohican River; Black Fork Mohican R. (downstream Rocky Fork to
mouth); excluding Mohican R. mainstem

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

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Unknown (3)
Sampling Year(s):

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<th>Raw Data Available</th>
<th>% Attainment</th>
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High Magnitude Causes

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1-Historical)
Cause:
No. Ambient Sites: 0
No. Ambient Sampling Records: 0
75th %ile: 422
No. of NPDES MOR Sites: 1
No. of NPDES MOR Records: 20
90th %ile: 554
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:
Cause:
Nitrate Indicator:
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
Comprehensive chemical, physical, and biological monitoring was conducted in this assessment unit in 2007 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11       WAU Description                   WAU Size (m²): 100.5
05040003 010  Kokosing River (headwaters to upstream North Branch)

Integrated Report Assessment Category: 2
Next Scheduled Monitoring: 2007

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: No (1)
Sampling Year(s): 1998, 2002

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<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score Full</th>
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<th>Non</th>
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<tr>
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Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)  Cause: Geometric Mean: 668
No. Ambient Sites: 1  No. Ambient Sampling Records: 4  75th %ile: 830
No. of NPDES MOR Sites: 0  No. of NPDES MOR Records: 0  90th %ile: 974
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 10.84  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
Comprehensive chemical, physical, and biological monitoring was conducted in this assessment unit in 2007 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05040003 020
WAU Description: North Branch Kokosing River
WAU Size (mi$^2$): 97.9

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

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: No (1)
Sampling Year(s): 1998

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<th>Stream Size Category</th>
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<th>% Attainment</th>
<th>WAU Score</th>
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<td>1 Site(s)</td>
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Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)
Cause: Geometric Mean: 83
No. Ambient Sites: 1
No. Ambient Sampling Records: 4
No. of NPDES MOR Sites: 1
No. of NPDES MOR Records: 20
Other: 75$^{th}$ %ile: 185
90$^{th}$ %ile: 202

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes
Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
Comprehensive chemical, physical, and biological monitoring was conducted in this assessment unit in 2007 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05040003 030
WAU Description: Kokosing River (downstream North Branch to upstream Jelloway Creek)
WAU Size (mi²): 179.9

Integrated Report Assessment Category: 5
Priority Points: 2
Next Scheduled Monitoring: 2007

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH
Impairment: Yes (5)
Sampling Year(s): 1997, 1998, 2002

| Stream Size Category | Raw Data Available | % Attainment Full | WAU Score Full | | |
|----------------------|--------------------|-------------------|----------------|---|
| Secondary Tributaries|                    |                   |                |   |
| < 5 mi²              | 1 Site(s)          | 100.0             | 81             |   |
| Primary Tributaries  |                    |                   |                |   |
| 5-20 mi²             | 1 Site(s)          | 100.0             | 7              |   |
| 20-50 mi²            | 2 Site(s)          | 100.0             | 12             |   |
| Principal Streams    |                    |                   |                |   |
| 50-500 mi²           | 6 Site(s)          | 62.2              | 339            | |

Cause Unknown
Organic Enrichment/DO
Natural
Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)
No. Ambient Sites: 7
No. Ambient Sampling Records: 43
No. of NPDES MOR Sites: 2
No. of NPDES MOR Records: 73
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 18.28
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
Comprehensive chemical, physical, and biological monitoring was conducted in this assessment unit in 2007 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11                          WAU Description                          WAU Size (m^2): 106.3
05040003 040  Kokosing River (upstream Jelloway Creek to mouth)

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

Aquatic Life Use Assessment
Subcategories of ALU: EWH
Impairment: Yes (5)
Sampling Year(s): 1998, 2002

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<th>Stream Size Category</th>
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<th>% Attainment</th>
<th>WAU Score</th>
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High Magnitude Causes: Unknown Cause
Flow Alteration
High Magnitude Sources: Unknown Source
Pasture Land
Other Urban Runoff
Upstream Impoundment

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)

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Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

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<th>Geometric Mean:</th>
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| 75th %ile: | 735 |
| 90th %ile: | 1334 |

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 12.88
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
Comprehensive chemical, physical, and biological monitoring was conducted in this assessment unit in 2007 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05040003 050
WAU Description: Killbuck Creek (headwaters to upstream Apple Creek)
WAU Size (mi²): 138.6

Integrated Report Assessment Category: 5
Priority Points: 7
Next Scheduled Monitoring: 2009

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (5)
Sampling Year(s): 1993, 2001, 2002

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<th>Stream Size Category</th>
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<td>Principal Streams</td>
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High Magnitude Causes
Organic Enrichment/DO
Direct Habitat Alterations

High Magnitude Sources
Nonirrigated Crop Production
Feedlots (Confined Animal Feeding Oper.)
Channelization - Agriculture
Natural

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
Cause: Pathogens
Geometric Mean: 379

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Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 10.80
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired: 0.0

WUA Comments
Ohio EPA continues to monitor biological reference sites in this assessment unit. Several previously unassessed streams were sampled by ODNR Division of Wildlife in 2001. Data were used as a supplement to Ohio EPA data in determining aquatic life use attainment.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11           WAU Description               WAU Size (mi²): 171.1
05040003 060    Killbuck Creek (upstream Apple Creek to downstream Salt Creek)  

Integrated Report Assessment Category: 5  Priority Points: 6
Next Scheduled Monitoring: 2009

Aquatic Life Use Assessment

<table>
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<th>Stream Size Category</th>
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<th>WAU Score</th>
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High Magnitude Causes
Organic Enrichment/DO  Channelization - Agriculture
Direct Habitat Alterations  Natural

Recreation Use Assessment
Subcategory of Use: Primary Contact  Impairment: Yes (5)
No. Ambient Sites: 3  Cause: Pathogens  Geometric Mean: 551
No. of NPDES MOR Sites: 3  75th %ile: 1456

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Nitrate Indicator:
Cause: Pathogens  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 12.22  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
Biological and water quality data collected in 1993 and 2001 from this assessment unit were used in the 2004 Integrated Report which resulted in a Category 5 (impaired) listing for the aquatic life and recreation beneficial uses. The 1993 data have exceeded the ten-year threshold and are now considered historical. There is not enough 2001 data to provide an adequate aquatic life assessment. However, while reflecting the current status that insufficient data are available to assess aquatic life use status, the assessment unit will remain Category 5 until TMDLs for all beneficial use impairments (aquatic life and recreation) are completed and approved by the U.S. EPA.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05040003 070  
WAU Description: Killbuck Creek (downstream Salt Creek to downstream Black Creek)  
WAU Size (mi²): 151.9

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

Aquatic Life Use Assessment

Subcategories of ALU: EWH,WWH  
Impairment: Yes (5)  
Sampling Year(s): 1993, 2001

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High Magnitude Causes
- Cause Unknown
- Flow Alteration
- Natural

High Magnitude Sources
- Source Unknown

Recreation Use Assessment

Subcategory of Use: Primary Contact  
Impairment: Yes (5)  
Cause: Pathogens  
Geometric Mean: 748  
75th %ile: 2425  
90th %ile: 9560

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment

Waters Sampled: Yes  
Impairment: Unknown (3-Historical Data)

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment:
Cause:
Nitrate Indicator:
Pesticide Indicator:

WAU Comments
Several previously unassessed streams in this watershed were sampled by ODNR Division of Wildlife in 2001. Data were used as a supplement to Ohio EPA data in determining aquatic life use attainment status.
### Watershed Assessment Unit (WAU) Results

**HUC11** 05040003 080  
**WAU Description** Killbuck Creek (downstream Black Creek to mouth)  
**WAU Size (mi²):** 146.9

### Integrated Report Assessment Category: 5  
**Priority Points:** 7  
**Next Scheduled Monitoring:** 2009

#### Aquatic Life Use Assessment

- **Subcategories of ALU:** EWH, WWH  
- **Sampling Year(s):** 1993, 1994, 2001

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<th>% Attainment</th>
<th>WAU Score</th>
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| **Secondary Tributaries:**  
  < 5 mi²           | 5 Site(s)          | 3 Site(s)     | 65.0         | 20        |
| **Primary Tributaries:**  
  5-20 mi²          | 5 Site(s)          | 5 Site(s)     | 65.0         | 20        |
  20-50 mi²         | 2 Site(s)          | 1 Site(s)     | 65.0         | 20        |
| **Principal Streams:**  
  50-500 mi²        | 2 Site(s)          | 7.0 Miles     | 85.7         | 5        |

#### High Magnitude Causes

- Cause Unknown  
- Organic Enrichment/DO

#### High Magnitude Sources

- Onsite Wastewater Systems (Septic Tanks)  
- Source Unknown

#### Recreation Use Assessment

- **Subcategory of Use:** Primary Contact  
- **Impairment:** Yes (5)  
- **Cause:** Pathogens  
- **Geometric Mean:** 697

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#### Public Drinking Water Supply Assessment

- **Location(s):** No Public Drinking Water Supply Intakes

#### Fish Tissue Assessment

- **Waters Sampled:** No  
- **Impairment:** Unknown (3)  
- **Pollutants (Waterbody):**

#### WAU Comments

Several previously unassessed streams in this watershed were sampled by ODNR Division of Wildlife in 2001. Data were used as a supplement to Ohio EPA data in determining aquatic life use attainment status.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05040003 090
WAU Description: Walhonding River; excluding Killbuck Creek and Walhonding R. mainstem

Watershed Assessment Unit (WAU) Results

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

Aquatic Life Use Assessment

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Sampling Year(s): 1994

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Recreation Use Assessment

Subcategory of Use: Primary Contact
Impairment: Yes (5-Historical)
Cause: Pathogens
Geometric Mean: 1461
75th %ile: 3500
90th %ile: 8460

Public Drinking Water Supply Assessment

Location(s): no identifiable associated stream (dug reservoirs) [Echoing Hills]

| Impairment: | No (1) |
| Cause:      | Nitrate Indicator: Full Support |
|            | Pesticide Indicator: Full Support |

Fish Tissue Assessment

Waters Sampled: No
Impairment: Unknown (3)

Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:%

WAU Comments

Biological and water quality data collected in 1994 from this assessment unit were used in the 2002 Integrated Report. The 1994 data have exceeded the ten-year threshold and are now considered historical. However, while reflecting the current status that insufficient data are available to assess aquatic life and recreation use status, the assessment unit will remain Category 5 until TMDLs addressing all beneficial use impairments are completed and approved by the U.S. EPA.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description                              WAU Size (mi²): 130.9
05040004 010 Muskingum River (downstream Tuscarawas R./Walhonding R. to upstream Licking River)

Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2009

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Unknown (3)
Sampling Year(s):

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<td>Principal Streams</td>
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<td>Site(s)</td>
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High Magnitude Causes
High Magnitude Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)
Cause:
No. Ambient Sites: No. Ambient Sampling Records:
No. of NPDES MOR Sites: No. of NPDES MOR Records:
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)
Pollutants (Waterbody):
Stream Miles Monitored: 0.00 Stream Miles Impaired:
Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments
Virtually nothing has been sampled in this watershed. A few 401 issues were sampled on very small tributaries.
HUC11 | WAU Description | WAU Size (mi²): 118.1
05040004 020 | Wakatomika Creek (headwaters to downstream Brushy Fork)

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2018
Priority Points: 2

Aquatic Life Use Assessment
Subcategories of ALU: EWH, CWH, WWH
Impairment: Yes (4A-TMDL)

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High Magnitude Causes
Siltation
Direct Habitat Alterations

High Magnitude Sources
Pasture Land
Channelization-Agriculture
Removal of Riparian Vegetation-Agriculture

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (4A-TMDL)
Cause: Pathogens
Geometric Mean: 1724
75th %ile: 3500
90th %ile: 17000

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: No
Nitrate Indicator: Yes
Pesticide Indicator: No

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5-Historical Data)
Stream Miles Monitored: 7.52  Stream Miles Impaired: 7.52
Pollutants (Waterbody): PCBs (Wakatomika Creek)
Lake Acres Monitored: 0.0  Lake Acres Impaired: 0.0

WAU Comments
TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the Wakatomika Creek watershed were approved by U.S. EPA on September 28, 2006. Chemical, physical and biological monitoring in support of the TMDL development was conducted in 2003. The 2006 Integrated Report assessment of available fish tissue data from Wakatomika Creek 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 some of the fish tissue data used in the 2006 Integrated Report assessment are now historical, the assessment unit will remain Category 5 until TMDLs have been developed for the pollutant(s) impairing fish consumption. See http://www.epa.state.oh.us/dsw/tmdl/WakatomikaCreekTMDL.html for more information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 116.1
05040004 030  Wakatomika Creek (downstream Brushy Fork to mouth)

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2018
Priority Points: 2

Aquatic Life Use Assessment
Subcategories of ALU: EWH,CWH,WWH
Impairment: Yes (4A-TMDL)

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<td>14.6 26.1 1.50</td>
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High Magnitude Causes
Siltation
Flow Alteration
Nutrients
Direct Habitat Alterations
Salinity/TDS/Chlorides

High Magnitude Sources
Highway/Road/Bridge/Sewer Line Construction
Highway Maintenance and Runoff
Nonirrigated Crop Production
Channelization-Agriculture
Removal of Riparian Vegetation-Agriculture
Pasture Land
Surface Mining

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (4A-TMDL)
Cause: Pathogens
Geometric Mean: 656
No. Ambient Sites: 26
No. Ambient Sampling Records: 90
No. of NPDES MOR Sites: 1
No. of NPDES MOR Records: 10
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: 
Cause: 
Nitrate Indicator: 
Pesticide Indicator: 

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5-Historical Data)
Stream Miles Monitored: 20.08
Stream Miles Impaired: 18.38
Pollutants (Waterbody): PCBs (Wakatomika Creek)
Lake Acres Monitored: 0.0
Lake Acres Impaired: 

WAU Comments
TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the Wakatomika Creek watershed were approved by U.S. EPA on September 28, 2006. Chemical, physical and biological monitoring in support of the TMDL development was conducted in 2003. The 2006 Integrated Report assessment of available fish tissue data from Wakatomika Creek 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 some of the fish tissue data used in the 2006 Integrated Report assessment are now historical, the assessment unit will remain Category 5 until TMDLs have been developed for the pollutant(s) impairing fish consumption. See http://www.epa.state.oh.us/dsw/tmdl/WakatomikaCreekTMDL.html for more information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2008

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH, LRW, LWH
Impairment: Unknown (3)
Sampling Year(s):

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Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)
Cause: Geometric Mean:
No. Ambient Sites: No. 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): Frazier's Run; Kent Run @RM 1.3 [Maysville]

Impairment: Unknown (3-Insufficient Data)
Nitrate Indicator: Insufficient Data
Cause: Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Historical Data)
No. Stream Miles Monitored: 0.00
No. Stream Miles Impaired: Pollutants (Waterbody):
No. Lake Acres Monitored: 0.0
No. Lake Acres Impaired: WAU Comments
Virtually no biological sampling has been done in the Moxahala Creek watershed due to severe mining impacts and lack of WWTPs in the basin. Only one biological reference site on Jonathan Creek has been sampled recently. Fish tissue sampling was conducted in Moxahala Creek in 2000. Comprehensive chemical, physical, and biological monitoring is scheduled in this assessment unit in 2008 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 108.4
05040004 050  Moxahala Creek (excluding Jonathan Creek)

Integrated Report Assessment Category: 5  Priority Points: 1
Next Scheduled Monitoring: 2008

Aquatic Life Use Assessment
Impairment: Yes (5)

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<th>WAU Score</th>
</tr>
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<tr>
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<td>Secondary Tributaries</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>&lt; 5 mi²</td>
<td>2 Site(s)</td>
<td>1 Site(s)</td>
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<tr>
<td>Primary Tributaries</td>
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<tr>
<td>5-20 mi²</td>
<td>3 Site(s)</td>
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</tr>
<tr>
<td>20-50 mi²</td>
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<tr>
<td>Principal Streams</td>
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<tr>
<td>50-500 mi²</td>
<td>Site(s)</td>
<td>Miles</td>
<td>Miles</td>
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High Magnitude Causes  High Magnitude Sources
pH  Surface Mining
Siltation  Subsurface Mining
Flow Alteration  Channelization - Development
Direct Habitat Alterations  Natural

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)  Cause:
Geometric Mean: 14
No. Ambient Sites: 0  No. Ambient Sampling Records: 0  75th %ile: 100
No. of NPDES MOR Sites: 1  No. of NPDES MOR Records: 20  90th %ile: 100
Other:

Public Drinking Water Supply Assessment
Location(s): Dry Run @RM 2.23 (Resv 1 and 2), Black Fork @RM 4.69 (Resv. 3,4,5) [Crooksville]

Impairment: No (1)  Nitrate Indicator: Full Support
Cause:  Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 2.00  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
Comprehensive chemical, physical, and biological monitoring is scheduled in this assessment unit in 2008 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05040004 060
WAU Description: Salt Creek
WAU Size (mi²): 144.8

Integrated Report Assessment Category: 5
Priority Points: 3
Next Scheduled Monitoring: 2008

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: No (1)
Sampling Year(s): 1996, 1997, 2002

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<tr>
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<td>4.1 Miles</td>
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Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
Cause: Pathogens
Geometric Mean: 790

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<th>Manns Fork Salt Creek @RM 6.77 (Cutler Lake) [ODNR-Blue Rock S.P.]</th>
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<tr>
<td>Impairment:</td>
<td>No (1)</td>
</tr>
<tr>
<td>Cause:</td>
<td>Nitrate Indicator: Full Support</td>
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<tr>
<td></td>
<td>Pesticide Indicator: Insufficient Data</td>
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Public Drinking Water Supply Assessment
Location(s): Manns Fork Salt Creek @RM 6.77 (Cutler Lake) [ODNR-Blue Rock S.P.]

Impairment: No (1)
Cause: Pathogens
Nitrate Indicator: Full Support
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 2.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired: |

WAU Comments
Comprehensive chemical, physical, and biological monitoring is scheduled in this assessment unit in 2008 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11          WAU Description                                      WAU Size (m²): 182.1
05040004 070   Muskingum River (downstream Licking R. to upstream Meigs Cr.);
                excluding Muskingum R. mainstem

Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2013
Priority Points:

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH,LWH
Impairment: Unknown (3)
Sampling Year(s):

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<tr>
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<th>% Attainment</th>
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<td>Site(s)</td>
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<td></td>
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<tr>
<td>&lt; 5 mi²</td>
<td>Site(s)</td>
<td>Site(s)</td>
<td></td>
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</tr>
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<td>Site(s)</td>
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<tr>
<td>5-20 mi²</td>
<td>Site(s)</td>
<td>Site(s)</td>
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<td>20-50 mi²</td>
<td>Site(s)</td>
<td>Site(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principal Streams</td>
<td>Site(s)</td>
<td>Site(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>50-500 mi²</td>
<td>Site(s)</td>
<td>Site(s)</td>
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</table>

High Magnitude Causes

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)
Cause: Geometric Mean:
No. Ambient Sites: No. 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
Waters Sampled: No Impairment: Unknown (3)
Stream Miles Monitored: 0.00 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments
No data have been collected in tributaries within this watershed.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05040004 080
WAU Description: Meigs Creek
WAU Size (mi²): 142.2

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2013
Priority Points: 4

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (5)
Sampling Year(s): 1989

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<th>Partial</th>
<th>Non</th>
<th>WAU Score Full</th>
<th>Partial</th>
<th>Non</th>
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<td>Site(s)</td>
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<td>50.0</td>
<td>50.0</td>
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<td>0</td>
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<td>100</td>
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<td>20-50 mi²</td>
<td>2 Site(s)</td>
<td>0 Site(s)</td>
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<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Principal Streams 50-500 mi²</td>
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<td>8.1 Miles</td>
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<td>0.00</td>
<td>100</td>
<td>0</td>
<td>25</td>
<td>75</td>
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</table>

High Magnitude Causes
Siltation

High Magnitude Sources
Surface Mining

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
No. Ambient Sites: 27
No. of NPDES MOR Sites: 0

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 2.60
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired: 0.0

WAU Comments

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05040004 090
WAU Description: Wolf Creek; West Branch Wolf Creek;
WAU Size (mi²): 154.3

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2013
Priority Points: 3

Aquatic Life Use Assessment
Subcategories of ALU: EWH
Impairment: Yes (5)
Sampling Year(s): 1999, 2002

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<tbody>
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<td>Principal Streams</td>
<td>4 Site(s)</td>
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Nutrients
Pathogens
Pasture Land

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)
Cause:
No. Ambient Sites: No. Ambient Sampling Records:
No. of NPDES MOR Sites: No. of NPDES MOR Records:
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:
Cause:
Nitrate Indicator:
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
Biological references sites continue to be monitored within this assessment unit. Several new tributaries had fish sampling done in 2002, resulting in a more comprehensive assessment of the watershed than in previous assessment cycles.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 79.6
05040004 100  South Branch Wolf Creek

Integrated Report Assessment Category: 5  Priority Points: 1
Next Scheduled Monitoring: 2013

Aquatic Life Use Assessment
Subcategories of ALU: EWH  Sampling Year(s): 1999, 2002
Impairment: Yes (5)

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<th>WAU Score</th>
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<td>58.3 25.0 16.7</td>
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<tr>
<td>5-20 mi²</td>
<td>3 Site(s)</td>
<td>2 Site(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-50 mi²</td>
<td>2 Site(s)</td>
<td>1 Site(s)</td>
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<td>Principal Streams</td>
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<tr>
<td>50-500 mi²</td>
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<td>7.2 Miles</td>
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High Magnitude Causes
- Siltation
- Flow Alteration

High Magnitude Sources
- Channelization - Agriculture
- Natural

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)

Geometric Mean:
- 75th %ile:
- 90th %ile:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:
Cause:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00  Stream Miles Impaired:
Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
Biological references sites continue to be monitored within this assessment unit. Several new tributaries had fish sampling done in 2002, resulting in a more comprehensive assessment of the watershed than in previous assessment cycles.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 104.2
05040004 110 Muskingum River (downstream Meigs Creek to upstream Big Run); excluding Muskingum R. mainstem

Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2013

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH,LWH
Impairment: Unknown (3)

<table>
<thead>
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<th>Stream Size Category</th>
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<th>% Attainment</th>
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<tr>
<td>5-20 mi²</td>
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<td>20-50 mi²</td>
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Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)

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Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

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Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 11.40  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired: 

WAU Comments
A small amount of data were collected in this watershed, but there are not enough sampling locations to do a complete assessment. One reference site on Olive Green Creek near the mouth was sampled in 1999. Three sites were sampled in the headwaters in 1998 related to a 401 mining project. None of these sites achieve the unverified EWH Aquatic Life Use designation. A use attainability analysis is necessary before impairment can be determined.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05040004 120
WAU Description: Muskingum River (upstream Big Run to mouth); excluding Muskingum R. mainstem

Integrated Report Assessment Category: 3
Priority Points: 2
Next Scheduled Monitoring: 2013

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Unknown (3)

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<td>Primary Tributaries</td>
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<tr>
<td>5-20 mi²</td>
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High Magnitude Causes: 
High Magnitude Sources:

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)

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<tr>
<th>No. Ambient Sites</th>
<th>No. Ambient Sampling Records</th>
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Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

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<th>Nitrate Indicator:</th>
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<th>Cause:</th>
<th>Pesticide Indicator:</th>
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</thead>
<tbody>
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Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)

<table>
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<tr>
<th>Stream Miles Monitored: 0.00</th>
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<th>Pollutants (Waterbody):</th>
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<tbody>
<tr>
<td>Lake Acres Monitored: 0.00</td>
<td>Lake Acres Impaired:</td>
<td></td>
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</table>

WAU Comments
There is no data available for tributaries within this watershed.

M2-192 3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

### Integrated Report Assessment Category: 3

#### Next Scheduled Monitoring: 2013

#### Priority Points:

#### WAU Comments

Biological monitoring of Seneca Fork has not been done since 1984. Fish tissue sampling was done in 1993 and 1994.

---

### Aquatic Life Use Assessment

**Subcategories of ALU:** WWH

**Impairment:** Unknown (3)

<table>
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<th>Stream Size Category</th>
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<th>% Attainment</th>
<th>WAU Score Full</th>
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</tr>
<tr>
<td>&lt; 5 mi²</td>
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<tr>
<td>Primary Tributaries</td>
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<td>Site(s)</td>
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<td>20-50 mi²</td>
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<td>50-500 mi²</td>
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**High Magnitude Causes**

**High Magnitude Sources**

---

### Recreation Use Assessment

**Subcategory of Use:** Primary Contact

**Impairment:** Unknown (3)

<table>
<thead>
<tr>
<th>Geometric Mean:</th>
</tr>
</thead>
<tbody>
<tr>
<td>75&lt;sup&gt;th&lt;/sup&gt; %ile:</td>
</tr>
<tr>
<td>90&lt;sup&gt;th&lt;/sup&gt; %ile:</td>
</tr>
</tbody>
</table>

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### Public Drinking Water Supply Assessment

**Location(s):** No Public Drinking Water Supply Intakes

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### Fish Tissue Assessment

**Waters Sampled:** Yes

**Impairment:** Unknown (3-Historical Data)

<table>
<thead>
<tr>
<th>Pollutants (Waterbody):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

**Stream Miles Monitored:** 0.00

**Stream Miles Impaired:**

**Lake Acres Monitored:** 3550.0

**Lake Acres Impaired:**
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11   WAU Description                        WAU Size (m²): 163.4
05040005 020  Wills Creek (headwaters to upstream Leatherwood Creek); excluding Seneca Fork

Integrated Report Assessment Category: 5  Priority Points: 6
Next Scheduled Monitoring: 2013

Aquatic Life Use Assessment
Subcategories of ALU: WWH,LRW,LWH
Impairment: Yes (5)  Sampling Year(s): 1994, 1999

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<th>Partial</th>
<th>Non</th>
<th>WAU Score Full</th>
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<th>Non</th>
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<tr>
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<td>Principal Streams</td>
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<td></td>
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<tr>
<td>50-500 mi²</td>
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</table>

High Magnitude Causes
Metals  Surface Mining
Unionized Ammonia  Onsite Wastewater Systems (Septic Tanks)
Siltation  Hazardous Waste
Direct Habitat Alterations  Natural

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5-Historical)  Cause: Pathogens  Geometric Mean: 1651
No. Ambient Sites: 0  No. Ambient Sampling Records: 0  75th %ile: 3325
No. of NPDES MOR Sites: 2  No. of NPDES MOR Records: 16  90th %ile: 14350
Other:

Public Drinking Water Supply Assessment
Location(s): Wills Creek (Cambridge Reservoir) [Cambridge]

Impairment: Unknown (3-Insufficient Data)  Nitrate Indicator: Insufficient Data
Cause: Pathogens  Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 6.20  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
Only modified mine drainage reference sites were sampled in 1994 and 1999. Mining impacts are so severe (sedimentation) within the assessment unit that these sites represent the prevailing aquatic life condition. Additionally, current data indicate a historical impairment of the designated recreation use.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05040005 030
WAU Description: Leatherwood Creek
WAU Size (mi²): 91.6

Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2013
Priority Points:

Aquatic Life Use Assessment
Subcategories of ALU: WWH,LWH
Impairment: Unknown (3)
Sampling Year(s):

<table>
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<tr>
<th>Stream Size Category</th>
<th>Data Available</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
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<td>Full</td>
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<td>Site(s)</td>
<td>Full</td>
<td>Partial</td>
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<td>20-50 mi²</td>
<td>Site(s)</td>
<td>Site(s)</td>
<td>Full</td>
<td>Partial</td>
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<td>Principal Streams</td>
<td>Site(s)</td>
<td>Site(s)</td>
<td>Full</td>
<td>Partial</td>
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<tr>
<td>50-500 mi²</td>
<td>Site(s)</td>
<td>Site(s)</td>
<td>Full</td>
<td>Partial</td>
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Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)
cause: Other:
No. Ambient Sites: No. Ambient Sampling Records: Geometric Mean:
No. of NPDES MOR Sites: No. of NPDES MOR Records: 75th %ile:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

**HUC11**
05040005 040

**WAU Description**
Salt Fork

**Integrated Report Assessment Category:** 5
**Priority Points:** 2
**Next Scheduled Monitoring:** 2013

**Aquatic Life Use Assessment**

Subcategories of ALU: WWH
Impairment: Yes (5)

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
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**Recruitment Use Assessment**

Subcategory of Use: Primary Contact
Impairment: Unknown (3)

<table>
<thead>
<tr>
<th>Cause</th>
<th>Geometric Mean:</th>
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<tbody>
<tr>
<td></td>
<td>75th %ile:</td>
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<td></td>
<td>90th %ile:</td>
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**Public Drinking Water Supply Assessment**

Location(s): E. Branch Salt Fork Lake [ODNR-Salt Fork S.P.]

Impairment: No (1)
Cause: Full Support
Nitrate Indicator: Full Support
Pesticide Indicator: Full Support

**Fish Tissue Assessment**

Waters Sampled: Yes
Impairment: Unknown (3-Historical Data)

<table>
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<th>Pollutants (Waterbody):</th>
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<tr>
<td>Stream Miles Monitored: 0.00</td>
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<td>Stream Miles Impaired:</td>
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<td>Lake Acres Monitored: 2952.0</td>
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<td>Lake Acres Impaired:</td>
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**WAU Comments**
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 164.9
05040005 050  Wills Creek (downstream Leatherwood Cr. to downstream Birds Run); excluding Wills Creek mainstem

Integrated Report Assessment Category: 3  Priority Points: 
Next Scheduled Monitoring: 2013

Aquatic Life Use Assessment
Subcategories of ALU: WWH,LWH
Impairment: Unknown (3)
Sampling Year(s):

<table>
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<th>WAU Score</th>
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<td>5-20 mi²</td>
<td>Site(s)</td>
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<td>20-50 mi²</td>
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<td>50-500 mi²</td>
<td>Site(s)</td>
<td>Miles</td>
<td>Miles</td>
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</tbody>
</table>

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)  Cause: 
No. Ambient Sites: 0  No. Ambient Sampling Records: 0  Geometric Mean: 399 75th %ile: 729
No. of NPDES MOR Sites: 1  No. of NPDES MOR Records: 18  90th %ile: 965
Other:

Public Drinking Water Supply Assessment
Location(s): North Crooked Creek [New Concord]

Impairment: Unknown (3-Insufficient Data)  Nitrate Indicator: Insufficient Data
Cause: Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 2.00  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments

3/28/2008
HUC11  WAU Description  WAU Size (mi²): 122.9
05040005 060 Wills Creek (downstream Birds Run to mouth); excluding Wills Creek mainstem

Integrated Report Assessment Category: 2
Next Scheduled Monitoring: 2013

Aquatic Life Use Assessment
Subcategories of ALU: WWH,LWH  Sampling Year(s):
Impairment: Unknown (3)

<table>
<thead>
<tr>
<th>Stream Size Category</th>
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<th>No. Attaining</th>
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<th>WAU Score</th>
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<tr>
<td>5-20 mi²</td>
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<td>20-50 mi²</td>
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<td>Principal Streams</td>
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<td>Miles</td>
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</table>

High Magnitude Causes
High Magnitude Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact  Cause:
Impairment: Unknown (3)  Geometric Mean:
No. Ambient Sites:  No. 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:  Cause:
Nitrate Indicator:
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: No (1)
Stream Miles Monitored: 0.00  Stream Miles Impaired:  Pollutants (Waterbody):
Lake Acres Monitored: 900.0  Lake Acres Impaired:

WAU Comments
The only information available for this assessment unit consists of fish tissue data collected from Wills Creek Reservoir in 2004. Results indicated no concerns with fish caught and consumed from the reservoir.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05040006 010
WAU Description: North Fork Licking River (headwaters to downstream Sycamore Creek)
WAU Size (m²): 111.4

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

Aquatic Life Use Assessment
Subcategories of ALU: WWH, LRW
Impairment: Yes (5)

<table>
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High Magnitude Causes
- Nutrients
- Siltation
- Direct Habitat Alterations

High Magnitude Sources
- Nonirrigated Crop Production
- Confined Animal Feeding Operation (NPS)
- Channelization - Agriculture
- Removal of Riparian Vegetation - Ag.
- Natural

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5-Historical)
Cause: Pathogens
Geometric Mean: 667
No. Ambient Sites: 0
No. Ambient Sampling Records: 0
75th %ile: 2000
No. of NPDES MOR Sites: 2
No. of NPDES MOR Records: 66
90th %ile: 2300
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: 
Cause: 
Nitrate Indicator:
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 11.22
Stream Miles Impaired: 
Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
Most of the recent data (1999-2001) are from Otter Fork, related to a large confined animal feeding operation (CAFO). Two biological reference sites have also been sampled. Comprehensive chemical, physical, and biological monitoring is scheduled in this assessment unit in 2008 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 129.0
05040006 020 North Fork Licking River (downstream Sycamore Creek to mouth)

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

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Unknown (3)
Sampling Year(s):

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<th>% Attainment</th>
<th>WAU Score</th>
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<tr>
<td>Primary Tributaries</td>
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</tr>
<tr>
<td>5-20 mi²</td>
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<td>20-50 mi²</td>
<td>Site(s)</td>
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<td>Principal Streams</td>
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<td>50-500 mi²</td>
<td>Miles</td>
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</table>

High Magnitude Causes
High Magnitude Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)
Cause: Geometric Mean: 227
No. Ambient Sites: 0
No. Ambient Sampling Records: 0
75th %ile: 619
No. of NPDES MOR Sites: 1
No. of NPDES MOR Records: 20
90th %ile: 1223
Other:

Public Drinking Water Supply Assessment
Location(s): North Fork Licking River @ RM 3.0 [Newark]

Impairment: No (1)
Nitrate Indicator: Full Support
Cause:
Pesticide Indicator: Full Support

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 20.28
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
A small amount of data were collected in this watershed, but there are not enough sampling locations to do a complete assessment. Only biological reference sites have been sampled in this watershed since 1993. The lower portion of the North Fork mainstem was sampled in 1993. Comprehensive chemical, physical, and biological monitoring is scheduled in this assessment unit in 2008 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 101.7
05040006 030  Raccoon Creek

Integrated Report Assessment Category: 5  Priority Points: 4
Next Scheduled Monitoring: 2008

Aquatic Life Use Assessment
Impairment: Yes (5)

<table>
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</table>

High Magnitude Causes
- Nutrients
- Siltation
- Organic Enrichment/DO
- Flow Alteration
- Direct Habitat Alterations

High Magnitude Sources
- Nonirrigated Crop Production
- Confined Animal Feeding Operation (NPS)
- Land Development/Suburbanization
- Channelization - Agriculture
- Removal of Riparian Vegetation - Ag.
- Spills
- Natural

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1-Historical)
Cause: No. Ambient Sampling Records: 0
Geometric Mean: 441
75th %ile: 950
90th %ile: 1770

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 2.00  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
All of the sampling done from 1998-2001 was related to spills and manure spreading associated with a large confined animal feeding operation (CAFO). Sampling was done to monitor the recovery of Raccoon Creek and Lobdell Creek after major fish kills occurred in 1999. Comprehensive chemical, physical, and biological monitoring is scheduled in this assessment unit in 2008 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 184.9
05040006 040  South Fork Licking River (excluding Raccoon Creek)

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

Aquatic Life Use Assessment
Subcategories of ALU: WWH  Sampling Year(s): 1993, 1999
Impairment: Yes (5-Historical)

<table>
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<th>Stream Size Category</th>
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<th>WAU Score</th>
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<td>95 0 5</td>
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<td>Site(s)</td>
<td>90.0 0.0 10.0</td>
<td>95 0 5</td>
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<tr>
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<td>Site(s)</td>
<td>Site(s)</td>
<td>90.0 0.0 10.0</td>
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<td>Site(s)</td>
<td>Site(s)</td>
<td>90.0 0.0 10.0</td>
<td>95 0 5</td>
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</tbody>
</table>

High Magnitude Causes
Priority Organics

High Magnitude Sources
Contaminated Sediments

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)  Cause: Pathogens  Geometric Mean: 695
No. Ambient Sites: 0  No. Ambient Sampling Records: 0  75th %ile: 2100
No. of NPDES MOR Sites: 6  No. of NPDES MOR Records: 184  90th %ile: 4400
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Cause:
Nitrate Indicator: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 21.10  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 3136.0  Lake Acres Impaired:

WAU Comments
Biological and water quality data collected in 1993 and 1999 from this assessment unit were used in the 2002 Integrated Report which resulted in a Category 5 (impaired) listing for the aquatic life and recreation beneficial uses. The 1993 data have exceeded the ten-year threshold and are now considered historical. There is not enough 1999 data to provide an adequate aquatic life assessment. However, while reflecting the current status that insufficient data are available to assess aquatic life use status, the assessment unit will remain Category 5 until TMDLs for all beneficial use impairments (aquatic life and recreation) are completed and approved by the U.S. EPA. Comprehensive chemical, physical, and biological monitoring is scheduled in this assessment unit in 2008 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
HUC11: 05040006 050

Watershed Assessment Unit (WAU) Description: Licking River (South Fork/North Fork to downstream Rocky Fork); excluding Licking R. mainstem

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

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH
Sampling Year(s): 1999, 2002

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Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1-Historical)
Cause: No Ambient Sampling Records
No. Ambient Sites: 0
No. of NPDES MOR Sites: 0

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: No
Cause: No Ambient Sampling Records

Fish Tissue Assessment
Waters Sampled: Yes
Stream Miles Monitored: 8.80
Stream Miles Impaired: 8.80
Pollutants (Waterbody): PCBs (Rocky Fork Licking River)

WAU Comments
Comprehensive chemical, physical, and biological monitoring is scheduled in this assessment unit in 2008 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 127.9
05040006 060 Licking River (downstream Rocky Fork to mouth); excluding Licking R. mainstem

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

Aquatic Life Use Assessment

| Stream Size Category | Raw Data Available | % Attainment Full | WAU Score Full | | Raw Data Available | % Attainment Full | WAU Score Full |
|----------------------|--------------------|-------------------|----------------||-----------------|-------------------|-----------------|
| Secondary Tributaries | 11 Site(s)         | 36.4              | 36             | 8 Site(s)       | 50.0              | 50              |
| Primary Tributaries  | 1 Site(s)          | 13.6              |                | 0 Site(s)       |                   |                 |
| 5-20 mi²             |                    |                   |                |                |                   |                 |
| 20-50 mi²            |                    |                   |                |                |                   |                 |
| Principal Streams    | Site(s)            |                   |                | Miles          |                   |                 |
| 50-500 mi²           |                    |                   |                | Miles          |                   |                 |

High Magnitude Causes
Nutrients  Package Plants (Small Flows)
Siltation  Nonirrigated Crop Production
Organic Enrichment/DO Onsite Wastewater Systems (Septic Tanks)
Direct Habitat Alterations Channelization - Agriculture

High Magnitude Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact  Cause:
Impairment: Unknown (3)  Geometric Mean:
No. Ambient Sites:  No. 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
Waters Sampled: No  Impairment: Unknown (3)
Stream Miles Monitored: 0.00  Stream Miles Impaired:  Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:  

WAU Comments
Biological and water quality data collected in 1993, 1994, and 1995 from this assessment unit were used in the 2002 Integrated Report which resulted in a Category 5 (impaired) listing for the aquatic life beneficial use. The 1993 and 1994 data have exceeded the ten-year threshold and are now considered historical. There is not enough 1995 data to provide an adequate aquatic life assessment. However, while reflecting the current status that insufficient data are available to assess 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 this assessment unit in 2008 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Biological and water quality data collected in 1995 were used in the 2002 Integrated Report 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 no aquatic life data are available to assess beneficial use status, the assessment unit continues to have a recreation use impairment. As such, the assessment unit will remain Category 5 until TMDLs for all beneficial use impairments (aquatic life and recreation) are completed and approved by the U.S. EPA.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05060001 020
WAU Description: Rush Creek

WAU Size (mi²): 105.3

Integrated Report Assessment Category: 5
Priority Points: 3
Next Scheduled Monitoring: 2009

Aquatic Life Use Assessment
Subcategories of ALU: WWH, LRW
Impairment: Unknown (3)
Sampling Year(s):

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5-Historical)
Cause: Pathogens
Geometric Mean: 805
No. Ambient Sites: 0
No. Ambient Sampling Records: 0
75th %ile: 1700
No. of NPDES MOR Sites: 1
No. of NPDES MOR Records: 13
90th %ile: 3340
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:
Cause:
Nitrate Indicator:
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m^2): 144.6
05060001 030  Scioto River (downstream Taylor Creek to upstream Little Scioto River); excluding Rush Creek  Priority Points: 5

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2009

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (5-Historical)
Sampling Year(s): 1995

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<th>Partial</th>
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High Magnitude Causes
Cause Unknown
Organic Enrichment/DO
Direct Habitat Alterations

High Magnitude Sources
Pasture Land
Onsite Wastewater Systems (Septic Tanks)
Channelization - Agriculture

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)
Cause: Geometric Mean: 655
No. Ambient Sites: 0
No. Ambient Sampling Records: 0
No. of NPDES MOR Sites: 2
No. of NPDES MOR Records: 62
Other:

Geometric Mean: 655
75th %ile: 1358
90th %ile: 2390

Public Drinking Water Supply Assessment
Location(s): Scioto River @RM 180.04 [Marion-Ohio American Water]

Impairment: Unknown (3-Insufficient Data)
Nitrate Indicator: Insufficient Data
Cause: Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5)
Stream Miles Monitored: 33.85  Stream Miles Impaired: 33.85  Pollutants (Waterbody): PCBs (Scioto River)
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WUA Comments
Biological and water quality data collected in 1995 were used in the 2002 Integrated Report 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. Additionally, 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. While reflecting the current status that no aquatic life data are available to assess beneficial 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.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11    WAU Description                                           WAU Size (mi²): 112.6
05060001 040    Little Scioto River

Integrated Report Assessment Category: 5                                  Priority Points: 4
Next Scheduled Monitoring: 2009

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C,LRW Sampling Year(s): 1998, 1999
Impairment: Yes (5)

<table>
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<th>Stream Size Category</th>
<th>Raw Data</th>
<th>No. Attaining</th>
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High Magnitude Causes
Priority Organics
Metals
Nutrients
Siltation
Organic Enrichment/DO
Flow Alteration
Direct Habitat Alterations
Oil and Grease

High Magnitude Sources
Combined Sewer Overflow
Nonirrigated Crop Production
Onsite Wastewater Systems (Septic Tanks)
Channelization - Agriculture
Channelization - Development
Removal of Riparian Vegetation - Ag.
Contaminated Sediments
Natural

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5) Cause: Pathogens Geometric Mean: 498
No. Ambient Sites: 3 No. Ambient Sampling Records: 6 75th %ile: 1025
No. of NPDES MOR Sites: 1 No. of NPDES MOR Records: 202 90th %ile: 3290
Other: A "Dermal Contact Advisory" is in effect for the Little Scioto River due to PAH contamination. The area under the advisory is from St. Rt. 739 near Marion to Holland Rd. near Marion (Marion County).

Public Drinking Water Supply Assessment
Location(s): Little Scioto River @RM 7.1 [Marion-Ohio American Water]
Impairment: Unknown (3-Insufficient Data) Nitrate Indicator: Insufficient Data
Cause: Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 12.10 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments
A USEPA funded project to remediate contaminated sediments in the Little Scioto River is underway. Future monitoring within the watershed will be conducted within the normal rotating basin schedule after the cessation of the project and when sufficient recovery time has elapsed.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 WAU Description WAU Size (mi²): 140.0
05060001 050 Scioto River (downstream Little Scioto River to upstream Bokes Creek); excluding Scioto R. mainstem

Integrated Report Assessment Category: 5 Priority Points: 3
Next Scheduled Monitoring: 2009

Aquatic Life Use Assessment
Subcategories of ALU: WWH,LRW Impairment: Unknown (3)

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<th>Stream Size Category</th>
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<th>WAU Score</th>
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<td>20-50 mi²</td>
<td>Site(s)</td>
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<td>50-500 mi²</td>
<td>Site(s)</td>
<td>Site(s)</td>
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High Magnitude Causes High Magnitude Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact Impairment: Yes (5) Cause: Pathogens Geometric Mean: 876
No. Ambient Sites: 14 No. Ambient Sampling Records: 45 75th %ile: 2700
No. of NPDES MOR Sites: 1 No. of NPDES MOR Records: 16 90th %ile: 8000

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No Impairment: Unknown (3)
Stream Miles Monitored: 0.00 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments
A small amount of data were collected in this watershed, but there are not enough sampling locations to do a complete assessment.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05060001 060
WAU Description: Scioto River (upstream Bokes Creek to upstream Mill Creek); excluding Scioto R. mainstem
WAU Size (mi²): 107.7

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2019
Priority Points: 3

Aquatic Life Use Assessment
Subcategories of ALU: WWH, LRW
Impairment: Yes (4A-TMDL)
Sampling Year(s): 1999

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<tr>
<td>5-20 mi²</td>
<td>3 Site(s)</td>
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<td>9</td>
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<tr>
<td>20-50 mi²</td>
<td>4 Site(s)</td>
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<tr>
<td>Principal Streams</td>
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<td>0.0 Miles</td>
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High Magnitude Causes
Unknown Toxicity
Unionized Ammonia
Nutrients
Siltation
Organic Enrichment/DO
Salinity/TDS/Chlorides
Direct Habitat Alterations

High Magnitude Sources
Minor Industrial Point Source
Nonirrigated Crop Production
Pasture Land
Range Land
Feedlots (Confined Animals Feeding Oper.) Spills
Animal Holding/ Management Areas
Onsite Wastewater Systems (Septic Tanks)
Septage Disposal

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5-Historical)
Cause: Pathogens
Geometric Mean:

No. Ambient Sites: 0
No. of NPDES MOR Sites: 0

Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: N/A
Cause: N/A

Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)

Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Impaired: N/A

WAU Comments
TMDLs for the aquatic life use impairment documented in the Bokes Creek watershed were approved by the U.S. EPA on September 27, 2002. Monitoring in support of TMDL development was conducted in 1999. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. The assessment unit remains in Category 5 due to the historical recreation use impairment.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 WAU Description WAU Size (mi^2): 179.3
00560001 070 Mill Creek

Integrated Report Assessment Category: 5 Priority Points: 3
Next Scheduled Monitoring: 2019

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C,LRW Impairment: Yes (4A-TMDL)
Sampling Year(s): 1995, 2000, 2001

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<tr>
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High Magnitude Causes
Unknown Toxicity
Pesticides
Metals
Unionized Ammonia
Organic Enrichment/DO
Flow Alteration
Direct Habitat Alterations

High Magnitude Sources
Minor Industrial Point Source
Major Municipal Point Source
Industrial Land Treatment
Onsite Wastewater Systems (Septic Tanks)
Hazardous Waste
Channelization - Agriculture
Spills
Natural

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5) Cause: Pathogens Geometric Mean: 821
No. Ambient Sites: 1 No. Ambient Sampling Records: 24 75th %ile: 1942
No. of NPDES MOR Sites: 2 No. of NPDES MOR Records: 74 90th %ile: 5400

Public Drinking Water Supply Assessment
Location(s): Mill Creek @RM 19.45 [Marysville]
Impairment: Unknown (3-Insufficient Data) Nitrate Indicator: Insufficient Data
Cause: Pathogens Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments
TMDLs for pollutants impairing the aquatic life beneficial use in the Mill Creek watershed were approved by the U.S. EPA on September 2, 2003. Monitoring in support of the TMDL was conducted in 1995, 2000, and 2001. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. The assessment unit remains in Category 5 due to the recreation use impairment.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 119.7
05060001 080 Scioto River (downstream Mill Creek to upstream Olentangy River); excluding Scioto R. mainstem

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2009
Priority Points: 1

Aquatic Life Use Assessment

<table>
<thead>
<tr>
<th>Subcategories of ALU</th>
<th>WWH</th>
<th>Impairment: Yes (5)</th>
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</table>

Sampling Year(s): 1994, 1997, 1999

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<tbody>
<tr>
<td>Secondary Tributaries</td>
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<td>Miles</td>
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High Magnitude Causes

Cause Unknown
Unknown Toxicity
Priority Organics
Unionized Ammonia
Siltation
Sediment!
Organic Enrichment/DO
Direct Habitat Alterations

High Magnitude Sources

Municipal Point Source
Package Plant (Small Flows)
Nonirrigated Crop Production
Land Development/ Suburbanization
Channelization - Agriculture
Channelization - Development
Removal of Riparian Vegetation - Dev.
Spills

Recreation Use Assessment

Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)  Cause: |

<table>
<thead>
<tr>
<th>No. Ambient Sites:</th>
<th>No. Ambient Sampling Records:</th>
<th>Geometric Mean:</th>
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Other:

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment:
Cause:

Nitrate Indicator: Pesticide Indicator:

Fish Tissue Assessment

Waters Sampled: No  Impairment: Unknown (3)
Stream Miles Monitored: 0.00  Stream Miles Impaired: |
Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired: |

WAU Comments

Most of the streams in this watershed are small streams, impaired by urban land use.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05060001 090
WAU Description: Olentangy River (headwaters to downstream Flat Run)
WAU Size (mi²): 133.6

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2018
Priority Points: 2

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C
Impairment: Yes (4A-TMDL)
Sampling Year(s): 2003, 2004

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<tr>
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<th>% Attainment</th>
<th>WAU Score</th>
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<tr>
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<td>5-20 mi²</td>
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<td>25.0</td>
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<tr>
<td>20-50 mi²</td>
<td>2 Site(s)</td>
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<tr>
<td>Principal Streams</td>
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<tr>
<td>50-500 mi²</td>
<td>3 Site(s)</td>
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</table>

High Magnitude Causes
- Nutrients
- Siltation
- Direct Habitat Alterations
- Flow Alteration

High Magnitude Sources
- Major Municipal Point Source
- Nonirrigated Crop Production
- Streambank Modification/Destabilization-Agriculture
- Removal of Riparian Vegetation-Agriculture
- Upstream Impoundment

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (4A-TMDL)
No. Ambient Sites: 21
No. of NPDES MOR Sites: 1

Public Drinking Water Supply Assessment
Location(s): Rocky Fork (Olentangy River RM 84.84)@RM 0.6 [Galion]

Fish Tissue Assessment
Waters Sampled: Yes
Stream Miles Monitored: 29.92
Stream Miles Impaired: 29.92
Pollutants (Waterbody): PCBs (Olentangy River)
Lake Acres Monitored: 80.0
Lake Acres Impaired: 35

WAU Comments
TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the Olentangy River basin were approved by U.S. EPA on September 19, 2007. Chemical, physical, and biological monitoring in support of the TMDL development was conducted in 2003 and 2004. Significant streams sampled in this assessment unit included the Olentangy River, Rocky Fork, Mud Run, Flat Run, and Thorn Run. For additional information, see http://www.epa.state.oh.us/dsw/tmdl/OlentangyRiverTMDL.html. The 2006 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. As such, 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 M2
Watershed Assessment Unit (WAU) Results

HUC11: 05060001 100
WAU Description: Whetstone Creek
WAU Size (m²): 114.5

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2018
Priority Points: 2

Aquatic Life Use Assessment
Subcategories of ALU: EWH, CWH, WWH
Impairment: Yes (4A-TMDL)
Sampling Year(s): 2003, 2004

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data</th>
<th>% Attainment</th>
<th>WAU Score</th>
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<tbody>
<tr>
<td>Secondary Tributaries</td>
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<tr>
<td>5-20 mi²</td>
<td>9 Site(s)</td>
<td>6 Site(s)</td>
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<td>20-50 mi²</td>
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<td>4 Site(s)</td>
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<tr>
<td>Principal Streams</td>
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<td>50-500 mi²</td>
<td>2 Site(s)</td>
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<td>21</td>
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</table>

High Magnitude Causes: Upstream Impoundment
High Magnitude Sources:
- Upstream Impoundment
- Minor Municipal Point Source
- Thermal Modifications
- Removal of Riparian Vegetation-Development
- Siltation
- Nonirrigated Crop Production
- Direct Habitat Alterations
- Streambank Modification/Destabilization-Agriculture
- Flow Alteration
- Flow Regulation/Modification
- Onsite Wastewater Systems (Septic Tanks)
- Nonirrigated Crop Production
- Direct Habitat Alterations
- Flow Alteration
- Flow Regulation/Modification
- Onsite Wastewater Systems (Septic Tanks)

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Nitrate Indicator: No
Pesticide Indicator: No

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)
Stream Miles Monitored: 23.00
Stream Miles Impaired: 23.00
Pollutants (Waterbody): PCBs (Whetstone Creek)

WAT Comments
TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the Olentangy River basin were approved by U.S. EPA on September 19, 2007. Chemical, physical, and biological monitoring in support of the TMDL development was conducted in 2003 and 2004. Significant streams sampled in this assessment unit included Whetstone Creek, Br. Whetstone Creek, Sams Creek, Big Run, Shaw Creek, Mitchell Run, and Claypole Run. For additional information, see http://www.epa.state.oh.us/dsw/tmdl/OlentangyRiverTMDL.html. The 2006 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. As such, 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 M2  
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 183.0
05060001 110  Olentangy River (downstream Flat Run to downstream Delaware Run); excluding Whetstone Creek

Integrated Report Assessment Category: 5  Priority Points: 4
Next Scheduled Monitoring: 2018

Aquatic Life Use Assessment

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
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<tbody>
<tr>
<td>Secondary Tributaries</td>
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<tr>
<td>&lt; 5 mi²</td>
<td>3 Site(s)</td>
<td>1 Site(s)</td>
<td>24.4 35.9 39.7</td>
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<tr>
<td>Primary Tributaries</td>
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<td>5-20 mi²</td>
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<tr>
<td>20-50 mi²</td>
<td>Site(s)</td>
<td>Site(s)</td>
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<td>Principal Streams</td>
<td>10 Site(s)</td>
<td>23.7 Miles</td>
<td>48.1 48.5 3.40</td>
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High Magnitude Causes
- Siltation
- Direct Habitat Alterations
- Nutrients
- Flow Alteration

High Magnitude Sources
- Range Grazing - Riparian
- Onsite Wastewater Systems (Septic Tanks)
- Flow Regulation/Modification
- Nonirrigated Crop Production
- Channelization - Agriculture
- Removal of Riparian Vegetation - Development

Recreation Use Assessment
Subcategory of Use: Primary Contact  Impairment: Yes (4A-TMDL)  Cause: Pathogens  Geometric Mean: 563

<table>
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<th>No. Ambient Sites</th>
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<tr>
<td>19</td>
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</table>

Public Drinking Water Supply Assessment
Location(s): Olentangy River @RMs 31.23 and 31.02 [Delaware]


Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5)  Pollutants (Waterbody): PCBs (Olentangy River, Delaware Lake)

Stream Miles Monitored: 33.57  Stream Miles Impaired: 33.57  Lake Acres Monitored: 1300.0  Lake Acres Impaired: 1300.0

WAU Comments
TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the Olentangy River basin were approved by U.S. EPA on September 19, 2007. Chemical, physical, and biological monitoring in support of the TMDL development was conducted in 2003 and 2004. Significant streams sampled in this assessment unit were limited to the Olentangy River but numerous small tributary streams were also assessed. For additional information, see http://www.epa.state.oh.us/dsw/tmdl/OlentangyRiverTMDL.html. 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. As such, the assessment unit will remain Category 5 until TMDLs for all beneficial use impairments are completed and approved by the U.S. EPA. Status of the Olentangy mainstem in the vicinity of Delaware was updated based on sites sampled in 2005 which provided pre-dam removal data for the River St., Central Ave., and Panhandle Rd. dams. 2006 data were collected to document recovery of aquatic communities in the River St. dam pool reach after removal of the dam in fall, 2005.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2018

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH, MWH-I
Impairment: Yes (4A-TMDL)

<table>
<thead>
<tr>
<th>Stream Size Category</th>
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<tr>
<td>5 mi²</td>
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<tr>
<td>5-20 mi²</td>
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<td>20-50 mi²</td>
<td>Site(s)</td>
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<td>Principal Streams</td>
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</table>

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (4A-TMDL)
No. Ambient Sites: 18
No. of NPDES MOR Sites: 2

Public Drinking Water Supply Assessment
Location(s): Olentangy River @RM 18.19 [Del-Co]

Impairment: Unknown (3-Insufficient Data)
Nitrate Indicator: Insufficient Data
Cause: Pathogens
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes
Stream Miles Monitored: 25.71
Lake Acres Monitored: 0.0
Stream Miles Impaired: 25.71
Lake Acres Impaired: 0.0

Pollutants (Waterbody): PCBs (Olentangy River)

WAU Comments
TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the Olentangy River basin were approved by U.S. EPA on September 19, 2007. Chemical, physical, and biological monitoring in support of the TMDL development was conducted in 2003 and 2004. Significant streams sampled in this assessment unit were limited to the Olentangy River but numerous small tributary streams were also assessed. For additional information, see http://www.epa.state.oh.us/dsw/tmdl/OlentangyRiverTMDL.html. 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. As such, the assessment unit will remain Category 5 until TMDLs for all beneficial use impairments are completed and approved by the U.S. EPA. Status of the Olentangy mainstem in the vicinity of Delaware was updated based on sites sampled in 2006 which documented recovery of aquatic communities in the River St. dam pool reach after removal of the dam in fall, 2005. The mainstem within Columbus was updated with data collected from dam pools in 1999 which had not been used in the 2006 Integrated Report assessment.
HUC11  WAU Description  WAU Size (m²): 189.6
05060001 130  Big Walnut Creek (headwaters to Hoover Dam)  

Integrated Report Assessment Category: 4A  Priority Points:  
Next Scheduled Monitoring: 2020  

Aquatic Life Use Assessment  
Subcategories of ALU:  WWH  Sampling Year(s): 2000  
Impairment: Yes (4A-TMDL)  

<table>
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<tr>
<th>Stream Size Category</th>
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<th>WAU Score</th>
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<tr>
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<td>3 Site(s)</td>
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High Magnitude Causes  High Magnitude Sources  
Cause Unknown  Suspended Solids  Nonirrigated Crop Production  Septage Disposal  
Unionized Ammonia  Land Development/Suburbanization  Dam Construction  
Nutrients  Urban Runoff/Storm Sewers (NPS)  
Siltation  Onsite Wastewater Systems (Septic Tanks)  
Organic Enrichment/DO  Removal of Riparian Vegetation  
Flow Alteration  Channelization - Agriculture  
Direct Habitat Alterations  Source Unknown  
Range Grazing - Riparian  

Recreation Use Assessment  
Subcategory of Use: Primary Contact  
Impairment: Yes (4A-TMDL)  

<table>
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<th>Cause: Pathogens</th>
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<td>Other:</td>
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Public Drinking Water Supply Assessment  
Location(s): Hoover Reservoir, Duncan Run @RM 0.68 [Lake of the Woods]  

<table>
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<tr>
<th>Impairment: No (1)</th>
<th>Nitrate Indicator: Full Support</th>
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<tbody>
<tr>
<td>Cause:</td>
<td>Pesticide Indicator: Full Support</td>
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</tbody>
</table>

Fish Tissue Assessment  
Waters Sampled: Yes  Impairment: Unknown (3-Historical Data)  
Stream Miles Monitored: 0.00  Stream Miles Impaired: Pollutants (Waterbody):  
Lake Acres Monitored: 0.00  Lake Acres Impaired:  

WAU Comments  
A report developing TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the Big Walnut Creek basin was approved by U.S. EPA on September 28, 2005. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. Monitoring in support of the TMDL was conducted in 2000. The 2000 Big Walnut Creek basin report (EAS/2003-11-10) is available at http://www.epa.state.oh.us/dsw/document_index/psdindx.html.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 145.7
05060001 140  Big Walnut Creek (downstream Hoover Dam to upstream Alum Creek); Blacklick Creek

Integrated Report Assessment Category: 4A
Next Scheduled Monitoring: 2020
Priority Points:

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH, MWH-C, LRW
Impairment: Yes (4A-TMDL)

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>% Attainment</th>
<th>WAU Score</th>
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<tbody>
<tr>
<td>&lt; 5 mi²</td>
<td>13 Site(s)</td>
<td>2 Site(s)</td>
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</tr>
<tr>
<td>5-20 mi²</td>
<td>7 Site(s)</td>
<td>2 Site(s)</td>
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</tr>
<tr>
<td>20-50 mi²</td>
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<tr>
<td>50-500 mi²</td>
<td>7 Site(s)</td>
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</table>

Sampling Year(s): 2000

High Magnitude Causes
- Cause Unknown
- Organic Enrichment/DO
- Flow Alterations
- Metals
- Direct Habitat Alterations
- Unionized Ammonia
- Nutrients
- Siltation
- Thermal Modifications

High Magnitude Sources
- Industrial Site Runoff
- Source Unknown
- Minor Municipal Point Source
- Contaminated Sediment
- Land Development/Suburbanization
- Urban Runoff/Storm Sewers (NPS)
- Onsite Wastewater Systems (Septic Tanks)
- Channelization - Development
- Upstream Impoundment
- Removal of Riparian Vegetation - Dev.

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (4A-TMDL)

<table>
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<th>Cause: Pathogens</th>
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<td>75th %ile: 1158</td>
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<td>90th %ile: 2930</td>
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| No. Ambient Sites: 5 |
| No. of NPDES MOR Sites: 4 |
| No. of NPDES MOR Records: 288 |

Other:

Public Drinking Water Supply Assessment
Location(s): Big Walnut Creek @RM 32.64 [Columbus]

Impairment: No (1)
Cause: Pathogens
Nitrate Indicator: Full Support, Watch List
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody)
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
A report developing TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the Big Walnut Creek basin was approved by U.S. EPA on September 26, 2005. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. Monitoring in support of the TMDL was conducted in 2000. The 2000 Big Walnut Creek basin report (EAS/2003-11-10) is available at http://www.epa.state.oh.us/dsw/document_index/psdindx.html.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11    WAU Description                      WAU Size (m²): 121.8
05060001 150  Alum Creek (headwaters to Alum Creek Dam)

Integrated Report Assessment Category: 4A
Next Scheduled Monitoring: 2020

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (4A-TMDL)
Sampling Year(s): 2000

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data</th>
<th>% Attainment</th>
<th>WAU Score</th>
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<tr>
<td>Secondary Tributaries</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 5 mi²</td>
<td>2 Site(s)</td>
<td>1 Site(s)</td>
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</tr>
<tr>
<td>Primary Tributaries</td>
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<td>1 Site(s)</td>
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<table>
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<tr>
<th>High Magnitude Causes</th>
<th>High Magnitude Sources</th>
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<tr>
<td>Cause Unknown</td>
<td>Nonirrigated Crop Production</td>
</tr>
<tr>
<td>Nutrients</td>
<td>Channelization - Agriculture</td>
</tr>
<tr>
<td>Flow Alteration</td>
<td>Source Unknown</td>
</tr>
<tr>
<td>Direct Habitat Alterations</td>
<td>Removal of Riparian Vegetation - Agriculture</td>
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Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (4A-TMDL)
CAUSE: Pathogens
Geo-Mean: 187

<table>
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<tr>
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<th>Site(s)</th>
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<td>100</td>
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Public Drinking Water Supply Assessment
Location(s): Alum Creek Reservoir and Alum Creek @RM 26.74 [Del-Co]

Impairment: Unknown (3-Insufficient Data)
Cause: Pathogens

Nitrate Indicator: Insufficient Data, Watch list
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: No (1)
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody)

Lake Acres Monitored: 3387.0
Lake Acres Impaired: 420

WAU Comments
A report developing TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the Big Walnut Creek basin was approved by U.S. EPA on September 26, 2005. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. Monitoring in support of the TMDL was conducted in 2000. The 2000 Big Walnut Creek basin report (EAS/2003-11-10) is available at http://www.epa.state.oh.us/dsw/document_index/psdindx.html.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description                  WAU Size (m²): 99.7
05060001 160  Big Walnut Creek (Alum Creek to mouth); Alum Creek (downstream Alum Creek Dam to mouth)

Integrated Report Assessment Category: 4A
Next Scheduled Monitoring: 2020
Priority Points: __________________ __________________

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH, LRW
Impairment: Yes (4A-TMDL)
Sampling Year(s): 2000

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<th>WAU Score</th>
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<td>Full Partial Non</td>
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<td>0.0 100 0.0</td>
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<tr>
<td>Primary Tributaries</td>
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</tr>
<tr>
<td>5-20 mi²</td>
<td>1 Site(s)</td>
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<tr>
<td>20-50 mi²</td>
<td>Site(s)</td>
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</tr>
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<td>Principal Streams</td>
<td>9 Site(s)</td>
<td>43.5 56.5 0.00</td>
<td>18.3 Miles 8.0 Miles</td>
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<tr>
<td>50-500 mi²</td>
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</table>

High Magnitude Causes
- Siltation
- Organic Enrichment/DO
- Flow Alteration
- Direct Habitat Alterations
- Land Development/Suburbanization
- Urban Runoff/Storm Sewers (NPS)
- Channelization - Development
- Impoundment

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (4A-TMDL)
Cause: Pathogens
Geometric Mean: 357
75th %ile: 550
90th %ile: 1152

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<tr>
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<th>No. Ambient Sampling Records: 0</th>
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<tr>
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<td>No. of NPDES MOR Records: 105</td>
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Public Drinking Water Supply Assessment
Location(s): Alum Creek @RM 21.20 (@lowhead dam) [Westerville]

Impairment: Unknown (3-Insufficient Data)
Nitrate Indicator: Insufficient Data
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 35.22
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired: 0.0

WAU Comments
A report developing TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the Big Walnut Creek basin was approved by U.S. EPA on September 26, 2005. Monitoring in support of the TMDL was conducted in 2000. The 2000 Big Walnut Creek basin report (EAS/2003-11-10) is available at http://www.epa.state.oh.us/dsw/document_index/psdindx.html. See http://www.epa.state.oh.us/dsw/tmdl/BigWalnutCreekTMDL.html for more information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05060001 170  WAU Description: Walnut Creek (headwaters to downstream Sycamore Creek)  WAU Size (m²): 138.0

Integrated Report Assessment Category: 5  Priority Points: 8  Next Scheduled Monitoring: 2020

Aquatic Life Use Assessment
Subcategories of ALU: EWH, CWH, WWH  Sampling Year(s): 2005

<table>
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<tr>
<th>Stream Size Category</th>
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<th>% Attainment</th>
<th>WAU Score</th>
</tr>
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<td>Secondary Tributaries</td>
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<td>5 Site(s)</td>
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<td>5-20 mi²</td>
<td>14 Site(s)</td>
<td>10 Site(s)</td>
<td>70.3 21.1 8.6</td>
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<tr>
<td>20-50 mi²</td>
<td>4 Site(s)</td>
<td>3 Site(s)</td>
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<td>Principal Streams</td>
<td>50-500 mi²</td>
<td>3 Site(s)</td>
<td>12.2 Miles 12.2 Miles</td>
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High Magnitude Causes
Organic Enrichment (Sewage) Biological Indicators
Oxygen, Dissolved
Solids (Suspended/Bedload)
Total Dissolved Solids
Natural Conditions (Flow or Habitat)
Sedimentation/Siltation
Ammonia (Un-ionized)

High Magnitude Sources
On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)
Urban Runoff/Storm Sewers
Municipal Point Source Discharges
Drought-related Impacts
Channelization
Nonirrigated Crop Production
Sanitary Sewer Overflows (Collection System Failures)
Grazing in Riparian or Shoreline Zones

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)

<table>
<thead>
<tr>
<th>Cause: Pathogens</th>
<th>Geometric Mean: 598</th>
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<td>No. Ambient Sites: 27</td>
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Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5)
Stream Miles Monitored: 16.22  Stream Miles Impaired: 16.22  Pollutants (Waterbody): PCBs (Walnut Creek)
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
Development of TMDLs for pollutants impairing beneficial uses in the Walnut Creek watershed is underway. Biological and water quality monitoring in support of the TMDLs was conducted in 2005. Principal streams sampled in the upper watershed included Walnut Creek, Sycamore Creek, Pleasantville Creek, Poplar Creek, and Pawpaw Creek. A report on the findings of the biological and water quality survey is available (http://www.epa.state.oh.us/dsw/documents/WalnutCreek2005TSD.pdf). Check the TMDL web page for updated information on the TMDL progress (http://www.epa.state.oh.us/dsw/tmdl/index.html).
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

<table>
<thead>
<tr>
<th>HUC11</th>
<th>WAU Description</th>
<th>WAU Size (m²): 147.5</th>
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<tr>
<td>05060001 180</td>
<td>Walnut Creek (downstream Sycamore Creek to mouth)</td>
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Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2020
Priority Points: 7

Aquatic Life Use Assessment

<table>
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<tr>
<th>Impairment</th>
<th>Sampling Year(s): 2005</th>
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Subcategories of ALU: EWH,CWH,WWH,MWH-C

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<th>Raw Data Available</th>
<th>% Attainment</th>
<th>WAU Score Partial</th>
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<td>Data</td>
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</tr>
<tr>
<td>Secondary Tributaries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 5 mi²</td>
<td>8 Site(s)</td>
<td>7 Site(s)</td>
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</tr>
<tr>
<td>Primary Tributaries</td>
<td>5-20 mi²</td>
<td>11 Site(s)</td>
<td>87.8 4.5 7.7</td>
</tr>
<tr>
<td></td>
<td>20-50 mi²</td>
<td>2 Site(s)</td>
<td></td>
</tr>
<tr>
<td>Principal Streams</td>
<td>50-500 mi²</td>
<td>7 Site(s)</td>
<td>94 2 4</td>
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<tr>
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<td>29.2 Miles</td>
<td>29.2 Miles</td>
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</tbody>
</table>

High Magnitude Causes

- Direct Habitat Alterations
- Low Flow Alterations
- Organic Enrichment (Sewage) Biological Indicators
- Sedimentation/Siltation
- Other (Unknown Toxicity)

High Magnitude Sources

- Channelization
- Flow Alterations from Water Diversions
- Package Plant or Other Small Flows Discharges
- Grazing in Riparian or Shoreline Zones
- Municipal (Urbanized High Density Area)

Recreation Use Assessment

Subcategory of Use: Primary Contact
Impairment: Yes (5)

<table>
<thead>
<tr>
<th>Cause</th>
<th>Geometric Mean: 552</th>
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<td>Pathogens</td>
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<tr>
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<td>90th %ile: 5190</td>
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No Public Drinking Water Supply Intakes

Public Drinking Water Supply Assessment

Nitrate Indicator: Pathogens
Pesticide Indicator: Geometric Mean: 552

Fish Tissue Assessment

Waters Sampled: Yes
Impairment: Yes (5)

<table>
<thead>
<tr>
<th>Pollutants (Waterbody): PCBs (Walnut Creek)</th>
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</thead>
<tbody>
<tr>
<td>Stream Miles Monitored: 27.88</td>
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<td>Stream Miles Impaired: 27.88</td>
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<tr>
<td>Lake Acres Monitored: 0.0</td>
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<tr>
<td>Lake Acres Impaired:</td>
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WAU Comments

Development of TMDLs for pollutants impairing beneficial uses in the Walnut Creek watershed is underway. Biological and water quality monitoring in support of the TMDLs was conducted in 2005. Principal streams sampled in the lower watershed included Walnut Creek, George Creek, Little Walnut Creek, and Turkey Run. A report on the findings of the biological and water quality survey is available (http://www.epa.state.oh.us/dsw/documents/WalnutCreek2005TSD.pdf). Check the TMDL web page for updated information on the TMDL progress (http://www.epa.state.oh.us/dsw/tmdl/index.html).

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 176.1
05060001 190  Big Darby Creek (headwaters to downstream Sugar Run)

Integrated Report Assessment Category: 5  Priority Points: 2
Next Scheduled Monitoring: 2021

Aquatic Life Use Assessment
Subcategories of ALU: EWH, CWH, WWH, MWH, LRW
Impairment: Yes (4A-TMDL)

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>% Attainment</th>
<th>WAU Score</th>
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<tbody>
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<td>Full Partial Non</td>
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<td>20-50 mi²</td>
<td>2 Site(s) 1 Site(s)</td>
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<tr>
<td>Principal Streams</td>
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<td>10 Site(s) 20.6 Miles 9.4 Miles 45.4 54.6 0.00</td>
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</table>

High Magnitude Causes
Direct Habitat Alterations
Siltation
Flow Alteration
Nutrients
Metals
Organic Enrichment/DO

High Magnitude Sources
Channelization-Agriculture
Removal of Riparian Vegetation-Agriculture
Highway/Road/Bridge/Sewer Line Construction
Channelization-Development
Spills
Septage Disposal
Minor Municipal Point Source
Major Industrial Point Source

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (4A-TMDL)

<table>
<thead>
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<th>Cause</th>
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<td>75th %ile: 740</td>
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<td>Pesticide Indicator</td>
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Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Yes
Cause: Pathogens

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)

<table>
<thead>
<tr>
<th>Pollutants (Waterbody)</th>
<th>PCBs (Big Darby Creek)</th>
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</thead>
<tbody>
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<td>Stream Miles Monitored</td>
<td>22.96</td>
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<td>Lake Acres Impaired</td>
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</table>

WAU Comments
TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the Big Darby Creek basin were approved by U.S. EPA on May 9, 2006. Chemical, physical, and biological monitoring in support of the TMDL development was conducted in 2001 and 2002. 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 2006 Integrated Report assessment of available fish tissue data from Big Darby Creek 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 assessment unit will remain Category 5 until TMDLs are developed for all pollutants impairing all beneficial uses. See http://www.epa.state.oh.us/dsw/tmdl/BigDarbyCreekTMDL.html for more information.
TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the Big Darby Creek basin were approved by U.S. EPA on May 9, 2006. Chemical, physical, and biological monitoring in support of the TMDL development was conducted in 2001 and 2002. 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 2006 Integrated Report assessment of available fish tissue data from Big Darby Creek 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 assessment unit will remain Category 5 until TMDLs are developed for all pollutants impairing all beneficial uses. See http://www.epa.state.oh.us/dsw/tmdl/BigDarbyCreekTMDL.html for more information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 | WAU Description | WAU Size (m²): 178.5
05060001 210 Little Darby Creek

Integrated Report Assessment Category: 5
Priority Points: 2
Next Scheduled Monitoring: 2021

Aquatic Life Use Assessment
Subcategories of ALU: EWH, CWH, WWH
Impairment: Yes (4A-TMDL)
Sampling Year(s): 2001, 2002

<table>
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<th>Stream Size Category</th>
<th>Raw Data</th>
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<th>WAU Score</th>
</tr>
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<tbody>
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<tr>
<td>&lt; 5 mi²</td>
<td>7 Site(s)</td>
<td>4 Site(s)</td>
<td>68.6 21.4 10.0</td>
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<td>5-20 mi²</td>
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<td>8 Site(s)</td>
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<tr>
<td>Principal Streams</td>
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<tr>
<td>50-500 mi²</td>
<td>11 Site(s)</td>
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<td>89.5 10.5 0.00</td>
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</tbody>
</table>

Impairment:
- Unknown Toxicity
- Spills
- Siltation
- Channelization-Agriculture
- Nutrients
- Nonirrigated Crop Production
- Organic Enrichment/DO
- Minor Municipal Point Source

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (4A-TMDL)
Cause: Pathogens
No. Ambient Sites: 1
No. of NPDES MOR Sites: 2
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:
- Nitrate Indicator:
- Cause: Pathogens
- Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)
Stream Miles Monitored: 34.70
Stream Miles Impaired: 34.70
Pollutants (Waterbody): PCBs (Little Darby Creek)
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the Big Darby Creek basin were approved by U.S. EPA on May 9, 2006. Chemical, physical, and biological monitoring in support of the TMDL development was conducted in 2001 and 2002. 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 2006 Integrated Report assessment of available fish tissue data from Little Darby Creek 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 assessment unit will remain Category 5 until TMDLs are developed for all pollutants impairing all beneficial uses. See http://www.epa.state.oh.us/dsw/tmdl/BigDarbyCreekTMDL.html for more information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

Watershed Assessment Unit (WAU) Results

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2021
Priority Points: 2

Aquatic Life Use Assessment

Subcategories of ALU: EWH,WWH,MWH,LRW
Impairment: Yes (4A-TMDL)

Sampling Year(s): 2001, 2002

<table>
<thead>
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<th>Stream Size Category</th>
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<td></td>
<td></td>
</tr>
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<td>Primary Tributaries</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-20 mi²</td>
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<td>20-50 mi²</td>
<td>7 Site(s)</td>
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<td>4 Site(s)</td>
<td>19.1</td>
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<td></td>
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</tr>
<tr>
<td>Principal Streams</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>50-500 mi²</td>
<td>15 Site(s)</td>
<td>100</td>
<td>34.1 Miles</td>
<td>100</td>
<td>0.00</td>
<td>0.00</td>
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</tr>
</tbody>
</table>

High Magnitude Causes
- Organic Enrichment/DO
- Nutrients
- Unionized Ammonia
- Siltation
- Chromium
- Nickel
- Zinc

High Magnitude Sources
- Groundwater Loadings
- Onsite Wastewater Systems (Septic Tanks)
- Package Plants (Small Flows)
- Nonirrigated Crop Production
- Urban Runoff/Storm Sewers (NPS)
- Land Development/Suburbanization
- Contaminated Sediments

Recreation Use Assessment

Subcategory of Use: Primary Contact
Impairment: No (1)

Cause:
- No Public Drinking Water Supply Intakes

Geometric Mean: 181
75th %ile: 393
90th %ile: 1685

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment: Yes
Cause: Nitrate Indicator:
Pesticide Indicator:

Fish Tissue Assessment

Waters Sampled: Yes
Impairment: Yes (5)

Stream Miles Monitored: 36.20
Stream Miles Impaired: 31.10
Pollutants (Waterbody): PCBs (Big Darby Creek)

Waters Monitored: 0.0
Lake Acres Impaired: 31.10

WAU Comments

TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the Big Darby Creek basin were approved by U.S. EPA on May 9, 2006. Chemical, physical, and biological monitoring in support of the TMDL development was conducted in 2001 and 2002. 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 2006 Integrated Report assessment of available fish tissue data from Big Darby Creek 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 assessment unit will remain Category 5 until TMDLs are developed for all pollutants impairing all beneficial uses. See http://www.epa.state.oh.us/dsw/tmdl/BigDarbyCreekTMDL.html for more information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 | WAU Description | WAU Size (m^2): 187.2
--- | --- | ---
05060001 230 | Scioto River (downstream Olentangy River to upstream Big Darby Creek); excluding Scioto R. mainstem |

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2009
Priority Points: 1

Aquatic Life Use Assessment
Subcategories of ALU: WWH,LRW
Impairment: Yes (5)
Sampling Year(s): 1994, 1997, 2001

<table>
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<th>Stream Size Category</th>
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<th>Non</th>
<th>WAU Score Full</th>
<th>Partial</th>
<th>Non</th>
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<tbody>
<tr>
<td>Secondary Tributaries</td>
<td>6 Site(s)</td>
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<td>12.5</td>
<td>66.7</td>
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<tr>
<td>Primary Tributaries</td>
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<td>12</td>
<td>67</td>
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<td>Principal Streams</td>
<td>Site(s)</td>
<td>Miles</td>
<td>Hours</td>
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High Magnitude Causes
- Flow Alteration
- Direct Habitat Alterations
- Land Development/Suburbanization
- Urban Runoff/Storm Sewers (NPS)

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)
Cause: Geometric Mean: 1144
- No. Ambient Sites: 0
- No. Ambient Sampling Records: 0
- No. of NPDES MOR Sites: 1
- No. of NPDES MOR Records: 16
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:
- Nitrate Indicator: Cause:
- Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)
Stream Miles Monitored: 0.00
Stream Miles Impaired:
- Pollutants (Waterbody): Nearby
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
Several urban streams in Columbus, Grove City and southern Franklin County were sampled between 1993 and 2001 in this assessment unit.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05060002 010
WAU Description: Scioto River (downstream Big Darby Cr. to upstream Kinnikinnick Cr.);
excluding Scioto R. mainstem

WAU Size (mi²): 162.4

Integated Report Assessment Category: 5
Next Scheduled Monitoring: 2011
Priority Points: 6

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH,LRW
Impairment: Yes (5)

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<th>Stream Size Category</th>
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<th>No. Attaining</th>
<th>Full</th>
<th>Partial</th>
<th>Non</th>
<th>WAU Score Full</th>
<th>Partial</th>
<th>Non</th>
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<td>Secondary Tributaries</td>
<td>4 Site(s)</td>
<td>3 Site(s)</td>
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<td>63.1</td>
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<td>63</td>
<td>31</td>
<td>6</td>
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<tr>
<td>5-20 mi²</td>
<td>7 Site(s)</td>
<td>4 Site(s)</td>
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<td>20-50 mi²</td>
<td>5 Site(s)</td>
<td>3 Site(s)</td>
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<th>Principal Streams</th>
<th>Site(s)</th>
<th>Miles</th>
<th>Miles</th>
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<tbody>
<tr>
<td>50-500 mi²</td>
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</tbody>
</table>

High Magnitude Causes
- Unknown Toxicity
- Priority Organics
- Metals
- Unionized Ammonia
- Siltation
- Organic Enrichment/DO
- Direct Habitat Alterations

High Magnitude Sources
- Major Industrial Point Source
- Municipal Point Sources
- Package Plants (Small Flows)
- Nonirrigated Crop Production
- Onsite Wastewater Systems (Septic Tanks)
- Channelization- Ag
- Channelization- Development
- Streambank Destabilization- Ag

Aquatic Life Use Assessment
Impairment: Yes (5)

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)
Caution: Geometric Mean: 107

<table>
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<tr>
<th>No. Ambient Sites: 0</th>
<th>No. Ambient Sampling Records: 0</th>
<th>75th %ile: 175</th>
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<td>No. of NPDES MOR Sites: 1</td>
<td>No. of NPDES MOR Records: 15</td>
<td>90th %ile: 250</td>
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Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

<table>
<thead>
<tr>
<th>Impairment:</th>
<th>Nitrate Indicator:</th>
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<tbody>
<tr>
<td>Cause:</td>
<td>Pesticide Indicator:</td>
</tr>
</tbody>
</table>

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)

<table>
<thead>
<tr>
<th>Stream Miles Monitored: 3.90</th>
<th>Stream Miles Impaired: 3.90</th>
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</thead>
<tbody>
<tr>
<td>Pollutants (Waterbody): PCBs (Scippo Creek)</td>
<td></td>
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<table>
<thead>
<tr>
<th>Lake Acres Monitored: 130.0</th>
<th>Lake Acres Impaired:</th>
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WAU Comments
The 2006 Integrated Report assessment of available fish tissue data from Scippo Creek 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 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05060002 020
WAU Description: Deer Creek (headwaters to upstream Sugar Run)
WAU Size (mi²): 146.7

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2011
Priority Points: 2

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (5)
Sampling Year(s): 1997

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<th>Raw Data Available</th>
<th>% Attainment</th>
<th>WAU Score</th>
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<td>Full</td>
<td>Partial</td>
</tr>
<tr>
<td>Secondary Tributaries</td>
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<td>&lt; 5 mi²</td>
<td>2 Site(s)</td>
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<tr>
<td>Primary Tributaries</td>
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</tr>
<tr>
<td>5-20 mi²</td>
<td>6 Site(s)</td>
<td></td>
<td>4 Site(s)</td>
</tr>
<tr>
<td>20-50 mi²</td>
<td>5 Site(s)</td>
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<td>5 Site(s)</td>
</tr>
<tr>
<td>Principal Streams</td>
<td>4 Site(s)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50-500 mi²</td>
<td>16.1 Miles</td>
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<td></td>
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</tbody>
</table>

High Magnitude Causes
- Cause Unknown
- Major Municipal Point Source
- Unionized Ammonia
- Package Plants (Small Flows)
- Nutrients
- Aquaculture
- Pathogens
- Urban Runoff/Storm Sewers (NPS)
- Channelization - Agriculture

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)
Cause:
- Geometric Mean: 316
- 75th %ile: 900
- 90th %ile: 1500

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:
- Nitrate Indicator:
- Cause:
- Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Historical Data)
- Pollutants (Waterbody):
- Lake Acres Impaired:

WAU Comments
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05060002 030  
WAU Description: Deer Creek (upstream Sugar Run to upstream Dry Run)  
WAU Size (mi²): 163.1

Integrated Report Assessment Category: 5  
Priority Points: 4  
Next Scheduled Monitoring: 2011

Aquatic Life Use Assessment

<table>
<thead>
<tr>
<th>Subcategories of ALU: EWH,WWH</th>
<th>Impairment: Yes (5)</th>
<th>Sampling Year(s): 1997</th>
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<tbody>
<tr>
<td>Stream Size Category</td>
<td>Raw Data</td>
<td>Data Available</td>
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<tr>
<td>Secondary Tributaries</td>
<td>&lt; 5 mi²</td>
<td>1 Site(s)</td>
</tr>
<tr>
<td>Primary Tributaries</td>
<td>5-20 mi²</td>
<td>1 Site(s)</td>
</tr>
<tr>
<td>20-50 mi²</td>
<td>1 Site(s)</td>
<td>1 Site(s)</td>
</tr>
<tr>
<td>Principal Streams</td>
<td>50-500 mi²</td>
<td>5 Site(s)</td>
</tr>
</tbody>
</table>

High Magnitude Causes

- Cause Unknown
- Nonirrigated Crop Production
- Nutrients
- Upstream Impoundment
- Flow Alteration
- Flow Reg./Mod. - Development
- Source Unknown

Recreation Use Assessment

Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)  
Cause:  
No. Ambient Sites: 0  
No. Ambient Sampling Records: 0  
No. of NPDES MOR Sites: 1  
No. of NPDES MOR Records: 15  
Other:

Geometric Mean: 49  
75th %ile: 185  
90th %ile: 277

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment:  
Cause:  
Nitrate Indicator:  
Pesticide Indicator:

Fish Tissue Assessment

Waters Sampled: Yes  
Impairment: Unknown (3-Historical Data)  
Pollutants (Waterbody):  
Stream Miles Monitored: 0.00  
Stream Miles Impaired:  
Lake Acres Monitored: 1277.0  
Lake Acres Impaired:

WAU Comments

M2-230  3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

<table>
<thead>
<tr>
<th>HUC11</th>
<th>WAU Description</th>
<th>WAU Size (mi²): 102.1</th>
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<tbody>
<tr>
<td>05060002 040</td>
<td>Deer Creek (upstream Dry Run to mouth)</td>
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**Integrated Report Assessment Category:** 5  
**Priority Points:** 4  
**Next Scheduled Monitoring:** 2011

**Aquatic Life Use Assessment**
- **Impairment:** Yes (5)
- **Sampling Year(s):** 1997

<table>
<thead>
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<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
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<tbody>
<tr>
<td>Primary Tributaries</td>
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<tr>
<td>5-20 mi²</td>
<td>1 Site(s)</td>
<td>1 Site(s)</td>
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</tr>
<tr>
<td>20-50 mi²</td>
<td>1 Site(s)</td>
<td>0 Site(s)</td>
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<tr>
<td>Principal Streams</td>
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<td>16.9 Miles</td>
<td>100 0.00 0.00</td>
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</table>

**Recreation Use Assessment**
- **Subcategory of Use:** Primary Contact
- **Impairment:** Unknown (3-Indeterminate Data)  
- **Cause:** Organic Enrichment/DO  
- **Geometric Mean:** 185  
- **75th %ile:** 500  
- **90th %ile:** 800

**Public Drinking Water Supply Assessment**
- **Location(s):** No Public Drinking Water Supply Intakes

**Fish Tissue Assessment**
- **Waters Sampled:** Yes  
- **Impairment:** Unknown (3-Historical Data)  
- **Pollutants (Waterbody):**

**WAU Comments**

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3/28/2008 M2-231
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05060002 050  
WAU Description: Scioto River (upstream Kinnikinnick Creek to upstream Paint Creek); excluding Scioto R. mainstem  
WAU Size (mi²): 97.0

Integrated Report Assessment Category: 3  
Priority Points:  
Next Scheduled Monitoring: 2011

Aquatic Life Use Assessment  
Subcategories of ALU: EWH, WWH  
Impairment: Unknown (3)  
Sampling Year(s):  

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<th>Stream Size Category</th>
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<th>% Attainment</th>
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<tr>
<td>Primary Tributaries</td>
<td>Site(s)</td>
<td>Site(s)</td>
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<tr>
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<td>20-50 mi²</td>
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<tr>
<td>Principal Streams</td>
<td>Site(s)</td>
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<tr>
<td>50-500 mi²</td>
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High Magnitude Causes:  
High Magnitude Sources:

Recreation Use Assessment  
Subcategory of Use: Primary Contact  
Impairment: Unknown (3)  
Cause:  
No. Ambient Sites:  
No. of NPDES MOR Sites:  
Other:  

Public Drinking Water Supply Assessment  
Location(s): No Public Drinking Water Supply Intakes  

Impairment:  
Cause:  
Nitrate Indicator:  
Pesticide Indicator:  

Fish Tissue Assessment  
Waters Sampled: No  
Impairment: Unknown (3)  
Pollutants (Waterbody):  
Stream Miles Monitored: 0.00  
Stream Miles Impaired:  
Lake Acres Monitored: 0.0  
Lake Acres Impaired:  

WAU Comments  

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 129.1
05060002 060  Scioto River (downstream Paint Creek to upstream Salt Creek); excluding Scioto R. mainstem

Integrated Report Assessment Category:  5  Priority Points:  2
Next Scheduled Monitoring:  2016

Aquatic Life Use Assessment
Subcategories of ALU:  WWH
Impairment:  Unknown (3)

| Stream Size Category | Raw Data Available | No. Attaining | % Attainment | WAU Score
|----------------------|--------------------|---------------|--------------|-----------
| Secondary Tributaries | Site(s)            | Site(s)       |              |           |
| < 5 mi²              | Site(s)            | Site(s)       |              |           |
| Primary Tributaries  | Site(s)            | Site(s)       |              |           |
| 5-20 mi²             | Site(s)            | Site(s)       |              |           |
| 20-50 mi²            | Site(s)            | Site(s)       |              |           |
| Principal Streams    | Site(s)            | Site(s)       |              |           |
| 50-500 mi²           | Site(s)            | Site(s)       |              |           |

Recreation Use Assessment
Subcategory of Use:  Primary Contact
Impairment:  Unknown (3-Indeterminate Data)  Cause:  Other:
No. Ambient Sites:  0  No. Ambient Sampling Records:  0
No. of NPDES MOR Sites:  0  No. of NPDES MOR Records:  0

Public Drinking Water Supply Assessment
Location(s):  No Public Drinking Water Supply Intakes

Impairment:  Nitrate Indicator:
Cause:  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled:  Yes  Impairment:  Yes (5)
Stream Miles Monitored:  0.00  Stream Miles Impaired:  Pollutants (Waterbody):  PCBs (Ross Lake)
Lake Acres Monitored:  140.0  Lake Acres Impaired:  140.0

WAU Comments
The 2006 Integrated Report assessment of fish tissue data from Ross Lake 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 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11    WAU Description    WAU Size (mi²): 174.6
05060002 070    Salt Creek (headwaters to upstream Queer Creek)

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2021
Priority Points: 5

Aquatic Life Use Assessment
Subcategories of ALU: EWH, CWH, WWH
Impairment: Yes (5)
Sampling Year(s): 2005

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<td>&lt; 5 mi²</td>
<td>9 Site(s)</td>
<td>8 Site(s)</td>
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<tr>
<td>Primary Tributaries</td>
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<tr>
<td>5-20 mi²</td>
<td>12 Site(s)</td>
<td>6 Site(s)</td>
<td>68.1</td>
<td>81</td>
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<tr>
<td>20-50 mi²</td>
<td>3 Site(s)</td>
<td>2 Site(s)</td>
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<td>Principal Streams</td>
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<tr>
<td>50-500 mi²</td>
<td>3 Site(s)</td>
<td>9.6 Miles</td>
<td>94.8</td>
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</table>

High Magnitude Causes: Nutrients, Sedimentation/Siltation
High Magnitude Sources: Agriculture, Channelization, Loss of Riparian Habitat, Surface Mining

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)
No. Ambient Sites: 29
No. of NPDES MOR Sites: 1
No. Ambient Sampling Records: 69
No. of NPDES MOR Records: 16

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: Yes
Stream Miles Monitored: 6.90
Stream Miles Impaired: 6.90
Pollutants (Waterbody): PCBs (Salt Creek)
Lake Acres Monitored: 0.0
Lake Acres Impaired: 0.0

WAU Comments
Intensive chemical, physical, and biological monitoring was conducted in the assessment unit in 2005 as part of monitoring in the Salt Creek watershed to develop TMDLs for pollutants causing beneficial use impairments. Principal streams sampled included Salt Creek, Beech Fork, Laurel Run, and Pine Creek. Recent bacteria data indicate that a prior impairment listing for the recreation use is no longer supported and the assessment unit has been delisted for that use. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05060002 080
WAU Description: Middle Fork Salt Creek

WAU Size (mi²): 109.0

Integrated Report Assessment Category: 5
Priority Points: 2
Next Scheduled Monitoring: 2021

Aquatic Life Use Assessment

Subcategories of ALU: EWH,CWH,WWH
Impairment: Yes (5)
Sampling Year(s): 2005

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<th>Stream Size Category</th>
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<th>WAU Score</th>
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<tbody>
<tr>
<td>Secondary Tributaries</td>
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</tr>
<tr>
<td>&lt; 5 mi²</td>
<td>6 Site(s)</td>
<td>5 Site(s)</td>
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High Magnitude Causes

Direct Habitat Alterations
Other Flow Regime Alterations
Sedimentation/Siltation
Nutrients
Organic Enrichment (Sewage) Biological Indicators
Natural Conditions (Flow or Habitat)

High Magnitude Sources

Dam or Impoundment
Highways, Roads, Bridges, Infrastructure (New Construction)
Channelization
Grazing in Riparian or Shoreline Zones
Unrestricted Cattle Access
Loss of Riparian Habitat
Natural Sources

Recreation Use Assessment

Subcategory of Use: Primary Contact
Impairment: No (1)
No. Ambient Sites: 17
No. of NPDES MOR Sites: 0

Cause:
No. Ambient Sampling Records: 37
Other:
No. of NPDES MOR Records: 0

Geometric Mean: 317
75th %ile: 600
90th %ile: 1800

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment: N/A
Cause: N/A

Fish Tissue Assessment

Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 2.10
Stream Miles Impaired: Pollutants (Waterbody)
Lake Acres Monitored: 0.0
Lake Acres Impaired: N/A

WAU Comments

Intensive chemical, physical, and biological monitoring was conducted in the assessment unit in 2005 as part of monitoring in the Salt Creek watershed to develop TMDLs for pollutants causing beneficial use impairments. Principal streams sampled included Middle Fork Salt Creek and Pigeon Creek. For the 2006 Integrated Report, 2005 bacteria data were available and indicated no impairment of the recreation use in this assessment unit. Biological and chemical data for assessment of aquatic life uses were not available for the 2006 report but are included in the 2008 Integrated Report. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 138.5
05060002 090  Salt Lick Creek (excluding Middle Fork)

Integrated Report Assessment Category: 5  Priority Points: 4
Next Scheduled Monitoring: 2021

Aquatic Life Use Assessment
Subcategories of ALU:    WWH  Sampling Year(s): 2004
Impairment: Yes (5)

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<td>50-500 mi²</td>
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High Magnitude Causes
Nutrients
Sedimentation/Siltation
Organic Enrichment (Sewage) Biological Indicators
Direct Habitat Alterations
Low Flow Alterations

High Magnitude Sources
Agriculture
Channelization
Loss of Riparian Habitat
Unrestricted Cattle Access
Sanitary Sewer Overflows (Collection System Failures)
Municipal (Urbanized High Density Area)

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)

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<tr>
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<td>Other:</td>
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Public Drinking Water Supply Assessment
Location(s): 2 tribs to Salt Lick Creek (Hammertown and Jisco Lakes) [Jackson]

Impairment: No (1)
Cause: Nitrate Indicator: Full Support
Pesticide Indicator: Full Support

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 14.20  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired: 0.0

WAU Comments
Development of TMDLs for pollutants impairing beneficial uses is underway in the Salt Creek watershed. Monitoring in support of TMDL development in the Salt Lick Creek watershed was conducted in 2004. Significant streams sampled in this assessment unit included Salt Lick Creek, Pigeon Creek, and Buckeye Creek. For the 2006 Integrated Report, 2004 bacteria data indicated no impairment of the recreation use in this assessment unit. The 2004 biological and chemical data used to assess and identify impaired aquatic life uses will be the basis for the TMDL. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 133.1
05060002 100  Salt Creek (upstream Queer Creek to mouth); excluding Salt Lick Creek
and Middle Fork Salt Creek

Integrated Report Assessment Category:  5  Priority Points:  5
Next Scheduled Monitoring:  2021

Aquatic Life Use Assessment
Subcategories of ALU:  EWH,CWH,WWH  Sampling Year(s):  2005

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
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Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment:  No (1)  Cause:  Geometric Mean: 205
No. Ambient Sites: 19  No. Ambient Sampling Records: 60  75th %ile: 323
No. of NPDES MOR Sites: 0  No. of NPDES MOR Records: 0  90th %ile: 588

Public Drinking Water Supply Assessment
Location(s): Rose Lake [ODNR-Hocking Hills S.P.]
Impairment:  No (1)  Nitrate Indicator:  Full Support
Cause:  Pesticide Indicator:  Insufficient Data

Fish Tissue Assessment
Waters Sampled:  Yes  Impairment:  Yes (5)
Stream Miles Monitored: 25.40  Stream Miles Impaired: 25.40  Pollutants (Waterbody):  PCBs (Salt Creek)
Lake Acres Monitored: 0.0  Lake Acres Impaired: 0.0

WAU Comments
Intensive chemical, physical, and biological monitoring was conducted in the assessment unit in 2005 as part of monitoring in the Salt Creek watershed to develop TMDLs for pollutants causing beneficial use impairments. Principal streams sampled included Salt Creek, Queer Creek, Pretty Run, and Pike Run. For the 2006 Integrated Report, 2005 bacteria data were available and indicated no impairment of the recreation use in this assessment unit. Biological and chemical data for assessment of aquatic life uses were not available for the 2006 report but are included in the 2008 Integrated Report. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 137.0
05060002 110  Scioto River (downstream Salt Creek to downstream Pee Pee Creek); excluding Scioto R. mainstem

Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2016

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Unknown (3)
Sampling Year(s):

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<th>No. Attaining</th>
<th>% Attainment</th>
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<td>Site(s)</td>
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</table>

High Magnitude Causes
High Magnitude Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)
Cause: Unknown (3-Historical Data)
No. Ambient Sites: 0
No. of NPDES MOR Sites: 0
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: No Public Drinking Water Supply Intakes
Cause: No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00
Stream Miles Impaired: 0.00
Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired: 0.0

WAU Comments

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 104.8
05060002 120  Scioto River (downstream Pee Pee Creek to upstream Sunfish Creek); excluding Scioto R. mainstem


Aquatic Life Use Assessment
Subcategories of ALU: WWH  Impairment: Yes (5)  Sampling Year(s): 2005

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<th>Stream Size Category</th>
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High Magnitude Causes
Natural Conditions (Flow or Habitat)

High Magnitude Sources
Natural Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact  Cause: Unknown (3)
Impairment: Unknown (3)  Geometric Mean:
No. Ambient Sites: No. 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: Unknown (3)  Nitrate Indicator:
Cause: Unknown (3)  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No  Impairment: Unknown (3)
Stream Miles Monitored: 7.50  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
Biological monitoring was conducted in the lower reaches of this assessment unit in 2005 to assess the status of the designated WWH aquatic life use at sites from streams in the vicinity of the Portsmouth Gaseous Diffusion Plant at Piketon. Principal streams sampled included Big Beaver Creek and Little Beaver Creek. A report on the findings of the 2005 survey is available at http://www.epa.state.oh.us/dsw/documents/PortsmouthTSD2006.pdf.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size ($\text{m}^2$): 144.4
05060002 130 Sunfish Creek

Integrated Report Assessment Category: 3  Priority Points:
Next Scheduled Monitoring: 2016

Aquatic Life Use Assessment
Subcategories of ALU: WWH  Sampling Year(s):
Impairment: Unknown (3)

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Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)  Cause:
No. Ambient Sites:  No. Ambient Sampling Records:  Geometric Mean: 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:  Cause:
Nitrate Indicator:  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
A small amount of data were collected in this watershed, but there are not enough sampling locations to do a complete assessment. One biological reference site was sampled on Sunfish Creek, as well as one additional site near the mouth.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 113.0
05060002 140  South Fork Scioto Brush Creek

Integrated Report Assessment Category: 5  Priority Points: 3
Next Scheduled Monitoring: 2022

Aquatic Life Use Assessment
Impairment: Yes (4C - Natural or Impoundment)

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Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
No. Ambient Sites: 21  No. Ambient Sampling Records: 100
No. of NPDES MOR Sites: 0  No. of NPDES MOR Records: 0
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

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<tr>
<th>Impairment:</th>
<th>Nitrate Indicator:</th>
<th>Cause:</th>
<th>Pesticide Indicator:</th>
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<tr>
<td></td>
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<td>Pathogens</td>
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Fish Tissue Assessment
Waters Sampled: No  Impairment: Unknown (3)
Stream Miles Monitored: 0.00  Stream Miles Impaired: Pollutants (Waterbody)
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
Intensive chemical, physical, and biological monitoring was conducted in the assessment unit in 2006 as part of monitoring in the Scioto Brush Creek watershed to develop TMDLs for pollutants causing beneficial use impairments. Principal streams sampled included South Fork Scioto Brush Creek, Mill Creek, Churn Creek, Turkey Creek, and Rocky Fork. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information. Fish data collected at 15 additional small stream sites in 2001 and 2002 were used to supplement the data collected by Ohio EPA during 2006.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m^2): 160.2
05060002 150  Scioto Brush Creek (excluding South Fork)

Integrated Report Assessment Category: 5  Priority Points: 5
Next Scheduled Monitoring: 2022

Aquatic Life Use Assessment
Impairment: Yes (5)

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<th>Stream Size Category</th>
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<th>% Attainment</th>
<th>WAU Score</th>
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<tr>
<td>Principal Streams</td>
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<td>6 Site(s)</td>
<td>6 Site(s)</td>
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</table>

High Magnitude Causes
Natural Conditions (Flow or Habitat)
Impairment Unknown
Direct Habitat Alterations
Nutrient/Eutrophication Biological Indicators
Organic Enrichment (Sewage) Biological Indicators

High Magnitude Sources
Natural Sources
Source Unknown
Unrestricted Cattle Access
On-Site Treatment Systems (Septic Systems and Similar Decentralized Systems)

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)  Cause: Pathogens  Geometric Mean: 388
No. Ambient Sites: 37  No. Ambient Sampling Records: 192  75th %ile: 2000
No. of NPDES MOR Sites: 0  No. of NPDES MOR Records: 0  90th %ile: 6180
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
Intensive chemical, physical, and biological monitoring was conducted in the assessment unit in 2006 as part of monitoring in the Scioto Brush Creek watershed to develop TMDLs for pollutants causing beneficial use impairments. Principal streams sampled included Scioto Brush Creek, Rarden Creek, Bear Creek, and McCullough Creek. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information. Fish data collected at 12 additional small stream sites in 2001 and 2002 were used to supplement the data collected by Ohio EPA during 2006.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 159.3
05060002 160  Scioto River (downstream Sunfish Creek to mouth); excluding Scioto
  Brush Cr. and Scioto R. mainstem

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2016
Priority Points: 2

Aquatic Life Use Assessment
Subcategories of ALU: WWH,LRW
Impairment: Yes (5)
Sampling Year(s): 1993, 1997

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High Magnitude Causes
Nutrients
Organic Enrichment/DO
Direct Habitat Alterations

High Magnitude Sources
Range Grazing - Riparian
Feedlots (Confined Animal Feeding Oper.)
Upstream Impoundment
Flow Reg./Mod. - Development

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data) Cause: Nutrient
No. Ambient Sites: 0 No. Ambient Sampling Records: 0 Geometric Mean: 1919
75th %ile: 6600
No. of NPDES MOR Sites: 1 No. of NPDES MOR Records: 9 90th %ile: 10000
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: No
Cause: Nutrate Indicator: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No Impairment: Unknown (3)
Stream Miles Monitored: 0.80 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 | WAU Description | WAU Size (mi²): | 05060003 010 Paint Creek (headwaters to downstream East Fork) 119.3

Integrated Report Assessment Category: 5
Priority Points: 7
Next Scheduled Monitoring: 2022

Aquatic Life Use Assessment
Subcategories of ALU: WWH, MWH-C
Impairment: Yes (5)
Sampling Year(s): 2006

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High Magnitude Causes
Sedimentation/Siltation
Nutrient/Eutrophication Biological Indicators
Nutrients
Direct Habitat Alterations
Other Flow Regime Alterations

High Magnitude Sources
Crop Production with Subsurface Drainage
Unrestricted Cattle Access
Channelization
Urban Runoff/Storm Sewers
Municipal Point Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
Cause: Pathogens
Geometric Mean: 539

Public Drinking Water Supply Assessment
Location(s): Paint Creek @RM 71.4 [Washington Court House]

Impairment: Unknown (3-Insufficient Data)
Nitrate Indicator: Insufficient Data
Cause: Pathogens
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes
Stream Miles Monitored: 16.16
Stream Miles Impaired: 16.16
Pollutants (Waterbody): PCBs (Paint Creek)
Lake Acres Monitored: 0.0
Lake Acres Impaired: 0.0

WAU Comments
Intensive chemical, physical, and biological monitoring 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. Principal streams sampled included Paint Creek and East Fork Paint Creek. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information. The 2006 Integrated Report assessment of available fish tissue data from Paint Creek 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 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 81.5
05060003 020 Sugar Creek

Integrated Report Assessment Category: 5  Priority Points: 4
Next Scheduled Monitoring: 2022

Aquatic Life Use Assessment
Subcategories of ALU: WWH, MWH-C  Impairment: Yes (5)  Sampling Year(s): 2006

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Direct Habitat Alterations  Crop Production with Subsurface Drainage
Nutrient/Eutrophication Biological Indicators  Channelization
Nutrients  Municipal Point Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact  Cause:  Geometric Mean: 387
Impairment: No (1)  No. Ambient Sites: 8  No. Ambient Sampling Records: 60  75th %ile: 680
No. of NPDES MOR Sites: 1  No. of NPDES MOR Records: 61  90th %ile: 1960
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Nitrate Indicator:
Cause:  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No  Impairment: Unknown (3)
Stream Miles Monitored: 0.00  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
Intensive chemical, physical, and biological monitoring 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. Principal streams sampled included Sugar Creek. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 130.6
05060003 030  Rattlesnake Creek (headwaters to upstream Lees Creek)

Integrated Report Assessment Category: 5  Priority Points: 7
Next Scheduled Monitoring: 2022

Aquatic Life Use Assessment
Subcategories of ALU: WWH, MWH-C
Impairment: Yes (5)
Sampling Year(s): 2006

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High Magnitude Causes
Direct Habitat Alterations
Sedimentation/Siltation
Ammonia (Total)
Organic Enrichment (Sewage) Biological Indicators

High Magnitude Sources
Crop Production with Subsurface Drainage
Channelization
Sanitary Sewer Overflows (Collection System Failures)
Municipal Point Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
No. Ambient Sites: 15
No. of NPDES MOR Sites: 2
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: No Public Drinking Water Supply Intakes
Nitrate Indicator: Pathogens
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
Intensive chemical, physical, and biological monitoring 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. Principal streams sampled included Rattlesnake Creek, West Branch Rattlesnake Creek, and Wilson Creek. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.

M2-246
3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05060003 040
WAU Description: Rattlesnake Creek (upstream Lees Creek to mouth)
WAU Size (mi²): 148.3

Integrated Report Assessment Category: 5
Priority Points: 7
Next Scheduled Monitoring: 2022

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (5)
Sampling Year(s): 2006

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High Magnitude Causes
Organic Enrichment (Sewage) Biological Indicators
Nutrient/Eutrophication Biological Indicators
Direct Habitat Alterations
Ammonia (Total)
Sedimentation/Siltation

High Magnitude Sources
Crop Production with Subsurface Drainage
Unrestricted Cattle Access
Channelization
Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
Cause: Pathogens
Geometric Mean: 1847

| No. Ambient Sites: 5 | No. Ambient Sampling Records: 27 | 75th %ile: 10500 |
| No. of NPDES MOR Sites: 1 | No. of NPDES MOR Records: 20 | 90th %ile: 38400 |

Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:
Cause:
Nitrate Indicator:
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody): 0.00
Lake Acres Monitored: 0.0
Lake Acres Impaired: 0.0

WAU Comments
Intensive chemical, physical, and biological monitoring 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. Principal streams sampled included Rattlesnake Creek, Hardin Creek, Lees Creek, and Middle Fork Lees Creek. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 95.0
05060003 050  Paint Creek (downstream East Fork to upstream Rocky Fork); excluding Sugar Cr. and Rattlesnake Cr.

Integrated Report Assessment Category: 5  Priority Points: 9
Next Scheduled Monitoring: 2022

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH
Impairment: Yes (5)
Sampling Year(s): 2006

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High Magnitude Causes
Natural Conditions (Flow or Habitat)
Nutrient/Eutrophication Biological Indicators
Oxygen, Dissolved
Direct Habitat Alterations

High Magnitude Sources
Natural Sources
Municipal Point Sources
Upstream Impoundments
Channelization
Crop Production with Subsurface Drainage

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
No. Ambient Sites: 6
No. of NPDES MOR Sites: 1
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:
Cause: Pathogens
Geometric Mean: 559
75th %ile: 1900
90th %ile: 5230

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5)
Stream Miles Monitored: 31.92  Stream Miles Impaired: 31.92
Pollutants (Waterbody): PCBs (Paint Creek)
Lake Acres Monitored: 1190.0  Lake Acres Impaired:

WAU Comments
Intensive chemical, physical, and biological monitoring 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. Principal streams sampled included Paint Creek. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information. The 2006 Integrated Report assessment of available fish tissue data from Paint Creek 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 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05060003 060
WAU Description: Rocky Fork Paint Creek

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2022
Priority Points: 6
WAU Size (mi²): 144.0

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH
Impairment: Yes (5)
Sampling Year(s): 2006

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High Magnitude Causes
- Nutrient/Eutrophication Biological Indicators
- Oxygen, Dissolved
- Organic Enrichment (Sewage) Biological Indicators

High Magnitude Sources
- Upstream Impoundments
- Municipal Point Sources
- Urban Runoff/Storm Sewers

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
Cause: Pathogens
Geometric Mean: 961
75th %ile: 2500
90th %ile: 10600

Public Drinking Water Supply Assessment
Location(s): Clear Creek (Rocky Fork) @RM 7.4 [Hillsboro]
Impairment: Unknown (3-Insufficient Data)
Nitrate Indicator: Insufficient Data
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: No (1)
Stream Miles Monitored: 1.00
Stream Miles Impaired: Pollutants (Waterbody)
Lake Acres Monitored: 2080.0
Lake Acres Impaired:

WAU Comments
Intensive chemical, physical, and biological monitoring 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. Principal streams sampled included Rocky Fork Paint Creek and Clear Creek. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11      WAU Description                                     WAU Size (mi²): 122.0
05060003 070 Paint Creek (downstream Rocky Fork to downstream Lower Twin Creek);
excluding Paint Creek mainstem

Integrated Report Assessment Category: 5
Priority Points: 6
Next Scheduled Monitoring: 2022

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH                               Sampling Year(s): 2006
Impairment: Yes (5)

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High Magnitude Causes  Channelization
Direct Habitat Alterations
Sedimentation/Siltation
Nutrients

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)

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Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: No
Cause: Pathogens
Nutrate Indicator:
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
Intensive chemical, physical, and biological monitoring 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. Principal streams sampled included Lower Twin Creek, Upper Twin Creek, and Buckskin Creek. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.
HUC11       WAU Description       WAU Size (mi^2): 120.5
05060003 080 North Fork Paint Creek (headwaters to downstream Compton Creek)

Integrated Report Assessment Category: 2
Next Scheduled Monitoring: 2022

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH
Impairment: No (1)
Sampling Year(s): 2006

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
</tr>
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<td>Secondary Tributaries</td>
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Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)

<table>
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<tr>
<th>Impairment</th>
<th>No. Ambient Sites</th>
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Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: Yes
Stream Miles Impaired: 2.00
Pollutants (Waterbody):

WAU Comments
Intensive chemical, physical, and biological monitoring 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. Principal streams sampled included North Fork Paint Creek and Compton Creek. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi^2): 114.0
05060003 090 North Fork Paint Creek (downstream Compton Creek to mouth)

Integrated Report Assessment Category: 5  Priority Points: 2
Next Scheduled Monitoring: 2022

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH  Impairment: Yes (5)
Sampling Year(s): 2006

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>No. Attaining</th>
<th>% Attainment Full</th>
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<th>Non</th>
<th>WAU Score Full</th>
<th>Partial</th>
<th>Non</th>
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<td>Site(s)</td>
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<td>Primary Streams 50-500 mi^2</td>
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High Magnitude Causes
Organic Enrichment (Sewage) Biological Indicators
Sedimentation/Siltation
Natural Conditions (Flow or Habitat)

High Magnitude Sources
On-Site Treatment Systems (Septic Systems and Other Decentralized Systems)
Natural Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact  Cause: Geometric Mean: 252
Impairment: No (1)  75\th\%ile: 490
No. Ambient Sites: 11  90\th\%ile: 1930
No. Ambient Sampling Records: 81
No. of NPDES MOR Sites: 2
No. of NPDES MOR Records: 77

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 26.70  Stream Miles Impaired:
Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
Intensive chemical, physical, and biological monitoring 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. Principal streams sampled included North Fork Paint Creek and Little Creek. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05060003 100

WAU Description: Paint Creek (downstream Lower Twin Creek to mouth); excluding North Fork and Paint Creek mainstem

WAU Size (mi²): 67.3

Waupaca Conservation Units

Integrated Report Assessment Category: 5
Priority Points: 5
Next Scheduled Monitoring: 2022

Aquatic Life Use Assessment

Subcategories of ALU: WWH
Impairment: Yes (5)
Sampling Year(s): 2006

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>% Attainment Full</th>
<th>WAU Score Full</th>
<th>High Magnitude Causes</th>
<th>High Magnitude Sources</th>
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<td>Secondary Tributaries</td>
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<tr>
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<td>Primary Tributaries</td>
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<td>Miles Miles</td>
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Recreation Use Assessment

Subcategory of Use: Primary Contact
Impairment: Yes (5)
Cause: Pathogens
Geometric Mean: 529
75th %ile: 2800
90th %ile: 6640

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:
Cause:
Nitrate Indicator:
Pesticide Indicator:

Fish Tissue Assessment

Waters Sampled: No
Impairment: Unknown (3)
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
Intensive chemical, physical, and biological monitoring 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. Principal streams sampled were all small tributaries to the lower mainstem of Paint Creek and included Black Run, Owl Creek, Plug Run, and Ralston Run. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 WAU Description WAU Size (mi²): 100.0
05080001 010 Great Miami River (headwaters to upstream Cherokee Mans Run)

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

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH
Impairment: Yes (5-Historical) Sampling Year(s): 1994, 1999

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<tr>
<th>Stream Size Category</th>
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<th>% Attainment</th>
<th>WAU Score</th>
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<td>&lt; 5 mi²</td>
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<td>50-500 mi²</td>
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High Magnitude Causes
Direct Habitat Alterations

High Magnitude Sources
Removal of Riparian Vegetation - Ag.

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3) Cause: Geometric Mean:
No. Ambient Sites: No. 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: Cause: Nitrate Indicator:
Nitrate Indicator: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes Impairment: No (1)
Stream Miles Monitored: 0.00 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 5104.0 Lake Acres Impaired:

WAU Comments
Biological and water quality data collected in 1994 and 1999 from this assessment unit were used in the 2004 Integrated Report which resulted in a Category 5 (impaired) listing for the aquatic life beneficial use. The 1994 data have exceeded the ten-year threshold and are now considered historical. There is not enough 1999 data to provide an adequate aquatic life assessment. However, while reflecting the current status that insufficient data are available to assess 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. Additionally, the 2004 Integrated Report erroneously listed this assessment unit as impaired for fish consumption. Data triggering the impairment were collected in assessment units located farther downstream. All fish tissue data collected from Indian Lake in this assessment unit indicated no fish consumption concerns. Comprehensive chemical, physical, and biological monitoring is scheduled in this assessment unit in 2008 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 05080001 020  Muchinippi Creek

Integrated Report Assessment Category: 5
Priority Points: 8
Next Scheduled Monitoring: 2008

Aquatic Life Use Assessment

Subcategories of ALU: WWH,MWH-C
Impairment: Yes (5-Historical)

Sampling Year(s): 1994,1999

<table>
<thead>
<tr>
<th>Stream Size Category</th>
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<th>Data Attaining</th>
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Impairment:
Siltation
Direct Habitat Alterations

Recreation Use Assessment

Subcategory of Use: Primary Contact
Impairment: Yes (5-Historical)  Cause: Pathogens  Geometric Mean: 661
No. Ambient Sites: 0  No. Ambient Sampling Records: 0  75th %ile: 3775
No. of NPDES MOR Sites: 2  No. of NPDES MOR Records: 34  90th %ile: 6960
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 2.00  Stream Miles Impaired: Pollutants (Waterbody): 0.0
Lake Acres Monitored: 0.0  Lake Acres Impaired: 0.0

WAU Comments

Biological and water quality data collected in 1994 and 1999 from this assessment unit were used in the 2002 Integrated Report which resulted in a Category 5 (impaired) listing for the aquatic life and recreation beneficial uses. The 1994 data have exceeded the ten-year threshold and are now considered historical. There is not enough 1999 data to provide an adequate aquatic life assessment. However, while reflecting the current status that insufficient data are available to assess aquatic life and recreation use status, the assessment unit will remain Category 5 until TMDLs for all beneficial use impairments (aquatic life and recreation) are completed and approved by the U.S. EPA. Comprehensive chemical, physical, and biological monitoring is scheduled in this assessment unit in 2008 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11    WAU Description    WAU Size (mi²): 149.7
05080001 030    Great Miami River (upst. Cherokee Mans Run to downstream
Bokengehalas Cr.); excluding Muchinippi Cr.

Integrated Report Assessment Category: 5   Priority Points: 6
Next Scheduled Monitoring: 2008

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (5-Historical)
Sampling Year(s): 1994

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<td>20-50 mi²</td>
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High Magnitude Causes
Siltation
Organic Enrichment/DO
Direct Habitat Alterations
High Magnitude Sources
Minor Municipal Point Source
Nonirrigated Crop Production
Urban Runoff/ Storm Sewer (NPS)
Channelization - Agriculture
Habitat Modification o/than Hydormod.

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)
No. Ambient Sites: 0
No. Ambient Sampling Records: 0
No. of NPDES MOR Sites: 2
No. of NPDES MOR Records: 109

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes   Impairment: Yes (5-Historical Data)
Stream Miles Monitored: 10.62 Stream Miles Impaired: 2.62 Pollutants (Waterbody): PCBs (Great Miami River)
Lake Acres Monitored: 0.0   Lake Acres Impaired: 0.0

WAU Comments
Biological, fish tissue, and water quality data collected in 1993 and 1994 from this assessment unit were used in the 2004 Integrated Report which resulted in a Category 5 (impaired) listing for the aquatic life beneficial use and fish consumption. These data have exceeded the ten-year threshold and are now considered historical. However, while reflecting the current status that insufficient data are available to assess current aquatic life use and fish consumption 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 this assessment unit in 2008 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05080001 040
WAU Description: Great Miami River (downstream Bokengehalas Creek to downstream Plum Creek)
WAU Size (mi²): 145.6
Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2008
Priority Points: 5

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH
Impairment: Yes (5-Historical)
Sampling Year(s): 1994

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<th>Stream Size Category</th>
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<td>Site(s)</td>
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High Magnitude Causes: Flow Alteration
High Magnitude Sources: Upstream Impoundment, Flow Reg./Mod. - Development

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)
Cause: Geometric Mean: 946
No. Ambient Sites: 0
No. Ambient Sampling Records: 0
75th %ile: 2875
No. of NPDES MOR Sites: 2
No. of NPDES MOR Records: 28
90th %ile: 10000
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5-Historical Data)
Stream Miles Monitored: 15.91
Stream Miles Impaired: 13.91
Pollutants (Waterbody): PCBs (Great Miami River)
Lake Acres Monitored: 0.0
Lake Acres Impaired: 0.0

WAU Comments
Biological, fish tissue, and water quality data collected in 1993 and 1994 from this assessment unit were used in the 2004 Integrated Report which resulted in a Category 5 (impaired) listing for the aquatic life beneficial use and fish consumption. These data have exceeded the ten-year threshold and are now considered historical. However, while reflecting the current status that insufficient data are available to assess current aquatic life use and fish consumption 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 this assessment unit in 2008 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05080001 050
WAU Description: Loramie Creek (headwaters to downstream Mile Creek)
WAU Size (mi²): 147.4

Integrated Report Assessment Category: 5
Priority Points: 4
Next Scheduled Monitoring: 2008

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C
Impairment: Yes (5-Historical)
Sampling Year(s): 1994, 1999

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<tr>
<th>Stream Size Category</th>
<th>Raw Data</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
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Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5) Cause: Pathogens
Geometric Mean: 451
75th %ile: 1110
90th %ile: 2596

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: Yes Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 1.34 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments
Biological and water quality data collected in 1994 and 1999 from this assessment unit were used in the 2002 Integrated Report which resulted in a Category 5 (impaired) listing for the aquatic life beneficial use. The 1994 data have exceeded the ten-year threshold and are now considered historical. There is not enough 1999 data to provide an adequate aquatic life assessment. However, while reflecting the current status that insufficient data are available to assess aquatic life use status, the assessment unit will remain Category 5 until TMDLs for all beneficial use impairments (aquatic life and recreation) are completed and approved by the U.S. EPA. Comprehensive chemical, physical, and biological monitoring is scheduled in this assessment unit in 2008 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05080001 060  
WAU Description: Loramie Creek (downstream Mile Creek to mouth)  
WAU Size (mi²): 117.6

Integrated Report Assessment Category: 5  
Next Scheduled Monitoring: 2008  
Priority Points: 1

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C  
Impairment: Yes (5-Historical)  
Sampling Year(s): 1994, 1999

<table>
<thead>
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<th>Raw Data Available</th>
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High Magnitude Causes
- Siltation
- Flow Alteration
- Direct Habitat Alterations

High Magnitude Sources
- Nonirrigated Crop Production
- Channelization - Agriculture
- Streambank Destabilization - Ag.

Recreation Use Assessment
Subcategory of Use: Primary Contact  
Impairment: Unknown (3)

<table>
<thead>
<tr>
<th>No. Ambient Sites</th>
<th>No. Ambient Sampling Records</th>
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<th>Cause:</th>
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<td>75th %ile:</td>
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<td></td>
<td>90th %ile:</td>
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Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: Yes  
Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 19.46  
Stream Miles Impaired: Pollutants (Waterbody)  
Lake Acres Monitored: 0.0  
Lake Acres Impaired:

WAU Comments
Biological and water quality data collected in 1994 and 1999 from this assessment unit were used in the 2002 Integrated Report which resulted in a Category 5 (impaired) listing for the aquatic life beneficial use. The 1994 data have exceeded the ten-year threshold and are now considered historical. There is not enough 1999 data to provide an adequate aquatic life assessment. However, while reflecting the current status that insufficient data are available to assess 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 this assessment unit in 2008 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 146.8
05080001 070  Great Miami River (downstream Plum Creek to upstream Spring Creek); excluding GMR mainstem


Aquatic Life Use Assessment
Subcategories of ALU:  EWH,WWH  Sampling Year(s):
Impairment:  Unknown (3)

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
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<th>% Attainment</th>
<th>WAU Score</th>
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<td>20-50 mi²</td>
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<tr>
<td>50-500 mi²</td>
<td>Miles</td>
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High Magnitude Causes
High Magnitude Sources

Recreation Use Assessment
Subcategory of Use:  Primary Contact
Impairment:  Unknown (3)
Cause:  Other:

Public Drinking Water Supply Assessment
Location(s):  Piqua Hydraulic System (Swift Run Lake) and Ernst Gravel Pit [Piqua]; Tawawa Creek @RM 0.14 [Sidney]
Impairment:  Yes (5)
Cause:  Atrazine  Pesticide Indicator:  Insufficient Data
Nitrate Indicator:  Insufficient Data

Fish Tissue Assessment
Waters Sampled:  Yes
Impairment:  Unknown (3-Indeterminate Data)
Stream Miles Monitored:  1.60
Stream Miles Impaired:  Pollutants (Waterbody):
Lake Acres Monitored:  380.0
Lake Acres Impaired:

WAU Comments
A small amount of aquatic life data were collected in this watershed, but there are not enough sampling locations to do a complete assessment.
Ohio EPA 2008 Integrated Report Section M2  
Watershed Assessment Unit (WAU) Results

HUC11: 5080001 080  
WAU Description: Great Miami River (upstream Spring Creek to upstream Honey Creek); excluding GMR mainstem

Integrated Report Assessment Category: 5  
Next Scheduled Monitoring: 2009

Priority Points: 1

**Aquatic Life Use Assessment**

- Subcategories of ALU: EWH,LRW
- Impairment: Yes (5)
- Raw Data Available: Site(s)
- % Attainment: Full 25.0, Partial 25.0, Non 50.0
- WAU Score: Full 38, Partial 37, Non 25

**Recreation Use Assessment**

- Subcategory of Use: Primary Contact
- Impairment: Unknown (3)
- No. Ambient Sites: 2
- No. of NPDES MOR Sites: 0
- Cause: Unknown (3-Indeterminate Data)
- Geometric Mean:

**Public Drinking Water Supply Assessment**

- Location(s): No Public Drinking Water Supply Intakes

**Fish Tissue Assessment**

- Waters Sampled: Yes
- Stream Miles Monitored: 2.00
- Lake Miles Monitored: 0.0
- Impairment: Unknown (3-Indeterminate Data)
- Stream Miles Impaired: Pollutants (Waterbody)
- Lake Acres Impaired: 0.0

**WAU Comments**

The original aquatic life impairment for this assessment unit was based on data collected in 1994. These data have exceeded the 10-year threshold and are now considered historical. However, additional data from Lost Creek, E. Br. Lost Creek, and Spring Creek, collected in 1999, 2001, and 2003, were available to provide an update of aquatic life conditions in the assessment unit.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05080001 090
WAU Description: Stillwater River (headwaters to upstream Swamp Creek)
WAU Size (mi²): 115.0

Integrated Report Assessment Category: 4A
Priority Points:
Next Scheduled Monitoring: 2019

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH, MWH-C
Impairment: Yes (4A-TMDL)
Sampling Year(s): 1999

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High Magnitude Causes
- Nutrients
- Organic Enrichment/DO
- Direct Habitat Alterations

High Magnitude Sources
- Nonirrigated Crop Production
- Confined Animal Feeding Oper. (NPS)
- Onsite Wastewater Systems (Septic Tanks)
- Channelization - Agriculture

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1-Historical)
No. Ambient Sites: 0
No. of NPDES MOR Sites: 1
Other:

Geometric Mean: 502
75th %ile: 720
90th %ile: 866

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Yes
Cause: Nitrate Indicator
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes
Stream Miles Monitored: 5.32
Stream Miles Impaired: Pollutants (Waterbody)
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WUA 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 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.
Ohio EPA 2008 Integrated Report Section M2  
Watershed Assessment Unit (WAU) Results

HUC11  
WAU Description  
WAU Size (m²): 121.4
05080001 100 Stillwater River (upstream Swamp Creek to upstream Greenville Creek)

Integrated Report Assessment Category: 5  
Next Scheduled Monitoring: 2019  
Priority Points: 3

Aquatic Life Use Assessment  
Subcategories of ALU: EWH, WWH, MWH-C  
Impairment: Yes (4A-TMDL)  
Sampling Year(s): 1999

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<tbody>
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High Magnitude Causes
- Other Inorganics
- Combined Sewer Overflows
- Nutrients
- Nonirrigated Crop Productions
- Siltation
- Confined Animals Feeding Oper. (NPS)
- Organic Enrichment/DO
- Septage Disposal
- Direct Habitat Alterations
- Channelization - Agriculture
- Spills

Recreation Use Assessment  
Subcategory of Use: Primary Contact  
Impairment: Yes (5-Historical)  
Cause: Pathogens  
Geometric Mean: 597  
No. Ambient Sites: 0  
No. of Ambient Sampling Records: 0  
75th %ile: 1400
No. of NPDES MOR Sites: 2  
No. of NPDES MOR Records: 33  
90th %ile: 3780

Public Drinking Water Supply Assessment  
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment  
Waters Sampled: Yes  
Impairment: No (1)
Stream Miles Monitored: 13.50  
Stream Miles Impaired: 
Pollutants (Waterbody):
Lake Acres Monitored: 0.0  
Lake Acres Impaired: 

WAU 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 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. As this assessment unit continues to have a historical recreation beneficial use impairment, it will remain Category 5 until TMDLs are developed for all pollutants impairing all beneficial uses.

M2-263  
3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 70.1
05080001 110 Greenville Creek (headwaters to downstream West Branch)

Integrated Report Assessment Category: 5  Priority Points: 3
Next Scheduled Monitoring: 2019

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH  Sampling Year(s): 1999
Impairment: Yes (4A-TMDL)

<table>
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<th>Stream Size Category</th>
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<td>Primary Tributaries</td>
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<td>Principal Streams</td>
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Impairment: 5
Impairment:
Organic Enrichment/DO
Direct Habitat Alterations

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5-Historical)  Cause: Pathogens  Geometric Mean: 208
No. Ambient Sites: 0  No. Ambient Sampling Records: 0  75th %ile: 900
No. of NPDES MOR Sites: 1  No. of NPDES MOR Records: 23  90th %ile: 1640
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrates
Cause: Pathogens
Nitrate Indicator: Nitrates
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No  Impairment: Unknown (3)
Stream Miles Monitored: 0.00  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU 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 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. As this assessment unit continues to have a historical recreation beneficial use impairment, it will remain Category 5 until TMDLs are developed for all pollutants impairing all beneficial uses.
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 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. As this assessment unit continues to have a historical recreation beneficial use impairment, it will remain Category 5 until TMDLs are developed for all pollutants impairing all beneficial uses.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05080001 130

WAU Description: Stillwater River (downstream Greenville Cr. to upstream Ludlow Cr.); excluding Stillwater R mainstem

WAU Size (mi²): 92.8

Integrated Report Assessment Category: 5
Priority Points: 3
Next Scheduled Monitoring: 2019

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH,MWH-C
Impairment: Yes (4A-TMDL)
Sampling Year(s): 1999

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High Magnitude Causes
- Organic Enrichment/DO
- Direct Habitat Alterations

High Magnitude Sources
- Minor Municipal Point Source
- Combined Sewer Overflows
- Animal Holding/Management Areas
- Channelization - Agriculture

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5-Historical)
Cause: Pathogens
Geometric Mean: 353
75th %ile: 900
90th %ile: 1740

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: 
Cause: 
Nitrate Indicator: 
Pesticide Indicator: 

Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)
Stream Miles Monitored: 0.00
Pollutants (Waterbody): 
Lake Acres Monitored: 0.0
Lake Acres Impaired: 

WAU 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 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. As this assessment unit continues to have a historical recreation beneficial use impairment, it will remain Category 5 until TMDLs are developed for all pollutants impairing all beneficial uses.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 148.0
05080001 140  Stillwater River (upstream Ludlow Creek to mouth); excluding Stillwater  R. mainstem

Integrated Report Assessment Category: 5  Priority Points: 3  Next Scheduled Monitoring: 2019

Aquatic Life Use Assessment
Subcategories of ALU:  EWH,WWH  Impairment:  Yes (4A-TMDL)  Sampling Year(s): 1999

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High Magnitude Causes
- Unionized Ammonia
- Nutrients
- Organic Enrichment/DO
- Direct Habitat Alterations

High Magnitude Sources
- Major Industrial Point Source
- Spills
- Nonirrigated Crop Production
- Urban Runoff/Storm Sewers (NPS)
- Onsite Wastewater Systems (Septic Tanks)
- Septage Disposal
- Channelization - Agriculture
- Channelization - Development

Recreation Use Assessment
Subcategory of Use:  Primary Contact  Impairment:  Yes (5-Historical)  Cause:  Pathogens
No. Ambient Sites: 0  No. Ambient Sampling Records: 0
No. of NPDES MOR Sites: 0  No. of NPDES MOR Records: 0
Other:

Public Drinking Water Supply Assessment
Location(s):  No Public Drinking Water Supply Intakes
Impairment:  None
Cause:  None

Fish Tissue Assessment
Waters Sampled:  No  Impairment:  Unknown (3)
Stream Miles Monitored:  0.00  Stream Miles Impaired:  Pollutants (Waterbody)
Lake Acres Monitored:  0.00  Lake Acres Impaired:  0.00

WAU 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 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. As this assessment unit continues to have a historical recreation beneficial use impairment, it will remain Category 5 until TMDLs are developed for all pollutants impairing all beneficial uses.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 WAU Description WAU Size (mi²): 134.7
05080001 150 Mad River (headwaters to downstream Kings Creek)

Integrated Report Assessment Category: 5 Priority Points: 8
Next Scheduled Monitoring: 2018

Aquatic Life Use Assessment
Subcategories of ALU: CWH
Impairment: Yes (5) Sampling Year(s): 2003

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High Magnitude Causes
Direct Habitat Alterations

High Magnitude Sources
Channelization - Agriculture

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5) Cause: Pathogens Geometric Mean: 628
No. Ambient Sites: 7 No. Ambient Sampling Records: 30 75th %ile: 925
No. of NPDES MOR Sites: 1 No. of NPDES MOR Records: 14 90th %ile: 2110
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes Impairment: Yes (5)
Stream Miles Monitored: 8.18 Stream Miles Impaired: 7.08 Pollutants (Waterbody): PCBs (Mad River)
Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments
Development of TMDLs for pollutants impairing beneficial uses is underway. Biological and water quality monitoring in support of the TMDLs was conducted in 2003. Principal streams sampled included the Mad River, Macochee Creek, and Kings Creek. The 2006 Integrated Report assessment of available fish tissue data from the Mad River 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 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 M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 153.5
05080001 160  Mad River (downstream Kings Creek to downstream Chapman Creek)

Integrated Report Assessment Category: 5
Priority Points: 7
Next Scheduled Monitoring: 2018

Aquatic Life Use Assessment
Subcategories of ALU: CWH, WWH
Impairment: Yes (5)
Sampling Year(s): 2003

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High Magnitude Causes
Organic Enrichment/DO
Nutrients
Metals
Priority Organics
Direct Habitat Alterations
Siltation

High Magnitude Sources
Minor Municipal Point Source
Channelization - Development
Sanitary Overflows
Urban Runoff/Storm Sewers (NPS)
Contaminated Sediments
Channelization - Agriculture
Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
No. Ambient Sites: 8
No. of NPDES MOR Sites: 2

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pathogens

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)
Stream Miles Monitored: 11.24
Stream Miles Impaired: 11.24
Pollutants (Waterbody): PCBs (Mad River)

Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
Development of TMDLs for pollutants impairing beneficial uses is underway. Biological and water quality monitoring in support of the TMDLs was conducted in 2003. Principal streams sampled included the Mad River, Muddy Creek, Nettle Creek, and Chapman Creek. 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.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 140.6
05080001 170  Buck Creek

Integrated Report Assessment Category:  5  Priority Points:  7
Next Scheduled Monitoring:  2018

Aquatic Life Use Assessment
Subcategories of ALU:  CWH,WWH  Sampling Year(s):  2003
Impairment:  Yes (5)

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High Magnitude Causes
Direct Habitat Alterations
Flow Alteration

High Magnitude Sources
Upstream Impoundment

Recreation Use Assessment
Subcategory of Use:  Primary Contact
Impairment:  Yes (5)  Cause:  Pathogens  Geometric Mean: 591
No. Ambient Sites:  3  No. Ambient Sampling Records: 15  75th %ile: 3850
No. of NPDES MOR Sites:  0  No. of NPDES MOR Records: 0  90th %ile: 17880
Other:

Public Drinking Water Supply Assessment
Location(s):  No Public Drinking Water Supply Intakes

Impairment:  Nitrate Indicator:
Cause:  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled:  Yes  Impairment:  Unknown (3-Indeterminate Data)
Stream Miles Monitored:  4.60  Stream Miles Impaired:  Pollutants (Waterbody):
Lake Acres Monitored:  2220.0  Lake Acres Impaired:

WAU Comments
Development of TMDLs for pollutants impairing beneficial uses is underway. Biological and water quality monitoring in support of the TMDLs was conducted in 2003. Principal streams sampled included Buck Creek, East Fork Buck Creek, and Beaver Creek. 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.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 | WAU Description | WAU Size (mi²): 128.2
05080001 180 | Mad River (downstream Chapman Creek to upstream Mud Creek); excluding Buck Cr. and Mad R. mainstem

Integrated Report Assessment Category: 5
Priority Points: 9
Next Scheduled Monitoring: 2018

Aquatic Life Use Assessment
Subcategories of ALU: CWH, WWH
Impairment: Yes (5)
Sampling Year(s): 2003

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High Magnitude Causes
- Direct Habitat Alterations
- Channelization - Agriculture
- Unionized Ammonia
- Channelization - Development
- Organic Enrichment/DO
- Major Industrial Point Source
- Metals
- Contaminated Sediments
- Priority Organics
- Natural
- Flow Alteration

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)

| | Geometric Mean: 781 |
| Cause: Pathogens | 75th %ile: 1400 |
| Geometric Mean: 781 | 90th %ile: 56840 |

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator
Cause: Pesticide Indicator

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)
Stream Miles Monitored: 14.20
Stream Miles Impaired: 14.20
Pollutants (Waterbody): PCBs (Mad River)

Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
Development of TMDLs for pollutants impairing beneficial uses is underway. Biological and water quality monitoring in support of the TMDLs was conducted in 2003. Principal streams sampled included the Mad River from Chapman Creek to Donnels Creek, Moore Run, and Donnels Creek. 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 M2
Watershed Assessment Unit (WAU) Results

HUC11 | WAU Description | WAU Size (mi²): 100.4
--- | --- | ---
05080001 190 | Mad River (upstream Mud Creek to mouth); excluding Mad R. mainstem | 

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2018
Priority Points: 10

Aquatic Life Use Assessment
Subcategories of ALU: WWH,MWH-C
Impairment: Yes (5)
Sampling Year(s): 2003

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<td>Site(s)</td>
<td>Miles</td>
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Impairment:
- Organic Enrichment/DO
- Direct Habitat Alterations
- Flow Alteration

High Magnitude Causes
- Package Plants (Small Flows)
- Landfills
- Urban Runoff/Storm Sewers (NPS)
- Flow Regulation/Modification - Development

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
Cause: Pathogens
Geometric Mean: 1422

No. Ambient Sites: 3
No. Ambient Sampling Records: 15
No. of NPDES MOR Sites: 0
No. of NPDES MOR Records: 0

Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes
Impairment:
Nitrate Indicator: 
Cause:

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)

Stream Miles Monitored: 0.00
Stream Miles Impaired: 
Pollenants (Waterbody): PCBs (Eastwood Lake)

Lake Acres Monitored: 170.0
Lake Acres Impaired: 170.0

WAU Comments
Development of TMDLs for pollutants impairing beneficial uses is underway. Biological and water quality monitoring in support of the TMDLs was conducted in 2003. Principal streams sampled included Mud Creek and Mud Run. 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.
HUC11  | WAU Description | WAU Size (m²): 143.4
---     | ---------------|---------------------
05080001 200 | Great Miami River (upstream Honey Creek to upstream Mad River); excluding GMR mainstem |

Integrated Report Assessment Category: 2
Next Scheduled Monitoring: 2009

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH,LRW
Impairment: Unknown (3)
Sampling Year(s):

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High Magnitude Causes
High Magnitude Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)
cause: Geometric Mean: 377
No. Ambient Sites: 9
No. Ambient Sampling Records: 16
75th %ile: 754
No. of NPDES MOR Sites: 1
No. of NPDES MOR Records: 84
90th %ile: 1303
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes
Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 2.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired: WAU Comments
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 143.7
0508002 010 Great Miami River (downstream Mad River to upstream Bear Creek); excluding GMR mainstem

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

Aquatic Life Use Assessment
Impairment: Yes (5)

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High Magnitude Causes
- Pesticides
- Priority Organics
- Other Inorganics
- Nutrients
- Siltation
- Flow Alteration
- Direct Habitat Alterations
- Oil and Grease

High Magnitude Sources
- Major Industrial Point Source
- Municipal Point Source
- Highway/Roads/Bridge/Sewer Line
- Urban Runoff/Storm Sewers (NPS)
- Highway Maintenance and Runoff
- Contaminated Sediments
- Spills

Recreation Use Assessment
Subcategory of Use: Primary Contact  Geometric Mean: 446
Impairment: Unknown (3-Indeterminate Data)  Cause:  75th %ile: 1500
No. Ambient Sites: 0  No. Ambient Sampling Records: 0
No. of NPDES MOR Sites: 1  No. of NPDES MOR Records: 577  90th %ile: 4000
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Nitrate Indicator:
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5)
Stream Miles Monitored: 5.30  Stream Miles Impaired: 3.30  Pollutants (Waterbody): PCBs (Wolf Creek)
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments

274M2- 3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 WAU Description WAU Size (mi²): 140.2
0508002 020 Great Miami River (upstream Bear Creek to upstream Twin Creek); excluding GMR mainstem

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

Aquatic Life Use Assessment
Subcategories of ALU: WWH, MWH-C Sampling Year(s): 1995
Impairment: Yes (5-Historical)

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High Magnitude Causes
Organic Enrichment/DO
Flow Alteration
Direct Habitat Alterations

High Magnitude Sources
Municipal Point Source
Urban Runoff/Storm Sewers (NPS)
Channelization - Agriculture
Channelization - Development
Removal of Riparian Vegetation - Ag.

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data) Cause: Geometric Mean: 866
No. Ambient Sites: 0 No. Ambient Sampling Records: 0 75th %ile: 1313
No. of NPDES MOR Sites: 2 No. of NPDES MOR Records: 78 90th %ile: 2930
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No Impairment: Unknown (3)
Stream Miles Monitored: 0.00 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments
Biological and water quality data collected in 1995 were used in the 2002 Integrated Report 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 no aquatic life data are available to assess beneficial use status, the assessment unit continues to have a recreation use impairment. As such, the assessment unit will remain Category 5 until TMDLs for all beneficial use impairments (aquatic life and recreation) are completed and approved by the U.S. EPA.
### Aquatic Life Use Assessment

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<tr>
<th>Subcategories of ALU</th>
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### High Magnitude Causes

- Phosphorus (Total)
- Excess Algal Growth
- Sedimentation/Siltation
- Ammonia (Total)
- Oxygen, Dissolved
- Natural Conditions (Flow or Habitat)
- Municipal Point Source Discharges
- Runoff from Forest/Grassland/Parkland
- Channelization
- Crop Production with Subsurface Drainage
- Loss of Riparian Habitat
- Sewage Discharges in Unsewered Areas
- Animal Feeding Operations (NPS)
- Agriculture
- On-Site Treatment Systems (Septic Systems and Similar Decentralized Systems)
- Natural Sources

### Recreation Use Assessment

- Subcategory of Use: Primary Contact
- Impairment: Yes (5)
- Cause: Pathogens
- Geometric Mean: 447
- 75th %ile: 1040
- 90th %ile: 4560

### Public Drinking Water Supply Assessment

- Location(s): No Public Drinking Water Supply Intakes

### Fish Tissue Assessment

- Waters Sampled: Yes (5-Historical Data)
- Stream Miles Monitored: 11.18
- Stream Miles Impaired: 11.18
- Pollutants (Waterbody): PCBs
- Lake Acres Monitored: 0.0
- Lake Acres Impaired:

### WAU Comments

Intensive chemical, physical, and biological monitoring was conducted in the Twin Creek basin in 2005. Principal streams sampled included Twin Creek, Millers Fork, Swamp Creek, and Price Creek. For the 2006 Integrated Report, 2005 bacteria data were available which resulted in an impaired recreation use assessment. 2005 biological and chemical data for assessment of aquatic life uses were not available for the 2006 Integrated Report but are the basis for the TMDL and are included in the 2008 Integrated Report. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information on the Twin Creek TMDL report and its assessment of pollutants impairing beneficial uses.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 0508002 040  WAU Description: Twin Creek (upstream Bantas Fork to mouth)  WAU Size (m²): 159.0

Integrated Report Assessment Category: 5  Priority Points: 8
Next Scheduled Monitoring: 2019

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH  Impairment: Yes (5)  Impairment: Yes (5-Historical Data)
Sampling Year(s): 2005

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<th>% Attainment</th>
<th>WAU Score</th>
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High Magnitude Causes
- Oxygen, Dissolved
- Sedimentation/Siltation
- Ammonia (Total)
- Chemical Oxygen Demand (COD)
- Phosphorus (Total)
- Natural Conditions (Flow or Habitat)

High Magnitude Sources
- Channelization
- Loss of Riparian Habitat
- Package Plant or Other Permitted Small flow Discharges
- Crop Production with Subsurface Drainage
- Natural Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact  Impairment: Yes (5)  Cause: Pathogens  Geometric Mean: 383
No. of Ambient Sites: 10  No. of Ambient Sampling Records: 44  75th %ile: 803
No. of NPDES MOR Sites: 1  No. of NPDES MOR Records: 18  90th %ile: 3100
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Nitrate Indicator:
Cause:  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5-Historical Data)
Stream Miles Monitored: 24.32  Stream Miles Impaired: 24.32  Pollutants (Waterbody): PCBs
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
Intensive chemical, physical, and biological monitoring was conducted in the Twin Creek basin in 2005. Principal streams sampled included Twin Creek, Bantas Fork, Aukerman Creek, Tom's Run, and Little Twin Creek. For the 2006 Integrated Report, 2005 bacteria data were available which resulted in an impaired recreation use assessment. 2005 biological and chemical data for assessment of aquatic life uses were not available for the 2006 Integrated Report but are the basis for the TMDL and are included in the 2008 Integrated Report. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information on the Twin Creek TMDL report and its assessment of pollutants impairing beneficial uses.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 189.2
05080002 050 Great Miami River (downstream Twin Creek to upstream Fourmile Creek); excluding GMR mainstem

Integrated Report Assessment Category: 5  Priority Points: 6
Next Scheduled Monitoring: 2010

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH,MWH-C  Sampling Year(s): 2000
Impairment: Yes (5)

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High Magnitude Causes: Industrial Point Sources
High Magnitude Sources:
- Salinity/TDS/Chlorides
- Priority Organics
- Nutrients
- Flow Alteration
- Landfills
- Contaminated Sediments
- Nonirrigated Crop Production
- Natural

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)  Cause: Geometric Mean:
No. Ambient Sites:  No. Ambient Sampling Records: 75th %ile:
No. of NPDES MOR Sites:  No. of NPDES MOR Records: 90th %ile:
Other: A "Dermal Contact Advisory" is in effect for Dicks Creek due to PCB contamination. The area under the advisory is from Oxford St. in Middletown to the Great Miami River (Butler County).

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Cause:
Nitrate Indicator:  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5)
Stream Miles Monitored: 8.70  Stream Miles Impaired: 8.70  Pollutants (Waterbody): PCBs (Dicks Creek, Hamilton/Ford Hydraulic Canal)
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments

3/28/2008
Biological and water quality monitoring was conducted in the Sevenmile Creek watershed in 2002. Full attainment of designated or recommended aquatic life uses was met at all sampling locations in Sevenmile Creek and seven tributaries (Big Cave Run, Rush Run, Paint Creek, Beasley Run, Pottenger Run, Rocky Run, and Periwinkle Run). However, an assessment of available bacteria data indicated an impairment of the Primary Contact Recreation use in the watershed which resulted in the Category 5 listing. Additional, more conclusive bacteria monitoring in 2004 indicated no recreation use impairment.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description       WAU Size (m²) 160.6
05080002 070 Fourmile Creek (excluding Sevenmile Creek)

Integrated Report Assessment Category: 5
Priority Points: 7
Next Scheduled Monitoring: 2020

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH
Impairment: Yes (5)
Sampling Year(s): 2005

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High Magnitude Causes
- Phosphorus (Total)
- Sedimentation/Siltation
- Ammonia (Total)
- Alterations in Stream-Side or Littoral Vegetative Covers
- Oxygen, Dissolved
- Barium
- Copper
- Iron
- Other Flow Regime Alterations
- Natural Conditions (Flow or Habitat)

High Magnitude Sources
- Municipal Point Source Discharges
- Channelization
- Unrestricted Cattle Access
- Loss of Riparian Habitat
- Municipal (Urbanized High Density Area)
- Urban Runoff/Storm Sewers
- Natural Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
Cause: Pathogens
Geometric Mean: 235

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<th>No. Ambient Sites: 15</th>
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Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:
Cause:

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: No (1)
Stream Miles Monitored: 19.30 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments
Intensive chemical, physical, and biological sampling was conducted in the assessment unit in 2005 as part of monitoring in the Fourmile Creek watershed to develop TMDLs for pollutants causing beneficial use impairments. Significant streams within the study area included Fourmile Creek, Little Fourmile Creek, and East Fork Fourmile Creek. Available 2005 bacteria data were included in the 2006 Integrated Report and indicated one stream with an impairment of the recreation beneficial use. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.
Integrated Report Assessment Category: 2
Next Scheduled Monitoring: 2019

Aquatic Life Use Assessment

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High Magnitude Causes
- Natural Conditions (Flow or Habitat)

High Magnitude Sources
- Natural Sources

Recreation Use Assessment

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Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator: No
Cause: Pesticide Indicator: No

Fish Tissue Assessment

Waters Sampled: Yes Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 13.50 Stream Miles Impaired:
Pollutants (Waterbody):
Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments

Intensive chemical, physical, and biological sampling was conducted in the assessment unit in 2005 as part of monitoring in the Indian Creek watershed to develop TMDLs for pollutants causing beneficial use impairments. Significant streams within the study area included Indian Creek. Available 2005 bacteria data were included in the 2006 Integrated Report and indicated no impairment of the recreation beneficial use. All aquatic life use impairment was due to naturally occurring intermittent or very low stream flow conditions. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05080002 090
WAU Description: Great Miami River (downstream Fourmile Creek to mouth); excluding Indian Creek and GMR mainstem
WAU Size (mi²): 166.2
Priority Points: 3
Next Scheduled Monitoring: 2010

Integrated Report Assessment Category: 5

Aquatic Life Use Assessment

Subcategories of ALU: WWH
Impairment: Yes (5-Historical)

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High Magnitude Causes
- Cause Unknown
- Flow Alteration
- Direct Habitat Alterations

High Magnitude Sources
- Land Development/Suburbanization
- Urban Runoff/Storm Sewers (NPS)
- Removal of Riparian Vegetation - Dev.
- Natural

Recreation Use Assessment

Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)
No. Ambient Sites: 0
No. Ambient Sampling Records: 0
No. of NPDES MOR Sites: 2
No. of NPDES MOR Records: 18

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment

Waters Sampled: Yes
Stream Miles Monitored: 3.20
Stream Miles Impaired: 3.20
Pollutants (Waterbody): PCBs (Hamilton/Ford Hydraulic Canal)

Impairment: Yes (5)

Nitrate Indicator:
Pesticide Indicator:

WAU Comments

Biological and water quality data collected from 1991 to 1996 were used in the 2002 Integrated Report which resulted in a Category 5 (impaired) listing for the aquatic life beneficial use. With the exception of a few sampling locations monitored subsequent to this time period, these data have since exceeded the ten-year threshold and are now considered historical. Additionally, 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. While reflecting the current status that no 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 M2
Watershed Assessment Unit (WAU) Results

HUC11: 05080003 070
WAU Description: East Fork Whitewater River
WAU Size ($m^2$): 70.6

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2015
Priority Points: 3

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Unknown (3)

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High Magnitude Causes
High Magnitude Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5-Historical)
Cause: Pathogens
No. Ambient Sites: 0
No. Ambient Sampling Records: 0
No. of NPDES MOR Sites: 2
No. of NPDES MOR Records: 28
Other:

Geometric Mean: 608
75$^{th}$ %ile: 2350
90$^{th}$ %ile: 3190

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: No
Cause: No
Nitrate Indicator: No
Pesticide Indicator: No

Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired: 0

WAU Comments
This short segment in Ohio has not been sampled since 1982. Sampling at one biological reference site on Welker Lateral (headwaters of East Fork), has been attempted several times in the last few years, but has been dry. Available bacteria data, now considered historical, indicated an impairment of the Primary Contact Recreation use in the assessment unit which resulted in the Category 5 listing.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 05080003 080  Whitewater River (downstream East Fork Whitewater R. [IN] to mouth); excluding Whitewater R mainstem

Integrated Report Assessment Category: 3  Priority Points:  
Next Scheduled Monitoring: 2010

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH  Sampling Year(s): 1995, 1996
Impairment: No (1-Historical)

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Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)  Cause:
No. Ambient Sites:  No. Ambient Sampling Records:  
No. of NPDES MOR Sites:  No. of NPDES MOR Records:  
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Nitrate Indicator:  
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No  Impairment: Unknown (3)
Stream Miles Monitored: 0.00  Stream Miles Impaired:  
Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
The only recent sampling in this assessment unit consisted of a limited number of locations in the upper reaches of the Dry Fork. These were not considered sufficient to assess the status of beneficial uses throughout the assessment unit. More comprehensive historical sampling in the mid-1990s documented full aquatic life use attainment at all sampling locations.
### Aquatic Life Use Assessment

**Subcategories of ALU:** WWH  
**Impairment:** Unknown (3)  
**Sampling Year(s):**

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### Recreation Use Assessment

**Subcategory of Use:** Primary Contact  
**Impairment:** Unknown (3)  
**Cause:**  
**No. Ambient Sites:**  
**No. Ambient Sampling Records:**  
**No. of NPDES MOR Sites:**  
**No. of NPDES MOR Records:**  
**Other:**

### Public Drinking Water Supply Assessment

**Location(s):** No Public Drinking Water Supply Intakes

### Fish Tissue Assessment

**Waters Sampled:** No  
**Impairment:** Unknown (3)  
**Pollutants (Waterbody):**

### WAU Comments

Very little data have been collected in this watershed. Two streams were sampled near Gallipolis in 1987.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 WAU Description WAU Size (mi²): 135.5
05090101 020 Raccoon Creek (headwaters to upstream Hewett Fork)

Integrated Report Assessment Category: 5 Priority Points: 1
Next Scheduled Monitoring: 2019

Aquatic Life Use Assessment

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<tr>
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<th>WAU Score</th>
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High Magnitude Causes Nonirrigated Crop Production
High Magnitude Sources Surface Mining

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3) Cause: Geometric Mean:
No. Ambient Sites: No. 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
Waters Sampled: Yes Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 0.00 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 127.0 Lake Acres Impaired:

WAU Comments
A report developing TMDLs for mine drainage pollutants impairing aquatic life uses was approved by the U.S. EPA on March 20, 2003. Monitoring in support of TMDL development was conducted in 1995, 1996, and 2000. Supplemental data used in the 2004 assessment cycle were collected by the Center for Applied Bioassessment & Criteria (CABB) in 2002. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. A watershed action plan for this assessment unit has been endorsed by the Ohio EPA and Ohio DNR. Because other causes of aquatic life use impairment have been identified (siltation and direct habitat alterations), additional TMDL work will be needed to remove Raccoon Creek from its Category 5 listing.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 155.0
05090101 030  Raccoon Creek (upstream Hewett Fork to downstream Elk Fork)

Integrated Report Assessment Category: 5  Priority Points: 4
Next Scheduled Monitoring: 2019

Aquatic Life Use Assessment
Subcategories of ALU: WWH,LRW
Impairment: Yes (5)
Sampling Year(s): 1995, 2000, 2002

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High Magnitude Causes
Cause Unknown
Salinity /TDS/ Chlorides
Mineral Industrial Point Source
Surface Mining
Subsurface Mining
Petroleum Activities
Acid Mine Drainage
Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)  Cause:
No. Ambient Sites: 1  No. Ambient Sampling Records: 10
No. of NPDES MOR Sites: 1  No. of NPDES MOR Records: 19
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No  Impairment: Unknown (3)
Stream Miles Monitored: 0.00  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
A report developing TMDLs for mine drainage pollutants impairing aquatic life uses was approved by the U.S. EPA on March 20, 2003. Monitoring in support of TMDL development was conducted in 1995, 1996, and 2000. Supplemental data used in the 2004 assessment cycle were collected by the Center for Applied Bioassessment & Criteria (CABB) in 2002. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. A watershed action plan for this assessment unit has been endorsed by the Ohio EPA and Ohio DNR. Because other causes of aquatic life use impairment have been identified (siltation and direct habitat alterations), additional TMDL work will be needed to remove Raccoon Creek from its Category 5 listing.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²):  95.0
05090101 040  Raccoon Creek (downstream Elk Fork to upstream Little Raccoon Creek)

Integrated Report Assessment Category:  5  Priority Points:  2
Next Scheduled Monitoring:  2014

Aquatic Life Use Assessment
Subcategories of ALU:  EWH,WWH,LRW  Impairment:  Yes (5)
Sampling Year(s):  1995, 1998, 2002

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High Magnitude Causes:  Nonirrigated Crop Production
High Magnitude Sources:  Mining
Metals
Zinc
Iron
Other Metals
pH
Siltation
Flow Alteration
Natural Limits (Wetlands)

Recreation Use Assessment
Subcategory of Use:  Primary Contact
Impairment:  Unknown (3)
Cause:
No. Ambient Sites:  No. Ambient Sampling Records:
No. of NPDES MOR Sites:  No. of NPDES MOR Records:
Other:

Public Drinking Water Supply Assessment
Location(s):  No Public Drinking Water Supply Intakes
Impairment:  Nitrate Indicator:
Cause:  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled:  Yes  Impairment:  Unknown (3-Indeterminate Data)
Stream Miles Monitored:  2.65  Stream Miles Impaired:  Pollutants (Waterbody):  
Lake Acres Monitored:  0.0  Lake Acres Impaired:  

WAU Comments
A report developing TMDLs for mine drainage pollutants impairing aquatic life uses was approved by the U.S. EPA on March 20, 2003. Monitoring in support of TMDL development was conducted in 1995, 1996, and 2000. Supplemental data used in the 2004 assessment cycle were collected by the Center for Applied Bioassessment & Criteria (CABB) in 2002. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/index.html. A watershed action plan for this assessment unit has been endorsed by the Ohio EPA and Ohio DNR. Because other causes of aquatic life use impairment have been identified (siltation and direct habitat alterations), additional TMDL work will be needed to remove Raccoon Creek from its Category 5 listing.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 154.6
05090101 050  Little Raccoon Creek

Integrated Report Assessment Category: 5  Priority Points: 1
Next Scheduled Monitoring: 2014

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH,LRW  Sampling Year(s): 1995, 1999
Impairment: Yes (5)

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High Magnitude Causes
- Metals
- Nickel
- Iron
- Aluminum
- Other Metals
- Nutrients
- pH
- Siltation

High Magnitude Sources
- Organic Enrichment/ DO
- Salinity/TDS/Chlorides
- Thermal Modifications
- Direct Habitat Alterations
- Confined Animal Feeding Operations (NPS)
- Mineral/Nonmetallic Minerals
- Acid Mine Drainage
- Removal of Riparian Vegetation - Ag.

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)
No. Ambient Sites: 1  No. Ambient Sampling Records: 20  75th %ile: 766
No. of NPDES MOR Sites: 2  No. of NPDES MOR Records: 266  90th %ile: 1884

Public Drinking Water Supply Assessment
Location(s): Little Raccoon Creek @RM 30, Lake Rupert, Alma Lake [Wellston]
Impairment: Unknown (3-Insufficient Data)  Nitrate Indicator: Insufficient Data
Cause:  Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 27.60  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 388.0  Lake Acres Impaired:

WAU Comments
A watershed action plan for this assessment unit has been endorsed by the Ohio EPA and Ohio DNR.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05090101 060
WAU Description: Raccoon Creek (downstream Little Raccoon Creek to mouth); excluding Raccoon Creek mainstem
WAU Size (mi²): 140.8

Integrated Report Assessment Category: 5
Priority Points: 4
Next Scheduled Monitoring: 2014

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (5)
Sampling Year(s): 1999

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High Magnitude Causes
- Cause Unknown
- Metals
- Nutrients
- Flow Alteration

High Magnitude Sources
- Minor Industrial Point Source
- Nonirrigated Crop Production
- Animal Holding/Management Areas
- Natural
- Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
Cause: Pathogens
Geometric Mean: 402
75th %ile: 580
90th %ile: 3178

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes
Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)

Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 204.0
Lake Acres Impaired:

WAU Comments
A watershed action plan for this assessment unit has been endorsed by the Ohio EPA and Ohio DNR.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05090101 070
WAU Description: Ohio River tributaries (downstream Raccoon Creek to upstream Symmes Creek)
WAU Size (mi²): 139.0

Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2014
Priority Points:

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Unknown (3)
Sampling Year(s):

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<td>Miles</td>
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Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)
Cause: Unknown (3)
No. Ambient Sites: Site(s)
No. of NPDES MOR Sites: Site(s)
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 9.80
Stream Miles Impaired: Pollutants (Waterbody)
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 WAU Description WAU Size (mi²): 119.1
05090101 080 Symmes Creek (headwaters to downstream Black Fork)

Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2014
Priority Points:

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Unknown (3)
Sampling Year(s):

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High Magnitude Causes

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data) Cause:
No. Ambient Sites: 0 No. Ambient Sampling Records: 0
No. of NPDES MOR Sites: 1 No. of NPDES MOR Records: 18
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: Yes Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments
A small amount of data were collected in this watershed, but there are not enough sampling locations to do a complete assessment. Very little data have been collected throughout the Symmes Creek watershed.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 100.3
05090101 090     Symmes Creek (downstream Black Fork to downstream Buffalo Creek)

Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2014
Priority Points:

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Unknown (3)  Sampling Year(s):

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High Magnitude Causes
High Magnitude Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)  Cause: Unknown (3)
No. Ambient Sites:  No. Ambient Sampling Records:
No. of NPDES MOR Sites:  No. of NPDES MOR Records:
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: No Public Drinking Water Supply Intakes
Cause: No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters SAMPLED: Yes  Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05090101 100
WAU Description: Symmes Creek (downstream Buffalo Creek to mouth); Ohio River tributaries (Symmes Cr. to Big Sandy R)
WAU Size (mi²): 151.5

Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2014
Priority Points:

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Unknown (3)
Sampling Year(s):

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<tr>
<td>50-500 mi²</td>
<td></td>
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Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)
Cause: Geometric Mean:

<table>
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<tr>
<th>No. Ambient Sites</th>
<th>No. Ambient Sampling Records</th>
<th>75th %ile:</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>75th %ile:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>90th %ile:</td>
</tr>
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</table>

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)
Pollutants (Waterbody):

<table>
<thead>
<tr>
<th>Stream Miles Monitored</th>
<th>Stream Miles Impaired</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
**Ohio EPA 2008 Integrated Report Section M2**

**Watershed Assessment Unit (WAU) Results**

**HUC11** | **WAU Description** | **WAU Size (mi^2):**
--- | --- | ---
05090103 010 | Ohio River tributaries (downstream Big Sandy River [WV] to upstream Pine Creek) | 130.4

**Integrated Report Assessment Category:** 3  
**Next Scheduled Monitoring:** 2009  
**Priority Points:**

---

**Aquatic Life Use Assessment**

**Subcategories of ALU:** WWH,LRW,LWH  
**Impairment:** Unknown (3)

**Sampling Year(s):**

---

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>Geometric Mean</th>
<th>%ile:th</th>
<th>WAU Score Full</th>
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<th>Non Full</th>
<th>Partial</th>
<th>Non</th>
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<td>Secondary Tributaries</td>
<td>Site(s)</td>
<td>Site(s)</td>
<td>Site(s)</td>
<td>Site(s)</td>
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<tr>
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<td></td>
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<tr>
<td>Primary Tributaries</td>
<td>Site(s)</td>
<td>Site(s)</td>
<td>Site(s)</td>
<td>Site(s)</td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>Principal Streams</td>
<td>Site(s)</td>
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<tr>
<td>50-500 mi^2</td>
<td>Miles</td>
<td>Miles</td>
<td>Miles</td>
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<td>Miles</td>
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<td>Miles</td>
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<td>Miles</td>
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**Recreation Use Assessment**

**Subcategory of Use:** Primary Contact  
**Impairment:** Unknown (3)  
**Cause:**

---

<table>
<thead>
<tr>
<th>Geometric Mean:</th>
<th>%ile:th</th>
<th>WAU Score Full</th>
<th>Partial</th>
<th>Non Full</th>
<th>Partial</th>
<th>Non</th>
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</thead>
<tbody>
<tr>
<td>75^th %ile:</td>
<td>90^th %ile:</td>
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</table>

**Other:**

---

**Public Drinking Water Supply Assessment**

**Location(s):** No Public Drinking Water Supply Intakes

---

**Fish Tissue Assessment**

**Waters Sampled:** Yes  
**Impairment:** Unknown (3-Historical Data)

**Stream Miles Monitored:** 0.00  
**Stream Miles Impaired:** Pollutants (Waterbody):  
**Lake Acres Monitored:** 105.0  
**Lake Acres Impaired:**

---

**WAU Comments**

---
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 184.2
05090103 020  Pine Creek

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

Aquatic Life Use Assessment
Subcategories of ALU: WWH  Sampling Year(s): 1996, 1997
Impairment: Yes (5)

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>No. Attaining Full</th>
<th>% Attainment Full</th>
<th>Partial</th>
<th>Non</th>
<th>WAU Score Full (5)</th>
<th>Partial</th>
<th>Non</th>
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<tbody>
<tr>
<td>5-20 mi²</td>
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<td>36.6</td>
<td>20.0</td>
<td>43.4</td>
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<td>20-50 mi²</td>
<td>5 Site(s)</td>
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<td>68</td>
<td>10</td>
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<tr>
<td>Principal Streams</td>
<td>2 Site(s)</td>
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<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

High Magnitude Causes: Metals, pH, Siltation, Salinity/TDS/Chlorides
High Magnitude Sources: Surface Mining, Mine Tailings, Acid Mine Drainage

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Known 3-Indeterminate Data  Cause:
No. Ambient Sites: 0  No. Ambient Sampling Records: 0
No. of NPDES MOR Sites: 1  No. of NPDES MOR Records: 50
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Yes
Cause: Nitrate Indicator:
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5-Historical Data)
Stream Miles Monitored: 24.40  Stream Miles Impaired: 24.40  Pollutants (Waterbody): PCBs (Pine Creek)
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
Impairment of the aquatic life use in the Pine Creek watershed is based on a limited amount of data collected in 1996 and 1997 in response to an investigation of a severe acid mine drainage seep. The 2006 Integrated Report assessment of available fish tissue data from Pine Creek 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 data used to assess fish consumption status are now considered 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 M2
Watershed Assessment Unit (WAU) Results

HUC11 | WAU Description | WAU Size (mi²): 107.8
05090103 030 Little Scioto River (headwaters to upstream Rocky Fork)

Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2009
Priority Points:

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Unknown (3)

Sampling Year(s):

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>No. Attaining</th>
<th>% Attainment Full</th>
<th>Partial</th>
<th>Non</th>
<th>WAU Score Full</th>
<th>Partial</th>
<th>Non</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary Tributaries</td>
<td>&lt; 5 mi²</td>
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<td>Site(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Primary Tributaries</td>
<td>5-20 mi²</td>
<td>Site(s)</td>
<td>Site(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>20-50 mi²</td>
<td>Site(s)</td>
<td>Site(s)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Principal Streams</td>
<td>50-500 mi²</td>
<td>Site(s)</td>
<td>Miles</td>
<td>Miles</td>
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High Magnitude Causes: WWH
High Magnitude Sources:

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)

<table>
<thead>
<tr>
<th>No. Ambient Sites:</th>
<th>No. Ambient Sampling Records:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

Cause: Unknown (3-Historical Data)

Geometric Mean:
75th %ile: 
90th %ile: 

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Nitrate Indicator:
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Historical Data)

<table>
<thead>
<tr>
<th>Stream Miles Monitored:</th>
<th>Stream Miles Impaired:</th>
<th>Pollutants (Waterbody):</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lake Acres Monitored:</th>
<th>Lake Acres Impaired:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
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</tr>
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</table>

WAU Comments

M2-297 3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 152.2
05090103 040 Little Scioto River (upst. Rocky Fork to mouth); Ohio R. tribs. (dst Pine Cr. to dst 8-digit divide)

Integrated Report Assessment Category: 5  Priority Points: 3
Next Scheduled Monitoring: 2009

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Unknown (3)

<table>
<thead>
<tr>
<th>Sampling Year(s):</th>
<th>High Magnitude Causes</th>
<th>High Magnitude Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5-Historical)  Cause: Pathogens  Geometric Mean: 350
No. Ambient Sites: 0  No. Ambient Sampling Records: 0  75th %ile: 2240
No. of NPDES MOR Sites: 2  No. of NPDES MOR Records: 21  90th %ile: 7800
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Nitrate Indicator:  Cause:
Cause: Pathogens  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
No recent biological community and water quality data were available for this assessment unit to determine status of beneficial uses. As such, this assessment unit was listed as Category 3 (unassessed) in the 2002 Integrated Report. However, the 2004 Integrated Report assessment of available bacteria data indicated an impairment of the Primary Contact Recreation use in the assessment unit which resulted in the Category 5 listing. While the bacteria data are now historical, the assessment unit will remain Category 5 until TMDLs are completed and approved for all pollutants impairing beneficial uses.
Aquatic Life Use Assessment

Subcategories of ALU: CWH,EWH,WWH

Impairment: Yes (5)

Sampling Year(s): 1997, 1999, 2000

Stream Size Category | Raw Data Available | No. Attaining | % Attainment | WAU Score | Full | Partial | Non
--- | --- | --- | --- | --- | --- | --- | ---
Secondary Tributaries | Site(s) | Site(s) | 75.0 | 25.0 | 0.0
Primary Tributaries | 5 Site(s) | 5 Site(s) | 75 |
5-20 mi² | | | |
20-50 mi² | 2 Site(s) | 1 Site(s) | 25 |
Principal Streams | Site(s) | Miles | 0 |
50-500 mi² | | | |
High Magnitude Causes: Siltation
High Magnitude Sources: Land Development/Suburbanization

Recreation Use Assessment

Subcategory of Use: Primary Contact

Impairment: Unknown (3)

Cause: Unknown (3-Historical Data)

No. Ambient Sites: No. Ambient Sampling Records: 75th %ile:
No. of NPDES MOR Sites: No. of NPDES MOR Records: 90th %ile:

Public Drinking Water Supply Assessment

Location(s): No Public Drinking Water Supply Intakes

Impairment: Yes

Cause: Unknown (3-Historical Data)

Nitrate Indicator: Pesticide Indicator:

Fish Tissue Assessment

Waters Sampled: Yes

Impairment: Unknown (3-Historical Data)

Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.00
Lake Acres Impaired:

WAU Comments

Aquatic life use impairment in this watershed was restricted to one sampling location in Turkey Creek, related to siltation from a temporary construction project in 1999. Sampling one year after the event (2000) revealed fish IBI scores exceeding the ecoregional biocriterion but MIwb scores falling just below expectations. Because the impact was of a transient nature and total recovery and full aquatic life use attainment in Turkey Creek were anticipated, the assessment unit was listed as Category 4B in the 2002 and 2004 Integrated Reports. After conferral with U.S. EPA Region 5, it was reassessed as Category 5 in the 2006 report. The watershed is next scheduled for extensive monitoring in 2011.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05090201 030
WAU Description: Ohio Brush Creek (headwaters to downstream Baker Fork)
WAU Size (mi^2): 130.0

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

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH
Impairment: Yes (5)
Sampling Year(s): 1997, 2001

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
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<tbody>
<tr>
<td>Secondary Tributaries</td>
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</tr>
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<tr>
<td>5-20 mi^2</td>
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<td>2 Site(s)</td>
<td>88, 12, 0</td>
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<tr>
<td>20-50 mi^2</td>
<td>4 Site(s)</td>
<td>3 Site(s)</td>
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<tr>
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<tr>
<td>50-500 mi^2</td>
<td>Site(s)</td>
<td>Miles</td>
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</tbody>
</table>

High Magnitude Causes: Nutrients
High Magnitude Sources: Nonirrigated Crop Production

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data) Cause: Geometric Mean: 154
No. Ambient Sites: 1 No. Ambient Sampling Records: 4 75th %ile: 2131
No. of NPDES MOR Sites: 0 No. of NPDES MOR Records: 0 90th %ile: 5653
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No Impairment: Unknown (3)
Stream Miles Monitored: 0.00 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments
Comprehensive chemical, physical, and biological monitoring was conducted in this assessment unit in 2007 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05090201 040
WAU Description: West Fork Ohio Brush Creek

WUA Size (mi²): 134.1

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2007
Priority Points: 7

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH
Impairment: Yes (5)
Sampling Year(s): 2001

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data</th>
<th>No. Attaining</th>
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<th>WAU Score</th>
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<tbody>
<tr>
<td>Secondary Tributaries&lt;br&gt;&lt; 5 mi²</td>
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<td>Site(s)</td>
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<tr>
<td>Primary Tributaries</td>
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<tr>
<td>5-20 mi²</td>
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<td>20-50 mi²</td>
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High Magnitude Causes
| Cause Unknown | Natural |
| Flow Alteration | Source Unknown |

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5-Historical)

| | | | | |
| No. Ambient Sites: 0 | No. Ambient Sampling Records: 0 | Geometric Mean: 1433 | 75th %ile: 5725 |
| No. of NPDES MOR Sites: 2 | No. of NPDES MOR Records: 22 | 90th %ile: 7470 |

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: No
Causes: Pathogens

Nitrate Indicator: Yes
Pesticide Indicator: Yes

Fish Tissue Assessment
Waters Sampled: No
Impairment: Unknown (3)

<table>
<thead>
<tr>
<th>Waters Sampled</th>
<th>Stream Miles Monitor:</th>
<th>Stream Miles Impaired:</th>
<th>Pollutants (Waterbody):</th>
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</thead>
<tbody>
<tr>
<td>Lake Acres Monitor:</td>
<td>0.00</td>
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WAU Comments
Comprehensive chemical, physical, and biological monitoring was conducted in this assessment unit in 2007 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11     WAU Description                  WAU Size (mi²): 170.7
05090201 050 Ohio Brush Creek (downstream Baker Fork to mouth); excluding West Fork

Integrated Report Assessment Category: 5
Priority Points: 2
Next Scheduled Monitoring: 2007

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH
Impairment: Yes (5)
Sampling Year(s): 1997, 2001

<table>
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<tr>
<th>Stream Size Category</th>
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<th>% Attainment</th>
<th>WAU Score</th>
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<tbody>
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<td></td>
<td></td>
<td></td>
<td>Full Partial Non</td>
<td>Full Partial Non</td>
</tr>
<tr>
<td>Secondary Tributaries</td>
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<td>&lt; 5 mi²</td>
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<td></td>
<td>3 Site(s) 2 Site(s)</td>
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</tr>
<tr>
<td>Primary Tributaries</td>
<td></td>
<td></td>
<td>9 Site(s) 6 Site(s)</td>
<td>66.7 0.0 33.3</td>
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<tr>
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<td>9 Site(s)</td>
<td>6 Site(s)</td>
<td>66.7 0.0 33.3</td>
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<td>20-50 mi²</td>
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<td>9 Site(s)</td>
<td></td>
</tr>
<tr>
<td>Principal Streams</td>
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<td></td>
<td>3 Site(s)</td>
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</tr>
<tr>
<td>50-500 mi²</td>
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<td>23.8 Miles</td>
<td>23.8 Miles</td>
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High Magnitude Causes
- Cause Unknown
- Organic Enrichment/DO
- Flow Alteration

High Magnitude Sources
- Onsite Wastewater Systems (Septic Tanks)
- Natural
- Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)
Cause: Geometric Mean: 67
No. Ambient Sites: 1 No. Ambient Sampling Records: 6 75th %ile: 255
No. of NPDES MOR Sites: 2 No. of NPDES MOR Records: 52 90th %ile: 380
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:
Cause:

Nitrate Indicator: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments
Comprehensive chemical, physical, and biological monitoring was conducted in this assessment unit in 2007 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 67.9
05090201 060  Ohio River tributaries (downstream Ohio Brush Creek to upstream Eagle Creek)

Integrated Report Assessment Category: 5  Priority Points: 2
Next Scheduled Monitoring: 2011

Water Sampled: Yes  Impairment: Yes (5)
Stream Miles Monitored: 1.30 Stream Miles Impaired: 1.30 Pollutants (Waterbody): PCBs (Little Threemile Creek)
Lake Acres Monitored: 0.0 Lake Acres Impaired: 0.0

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH  Sampling Year(s):

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>% Attainment</th>
<th>WAU Score</th>
<th>High Magnitude Causes</th>
<th>High Magnitude Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 5 mi²</td>
<td>Site(s)</td>
<td>Site(s)</td>
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</tr>
<tr>
<td>5-20 mi²</td>
<td>Site(s)</td>
<td>Site(s)</td>
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<tr>
<td>20-50 mi²</td>
<td>Site(s)</td>
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<tr>
<td>50-500 mi²</td>
<td>Site(s)</td>
<td>Miles</td>
<td>Miles</td>
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Recreation Use Assessment
Subcategory of Use: Primary Contact  Cause: Unknown (3)
No. Ambient Sites:  Site(s)  No. Ambient Sampling Records:  Site(s)
No. of NPDES MOR Sites:  Site(s)  No. of NPDES MOR Records:  Site(s)
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Nitrate Indicator:  Cause:  Pesticide Indicator:

Fish Tissue Assessment

Impairment:  Yes  Cause:  Yes (5)
Waters Sampled: Yes  Stream Miles Monitored: 1.30 Stream Miles Impaired: 1.30 Pollutants (Waterbody): PCBs (Little Threemile Creek)
Lake Acres Monitored: 0.0 Lake Acres Impaired: 0.0

WAU Comments
An error in the assessment of available data resulted in this assessment unit being listed as Category 5 for aquatic life in the 2002 Integrated Report. Based on a reevaluation of available data for the 2004 Integrated Report, it was determined that not enough data were present to do an aquatic life use assessment which resulted in the Category 3 listing. The 2006 Integrated Report assessment of fish tissue data from Little Threemile Creek 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 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05090201 070
WAU Description: Eagle Creek
WAU Size (mi^2): 151.7

Integrated Report Assessment Category: 5
Priority Points: 3
Next Scheduled Monitoring: 2011

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH
Impairment: Yes (5)
Sampling Year(s): 1997

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<td>75</td>
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</tr>
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<td>90</td>
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High Magnitude Causes
- Cause Unknown
- Nutrients

High Magnitude Sources
- Nonirrigated Crop Production
- Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)
Cause: 
No. Ambient Sites:
No. of NPDES MOR Sites:
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: 
Cause: 
Nitrate Indicator: 
Pesticide Indicator: 

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00
Stream Miles Impaired: 
Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired: 

WAU Comments

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 | WAU Description | WAU Size (mi²): 93.6
05090201 080 Ohio River tributaries (downstream Eagle Creek to upstream Whiteoak Creek)

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2011
Priority Points: 3

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH
Impairment: Yes (5)
Sampling Year(s): 1997

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<tr>
<th>Stream Size Category</th>
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<th>% Attainment</th>
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<td>20-50 mi²</td>
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<td>0 Site(s)</td>
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</tr>
<tr>
<td>Principal Streams</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50-500 mi²</td>
<td>1 Site(s)</td>
<td>2.0 Miles</td>
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High Magnitude Causes
- Cause Unknown
- Flow Alteration
- Land Development/Suburbanization
- Natural

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3)
Cause: No. Ambient Sites: No. Ambient Sampling Records:
No. of NPDES MOR Sites: No. of NPDES MOR Records:
Other:

Public Drinking Water Supply Assessment
Location(s): Sycamore Run @RM 0.97 (Reservoir), and Straight Creek (Lake Waynoka) [Waynoka Regional]

Impairment: Unknown (3-Insufficient Data)
Cause: Nitrate Indicator: Insufficient Data
Pesticide Indicator: Insufficient Data, Watch List

Fish Tissue Assessment
Waters Sampled: Yes Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 2.00 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 147.4
05090201 090 East Fork White Oak Creek; North Fork White Oak Creek

Integrated Report Assessment Category: 5
Priority Points: 5
Next Scheduled Monitoring: 2022

Aquatic Life Use Assessment
Subcategories of ALU: WWH
Impairment: Yes (5)
Sampling Year(s): 2006

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<thead>
<tr>
<th>Stream Size Category</th>
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<th>WAU Score</th>
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<tbody>
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<td>No. Attaining</td>
<td>Full (5)</td>
<td>Partial (5)</td>
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<td>15.3</td>
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<td>Principal Streams</td>
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<td>3 Site(s)</td>
<td>12.1 Miles</td>
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High Magnitude Causes
Low Flow Alterations
Sedimentation/Siltation
Nutrient/Eutrophication Biological Indicators
Direct Habitat Alterations
Oxygen, Dissolved
Ammonia (Total)
Phosphorus (Total)

High Magnitude Sources
Unrestricted Cattle Access
Manure Runoff
Crop Production (Crop Land or Dry Land)
Urban Runoff/Storm Sewers
Channelization
Loss of Riparian Habitat
On-Site Treatment Systems (Septic Systems or Similar Decentralized Systems)

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
No. Ambient Sites: 10
No. of NPDES MOR Sites: 1

Cause: Pathogens
Geometric Mean: 618
75th %ile: 1400
90th %ile: 9320

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: No
Nitrate Indicator:
Cause: Pathogens
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
Intensive chemical, physical, and biological monitoring was conducted in the assessment unit in 2006 as part of monitoring in the White Oak Creek watershed to develop TMDLs for pollutants causing beneficial use impairments. Principal streams sampled included East Fork White Oak Creek, North Fork White Oak Creek, Little North Fork White Oak Creek, and Flat Run. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 87.9
05090201 100  White Oak Creek (North Fork/East Fork to mouth)

Integrated Report Assessment Category:  5  Priority Points: 8
Next Scheduled Monitoring:  2022

Aquatic Life Use Assessment
Subcategories of ALU:  EWH,WWH  Sampling Year(s):  2006
Impairment:  Yes (5)

<table>
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<tr>
<th>Stream Size Category</th>
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<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
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<td>Secondary Tributaries</td>
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<tr>
<td>Primary Tributaries</td>
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<td>65.2%</td>
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High Magnitude Causes
Nutrient/Eutrophication Biological Indicators  Upstream Source
Low Flow Alterations  Crop Production (Crop Land or Dry Land)
Sedimentation/Siltation  Sanitary Sewer Overflows (Collection System Failures)
Phosphorus (Total)  Upstream Impoundments
Oxygen, Dissolved  Municipal Point Source Discharges

Recreation Use Assessment
Subcategory of Use:  Primary Contact  Cause:  Geometric Mean: 224
Impairment:  No (1)  75th %ile: 615
No. Ambient Sites:  6  90th %ile: 1689
No. of NPDES MOR Sites:  2  No. of NPDES MOR Records: 27
Other:

Public Drinking Water Supply Assessment
Location(s):  Sterling Run @RM 6.47 [Mt. Orab]

Impairment:  Yes (5)  Nitrate Indicator:  Insufficient Data
Cause:  Atrazine  Pesticide Indicator:  Impaired

Fish Tissue Assessment
Watershed Sampled:  Yes  Impairment:  Unknown (3-Indeterminate Data)
Stream Miles Monitored:  20.60  Stream Miles Impaired:  Pollutants (Waterbody):
Lake Acres Monitored:  0.0  Lake Acres Impaired:

WAU Comments
Intensive chemical, physical, and biological monitoring was conducted in the assessment unit in 2006 as part of monitoring in the White Oak Creek watershed to develop TMDLs for pollutants causing beneficial use impairments. Principal streams sampled included White Oak Creek and Sterling Run. Check the TMDL web page at http://www.epa.state.oh.us/dsw/tmdl/index.html for updated information.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 97.4
05090201 110 Ohio River tributaries (downstream Whiteoak Creek to upstream Big
Indian Run)

Integrated Report Assessment Category: 3  Priority Points:
Next Scheduled Monitoring: 2011

Aquatic Life Use Assessment
Subcategories of ALU:  WWH  Impairment:  Unknown (3)  Sampling Year(s):  

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<td>Site(s)</td>
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<tr>
<td>5-20 mi²</td>
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<td>Site(s)</td>
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<td>Site(s)</td>
<td>Site(s)</td>
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High Magnitude Causes  High Magnitude Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact  Impairment:  Unknown (3-Indeterminate Data)  Cause:  

| Geometric Mean: | 593 |
| 75 th %ile: | 1550 |
| 90 th %ile: | 6040 |

Public Drinking Water Supply Assessment
Location(s):  No Public Drinking Water Supply Intakes  

Impairment:  Nitrate Indicator:  
cause:  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled:  No  Impairment:  Unknown (3)  
Stream Miles Monitored:  0.00  Stream Miles Impaired:  Pollutants (Waterbody):  
Lake Acres Monitored:  0.0  Lake Acres Impaired:  

WAU Comments
A small amount of data were collected in this watershed, but there are not enough sampling locations to do a complete assessment.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11                   WAU Description                        WAU Size (mi²): 108.2
05090201 120 Ohio River tributaries (upstream Big Indian Run to upstream Little Miami River)

Integrated Report Assessment Category: 5  Priority Points: 3
Next Scheduled Monitoring: 2011

Aquatic Life Use Assessment
Subcategories of ALU: WWH  Sampling Year(s): 1997
Impairment: Yes (5)

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<td>Miles</td>
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High Magnitude Causes: Cause Unknown
High Magnitude Sources: Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)  Cause:
No. Ambient Sites: 0  No. Ambient Sampling Records: 0
No. of NPDES MOR Sites: 1  No. of NPDES MOR Records: 53
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: No  Impairment: Unknown (3)
Stream Miles Monitored: 0.00  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
Data from 1997 were reevaluated for the 2004 Integrated Report. Corrected statistics indicated that the aquatic life use status should be changed from Category 2 (unimpaired), as listed in the 2002 Integrated Report, to Category 5 (impaired).
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 129.6
05090202  010 Little Miami River (headwaters to upstream Massies Creek)

Integrated Report Assessment Category: 5  Priority Points: 2
Next Scheduled Monitoring: 2017

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH  Impairment: Yes (4A-TMDL)  Sampling Year(s): 1998

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<th>WAU Score</th>
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<td>1 Site(s)</td>
<td>74.0 9.4 16.6</td>
<td>37 32 31</td>
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<td>8 Site(s)</td>
<td>5 Site(s)</td>
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<td>54.2 45.8</td>
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High Magnitude Causes
Metals
Unionized Ammonia
Nutrients
Organic Enrichment/DO
Flow Alteration
Direct Habitat Alterations
Pathogens

Recreation Use Assessment
Subcategory of Use: Primary Contact  Cause: Nitrate Indicator: Geometric Mean: 375
Impairment: No (1)  Cause: Pesticide Indicator: 75th %ile: 689
No. Ambient Sites: 3  No. Ambient Sampling Records: 28  90th %ile: 1654
No. of NPDES MOR Sites: 2  No. of NPDES MOR Records: 35
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment:  Cause:
Nitrate Indicator:
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Yes (5)
Stream Miles Monitored: 1.65  Stream Miles Impaired: 1.65  Pollutants (Waterbody): PCBs (Little Miami River)
Lake Acres Monitored: 0.0  Lake Acres Impaired: 0.0

WAU 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 http://www.epa.state.oh.us/dsw/tmdl/index.html. The 2006 Integrated Report assessment of fish tissue data from the Little Miami River 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 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05090202 020
WAU Description: Little Miami River (upstream Massies Creek to downstream Beaver Creek)
WAU Size (m²): 165.5

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2017
Priority Points: 8

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH
Impairment: Yes (5)
Sampling Year(s): 1998

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<th>% Attainment</th>
<th>WAU Score</th>
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<td>1 Site(s)</td>
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<td>Primary Tributaries</td>
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<td>11 Site(s)</td>
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<td>50-500 mi²</td>
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High Magnitude Causes
- Cause Unknown
- Oil and Grease
- Major Industrial Point Source
- Spills
- Unknown Toxicity
- Natural Limits (Wetlands)
- Major Municipal Point Source
- Metals
- Nonirrigated Crop Production
- Unionized Ammonia
- Pasture Land
- Nutrients
- Urban Runoff/Storm Sewers (NPS)
- Siltation
- Onsite Wastewater Systems (Septic Tanks)
- Direct Habitat Alterations
- Channelization - Agriculture
- Channelization - Development

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
No. Ambient Sites: 9
No. of NPDES MOR Sites: 4

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)
Stream Miles Monitored: 11.61
Stream Miles Impaired: 8.71
Waters (Waterbody): PCBs (Little Miami River)

WAU 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 http://www.epa.state.oh.us/dsw/tmdl/index.html. The 2006 Integrated Report assessment of fish tissue data from the Little Miami River 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 in addition to the recreation beneficial use impairment.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

Watershed Assessment Unit (WAU) Results

HUC11 | WAU Description | WAU Size (m²): 119.2
05090202 030 Little Miami River (downstream Beaver Creek to upstream Caesar Creek)

Integrated Report Assessment Category: 5
Priority Points: 2
Next Scheduled Monitoring: 2017

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH
Impairment: Yes (4A-TMDL)
Sampling Year(s): 1998

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High Magnitude Causes
Unionized Ammonia
Chlorine
Nutrients
Organic Enrichment/DO
Flow Alteration
Suspended Solids

High Magnitude Sources
Major Municipal Point Source
Minor Municipal Point Source
Natural

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)
No. Ambient Sites: 3
No. of NPDES MOR Sites: 3

Other:

Geometric Mean: 310
75th %ile: 486
90th %ile: 1098

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Yes (5)
Stream Miles Monitored: 21.82
Stream Miles Impaired: 21.82
Pollutants (Waterbody): PCBs (Little Miami River)

Waters Sampled: 0.0
Lake Acres Impaired: 0.0

WUA 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 http://www.epa.state.oh.us/dsw/tmdl/index.html. The 2006 Integrated Report assessment of fish tissue data from the Little Miami River 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 in addition to the recreation beneficial use impairment.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11       WAU Description    WAU Size (m²): 94.8
05090202 040 Anderson Fork Caesar Creek

Integrated Report Assessment Category: 4A
Next Scheduled Monitoring: 2017

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH  Impairment: Yes (4A-TMDL)  Sampling Year(s): 1998

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High Magnitude Causes
- Cause Unknown
- Siltation

High Magnitude Sources
- Nonirrigated Crop Production
- Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact  Impairment: No (1-Historical)  Cause:  Geometric Mean: 307

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Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: No Public Drinking Water Supply Intakes  Cause:  Nitrate Indicator:  Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Indeterminate Data)  Cause:  Stream Miles Impaired: Pollutants (Waterbody):

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<th></th>
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<th>% Attainment</th>
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Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU 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 http://www.epa.state.oh.us/dsw/tmdl/index.html.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 147.9
05090202 050 Caesar Creek (excluding Anderson Fork)

Integrated Report Assessment Category: 5  Next Scheduled Monitoring: 2017
Priority Points: 7

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH  Sampling Year(s): 1998
Impairment: Yes (5)

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High Magnitude Causes
- Cause Unknown
- Nonirrigated Crop Production
- Nutrients
- Feedlots (Confined Animal Feeding Oper.)
- Siltation
- Land Development/Suburbanization
- Organic Enrichment/DO
- Onsite Wastewater Systems (Septic Tanks)
- Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5-Historical)  Cause: Pathogens  Geometric Mean: 752
No. Ambient Sites: 0  No. Ambient Sampling Records: 0  75th %ile: 1663
No. of NPDES MOR Sites: 1  No. of NPDES MOR Records: 42  90th %ile: 2180
Other:

Public Drinking Water Supply Assessment
Location(s): Caesar Creek Lake [Wilmington]
Impairment: Unknown (3-Insufficient Data)  Nitrate Indicator: Insufficient Data
Cause: Pathogens  Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: No (1)
Stream Miles Monitored: 16.90  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 2830.0  Lake Acres Impaired:

WAU 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 http://www.epa.state.oh.us/dsw/tmdl/index.html. The assessment unit remains in Category 5 due to a historical recreation use impairment.
## Watershed Assessment Unit (WAU) Results

### HUC11 WAU Description

<table>
<thead>
<tr>
<th>HUC11</th>
<th>WAU Description</th>
<th>WAU Size (mi²):</th>
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<tr>
<td>05090202 060</td>
<td>Little Miami River (downstream Caesar Creek to downstream Turtle Creek); excluding LMR mainstem</td>
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### Integrated Report Assessment Category: 3

**Next Scheduled Monitoring:** 2007

### Aquatic Life Use Assessment

- **Subcategories of ALU:** EWH, WWH
- **Impairment:** Unknown (3)
- **Sampling Year(s):** 1998

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<th>Stream Size Category</th>
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<th>WAU Score</th>
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<td>Site(s)</td>
<td>Miles</td>
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### Recreation Use Assessment

- **Subcategory of Use:** Primary Contact
- **Impairment:** Unknown (3)
- **Cause:**
- **No. Ambient Sites:**
- **No. Ambient Sampling Records:**
- **No. of NPDES MOR Sites:**
- **No. of NPDES MOR Records:**
- **Other:**

### Public Drinking Water Supply Assessment

- **Location(s):** No Public Drinking Water Supply Intakes

### Fish Tissue Assessment

- **Waters Sampled:** No
- **Impairment:** Unknown (3)
- **Impairment:**
- **Pollutants (Waterbody):**

### WAU Comments

Comprehensive chemical, physical, and biological monitoring was conducted in this assessment unit in 2007 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05090202 070
WAU Description: Todd Fork (headwaters to upstream East Fork Todd Fork)
WAU Size (m²): 147.0

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

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH
Impairment: Yes (5)
Sampling Year(s): 1998

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High Magnitude Causes
- Unknown Toxicity
- Unionized Ammonia
- Organic Enrichment/DO
- Flow Alteration
- Direct Habitat Alterations

High Magnitude Sources
- Major Municipal Point Source
- Minor Municipal Point Source
- Urban Runoff/Storm Sewers (NPS)
- Channelization - Development
- Natural

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)
Cause: Nitrate Indicator: Insufficient Data
Pesticide Indicator: Insufficient Data

Geometric Mean: 1188
75th %ile: 2250
90th %ile: 5360

Public Drinking Water Supply Assessment
Location(s): Cowan Creek @RM 11.7 [Wilmington]

Impairment: Unknown (3-Insufficient Data)
Cause:
Nitrate Indicator: Insufficient Data
Pesticide Indicator: Insufficient Data

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: No (1)
Stream Miles Monitored: 23.03
Stream Miles Impaired: Pollutants (Waterbody): Pollutants (Waterbody):
Lake Acres Monitored: 688.0
Lake Acres Impaired: Pollutants (Waterbody): Pollutants (Waterbody):

WAU Comments
Comprehensive chemical, physical, and biological monitoring was conducted in this assessment unit in 2007 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.

3/28/2008
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11	WAU Description	WAU Size (mi²): 114.6
05090202 080 Todd Fork (upstream East Fork Todd Fork to mouth)

Integrated Report Assessment Category: 5
Priority Points: 4
Next Scheduled Monitoring: 2007

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH
Impairment: Yes (5)
Sampling Year(s): 1998

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High Magnitude Causes
- Nutrients

High Magnitude Sources
- Municipal Point Sources

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Unknown (3-Indeterminate Data)
No. Ambient Sites: 0
No. of NPDES MOR Sites: 1

Public Drinking Water Supply Assessment
Location(s): Whitacre Run @RM 1.4 [Blanchester]
Impairment: Unknown (3-Insufficient Data)
Nitrate Indicator: Insufficient Data
Pesticide Indicator: Insufficient Data, Watch List

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00
Stream Miles Impaired: Pollutants (Waterbody)
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
This assessment unit was listed as Category 4B in the 2002 and 2004 Integrated Reports but, after conferral with U.S. EPA Region 5, it was reassessed as Category 5 in the 2006 report. Comprehensive chemical, physical, and biological monitoring was conducted in this assessment unit in 2007 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²): 110.3
05090202 090  Little Miami River (downstream Turtle Creek to downstream O'Bannon Creek); excluding LMR mainstem

Integrated Report Assessment Category: 5  Priority Points:  6
Next Scheduled Monitoring: 2007

Aquatic Life Use Assessment
Impairment: Yes (5)

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High Magnitude Causes:
- Nutrients
- Organic Enrichment/DO
- Flow Alteration

High Magnitude Sources:
- Major Municipal Point Source
- Upstream Impoundment
- Natural

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)  Cause: Pathogens  Geometric Mean: 285
No. Ambient Sites: 0  No. Ambient Sampling Records: 0  75th %ile: 578
No. of NPDES MOR Sites: 3  No. of NPDES MOR Records: 134  90th %ile: 3740
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrate Indicator:
Cause: Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes  Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 1.30  Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  Lake Acres Impaired:

WAU Comments
Ohio EPA conducted fish, macroinvertebrate, and water chemistry sampling on streams which had point source issues. Supplemental fish sampling was done in 2002 by ODNR Division of Wildlife on several other small streams within the assessment unit. Comprehensive chemical, physical, and biological monitoring was conducted in this assessment unit in 2007 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  | WAU Description  | WAU Size (mi²): 140.8
05090202 100  | East Fork Little Miami River (headwaters to upstream Solomon Run)

Integrated Report Assessment Category: 5  | Priority Points: 6
Next Scheduled Monitoring: 2012

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH  | Sampling Year(s): 1998
Impairment: Yes (5)

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<td></td>
<td></td>
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</tr>
<tr>
<td>5-20 mi²</td>
<td>3 Site(s)</td>
<td>0 Site(s)</td>
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<td>20-50 mi²</td>
<td>3 Site(s)</td>
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High Magnitude Causes
- Cause Unknown
- Nutrients
- Siltation
- Nonirrigated Crop Production
- Surface Mining
- Source Unknown

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
No. Ambient Sites: 3
No. of NPDES MOR Sites: 1
No. Ambient Sampling Records: 12
No. of NPDES MOR Records: 18

Public Drinking Water Supply Assessment
Location(s): West Branch of the East Fork LMR @RM 4.6 [Blanchester]
Impairment: Unknown (3-Insufficient Data)
Nitrate Indicator: Insufficient Data
Cause: Pathogens
Geometric Mean: 722
75th %ile: 1555
90th %ile: 6067

Fish Tissue Assessment
Waters Sampled: Yes  | Impairment: No (1)
Stream Miles Monitored: 18.80  | Stream Miles Impaired: Pollutants (Waterbody): 18
Lake Acres Monitored: 0.0  | Lake Acres Impaired:

WAU Comments
A watershed action plan for this assessment unit has been endorsed by the Ohio EPA and Ohio DNR.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 116.7
05090202 110  East Fork Little Miami River (upstream Solomon Run to upstream Cloverlick Creek)  

Integrated Report Assessment Category: 5  Priority Points: 2
Next Scheduled Monitoring: 2012

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH  
Impairment: Yes (5)  

<table>
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<tr>
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High Magnitude Causes
- Cause Unknown
- Nonirrigated Crop Production
- Nutrients
- Onsite Wastewater Systems (Septic Tanks)
- Siltation
- Source Unknown
- Organic Enrichment/DO

Recreation Use Assessment
Subcategory of Use: Primary Contact  
Impairment: No (1)  
No. Ambient Sites: 3  
No. of NPDES MOR Sites: 3
No. Ambient Sampling Records: 12  
No. of NPDES MOR Records: 19
Other:  
Geometric Mean: 98
75th %ile: 375
90th %ile: 550

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
Waters Sampled: Yes  
Impairment: No (1)
Stream Miles Monitored: 30.65  
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0  
Lake Acres Impaired:

WAU Comments
A watershed action plan for this assessment unit has been endorsed by the Ohio EPA and Ohio DNR.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 | WAU Description | WAU Size (m²): 123.1
05090202 120 East Fork Little Miami River (upstream Cloverlick Creek to upstream Stonelick Creek)

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2012
Priority Points: 2

Aquatic Life Use Assessment
Subcategories of ALU: EWH,WWH
Impairment: Yes (5)
Sampling Year(s): 1997, 1998

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<td>1.8 Miles</td>
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High Magnitude Causes
- Nutrients
- Siltation
- Organic Enrichment/DO
- Flow Alteration
- Direct Habitat Alterations

High Magnitude Sources
- Municipal Point Sources
- Land Development/Suburbanization
- Urban Runoff/Storm Sewers (NPS)
- Onsite Wastewater Systems (Septic Tanks)
- Channelization - Development
- Flow Reg/Mod. - Dev.

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: No (1)
Cause: Full Support
No. Ambient Sites: 1
No. Ambient Sampling Records: 4
75th %ile: 340
Geo Mean: 231
No. of NPDES MOR Sites: 2
No. of NPDES MOR Records: 73
90th %ile: 880

Public Drinking Water Supply Assessment
Location(s): Harsha Lake - Impounded E. Fork LMR [Clermont County]
Impairment: No (1)
Cause: Full Support
Nitrate Indicator: Full Support, Watch List
Pesticide Indicator: Full Support

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: No (1)
Stream Miles Monitored: 18.06
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
A watershed action plan for this assessment unit has been endorsed by the Ohio EPA and Ohio DNR.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11: 05090202 130
WAU Description: East Fork Little Miami River (upstream Stonelick Creek to mouth)
WAU Size (mi²): 119.2

Integrated Report Assessment Category: 5
Priority Points: 6
Next Scheduled Monitoring: 2012

Aquatic Life Use Assessment
Subcategories of ALU: EWH, WWH
Impairment: Yes (5)
Sampling Year(s): 1997, 1998

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High Magnitude Causes
Cause Unknown
Nutrients
Silting
Organic Enrichment/DO
Flow Alteration
Direct Habitat Alterations

High Magnitude Sources
Major Municipal Point Source
Combined Sewer Overflows
Sanitary Sewer Overflows
Nonirrigated Crop Production
Sewer Line Construction
Urban Runoff/Storm Sewer (NPS)
Dredging - Development
Dam Construction - Agriculture

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (5)
Cause: Pathogens
Geometric Mean: 444

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<th>No. Ambient Sites</th>
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<td>1</td>
<td>4</td>
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Other:

Public Drinking Water Supply Assessment
Location(s): Stonelick Creek @RM 23.4 [ Blanchester]

Impairment: Unknown (3-Insufficient Data)
Nitrate Indicator: Insufficient Data
Cause: Pathogens
Pesticide Indicator: Insufficient Data, Watch List

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: No (1)
Stream Miles Monitored: 5.99
Stream Miles Impaired: Pollutants (Waterbody)
Lake Acres Monitored: 0.0
Lake Acres Impaired: None

WAU Comments
A watershed action plan for this assessment unit has been endorsed by the Ohio EPA and Ohio DNR.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (mi²): 112.4
05090202 140  Little Miami River (downstream O'Bannon Creek to mouth); excluding
               East Fork LMR and LMR mainstem

Integrated Report Assessment Category:  5  Priority Points:  1
Next Scheduled Monitoring:  2007

Aquatic Life Use Assessment
Subcategories of ALU:  WWH,LRW
Impairment:  Yes (5)
Sampling Year(s):  1994, 1998, 2002

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<td>1 Site(s)</td>
<td>0 Site(s)</td>
</tr>
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<td>5-20 mi²</td>
<td>3 Site(s)</td>
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</tr>
<tr>
<td></td>
<td>20-50 mi²</td>
<td>2 Site(s)</td>
<td>0 Site(s)</td>
</tr>
<tr>
<td>Principal Streams</td>
<td>50-500 mi²</td>
<td>Site(s)</td>
<td>Miles</td>
</tr>
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<td>50</td>
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Impairment:
- Unknown Toxicity
- Siltation
- Organic Enrichment/DO
- Flow Alteration
- Direct Habitat Alterations

High Magnitude Causes
- Minor Industrial Point Source
- Major Municipal Point Source
- Combined Sewer Overflows
- Sewer Line Construction
- Other Urban Runoff
- Dredging - Development
- Streambank Destabilization - Dev.

Recreation Use Assessment
Subcategory of Use:  Primary Contact
Impairment:  Unknown (3-Indeterminate Data)
No. Ambient Sites:  0  No. of NPDES MOR Sites:  1
No. Ambient Sampling Records:  0  No. of NPDES MOR Records:  48
Cause:
- Geometric Mean:  246
- 75th %ile:  400
- 90th %ile:  9270
Other:

Public Drinking Water Supply Assessment
Location(s):  No Public Drinking Water Supply Intakes
Impairment:  
Cause:  
Nitrate Indicator:  
Pesticide Indicator:  

Fish Tissue Assessment
Waters Sampled:  No  Impairment:  Unknown (3)
Stream Miles Monitored:  0.00  Stream Miles Impaired:  
Lake Acres Monitored:  0.0  Lake Acres Impaired:  
Pollutants (Waterbody):

WAU Comments
Dry Run, East Branch Polk Run, and an unnamed tributary to Sycamore Creek were included on the 1998 303(d) list based on data collected in 1991. Since these data are no longer current (i.e., more than 10 years old), reassessment of current conditions is warranted. However, recognizing the continued pervasive impacts related to sewer line construction within stream channels, retaining the assessment unit in Category 5 is appropriate. Limited additional data collected in 1994 and 1998 from other Little Miami tributaries were used to supplement the assessment of this AU. Comprehensive chemical, physical, and biological monitoring was conducted in this assessment unit in 2007 to identify pollutants impairing beneficial uses and to support the development of TMDLs for those pollutants.
A report developing TMDLs for some pollutants (phosphorus and nitrogen) impairing aquatic life uses in the Mill Creek basin was approved by U.S. EPA on April 26, 2005. The TMDL report is available at [http://www.epa.state.oh.us/dsw/tmdl/index.html](http://www.epa.state.oh.us/dsw/tmdl/index.html). Monitoring in support of the TMDLs was conducted in the watershed in 1997. Follow-up aquatic life monitoring in the upper Mill Creek watershed was conducted between 1999 and 2003. Because many other causes of beneficial use impairment have been identified (organic enrichment, heavy metals, pesticides, priority organic chemicals, contaminated sediments, siltation, low dissolved oxygen, habitat and flow alterations, and pathogens), additional TMDL work (or some other path to attainment of Water Quality Standards) will be needed to remove the Mill Creek assessment unit from its impairment listing for aquatic life, recreation, and fish consumption (the latter impairment historical due to age of data). While a full watershed assessment is not scheduled until 2020, Ohio EPA has committed to limited East Fork sampling at locations in the vicinity of the Butler Co. Upper Mill Creek WWTP in 2012 and 2015.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 WAU Description WAU Size (m²): 48.6
05090203 020 Ohio River tributaries (downstream Little Miami R. to upstream Great Miami R.); excluding Mill Creek
Integrated Report Assessment Category: 5 Priority Points: 1
Next Scheduled Monitoring: 2011

Aquatic Life Use Assessment

<table>
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<tr>
<th>Stream Size Category</th>
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<th>WAU Score</th>
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<td>Principal Streams</td>
<td>Site(s)</td>
<td>Miles</td>
<td>Miles</td>
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High Magnitude Causes
- Unionized Ammonia
- Organic Enrichment/DO
- Flow Alteration
- Direct Habitat Alterations

High Magnitude Sources
- Combined Sewer Overflows
- Dredging - Development
- Streambank Destabilization - Dev.
- Natural

Recreation Use Assessment
Subcategory of Use: Primary Contact Cause: Geometric Mean: 61
Impairment: No (1) No. Ambient Sites: 0 No. Ambient Sampling Records: 0 75th %ile: 147
No. of NPDES MOR Sites: 3 No. of NPDES MOR Records: 505 90th %ile: 484
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Impairment: Nitrte Indicator: Pesticide Indicator:
Cause:

Fish Tissue Assessment
Waters Sampled: No Impairment: Unknown (3)
Stream Miles Monitored: 0.00 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0 Lake Acres Impaired:

WAU Comments
Biological and water quality data collected in 1991 and 1994 (Muddy Creek, Wulff Run, and Rapid Run) were used in the 2002 Integrated Report 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 no data are available to assess beneficial 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 M2
Watershed Assessment Unit (WAU) Results

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<tr>
<th>HUC11</th>
<th>WAU Description</th>
<th>WAU Size (mi²):</th>
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<td>05090203 050</td>
<td>Ohio River tributaries (downstream Great Miami River to upstream Wolper Creek [KY])</td>
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Integrated Report Assessment Category: 3
Next Scheduled Monitoring: 2011
Priority Points: 

**Aquatic Life Use Assessment**
Subcategories of ALU: WWH
Impairment: Unknown (3)
Sampling Year(s): 

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<td>Site(s)</td>
<td>Site(s)</td>
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**Recreation Use Assessment**
Subcategory of Use: Primary Contact
Impairment: Unknown (3)
Cause: 
Geometric Mean: 75th %ile: 90th %ile: 

**Public Drinking Water Supply Assessment**
Location(s): No Public Drinking Water Supply Intakes

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<tr>
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<tr>
<td>Cause:</td>
<td>Pesticide Indicator:</td>
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**Fish Tissue Assessment**
Waters Sampled: No
Impairment: Unknown (3)
Pollutants (Waterbody): 

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<th>Lake Acres Monitored:</th>
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<td>0.00</td>
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**WAU Comments**
This is a very small watershed within Ohio (only 39 acres).
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11 | WAU Description | WAU Size (mi²): 115.9
---|---|---
05120101 010 | Wabash River (headwaters to upstream Beaver Creek) |

Integrated Report Assessment Category: 5
Next Scheduled Monitoring: 2018
Priority Points: 4

Aquatic Life Use Assessment

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<td>Principal Streams</td>
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<td>50-500 mi²</td>
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High Magnitude Causes
Direct Habitat Alterations
Minor Municipal Point Source
Nonirrigated Crop Production
Confined Animal Feeding Operations (NPS)
Channelization - Agriculture
Removal of Riparian Vegetation - Ag.
Streambank Destabilization - Ag.

Recreation Use Assessment

Subcategory of Use: Primary Contact
Impairment: Yes (5-Historical) Cause: Pathogens
No. Ambient Sites: 0 No. Ambient Sampling Records: 0
No. of NPDES MOR Sites: 0 No. of NPDES MOR Records: 0
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes

Nitrate Indicator:
Pesticide Indicator:

Fish Tissue Assessment
Waters Sampled: Yes Impairment: Unknown (3-Historical Data)
Stream Miles Monitored: 0.00 Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0 Lake Acres Impaired: 

WAU Comments
A report developing TMDLs for some pollutants (nitrates/nitrites, phosphorus, total suspended solids) impairing aquatic life uses in the Wabash River basin was prepared by U.S. EPA on August 27, 2004. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/WabashRiverTMDL.html. Monitoring in support of the TMDL was conducted in 1999. As this assessment unit continues to have other pollutants impairing aquatic life and recreation beneficial uses, it will remain Category 5 until TMDLs are developed for all pollutants impairing all beneficial uses.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11    WAU Description                     WAU Size (m²): 112.5
05120101 020 Beaver Creek (Grand Lake St. Marys and tributaries)

Integrated Report Assessment Category:  5
Next Scheduled Monitoring:  2018
Priority Points:  2

Aquatic Life Use Assessment

Subcategories of ALU:  WWH
Impairment:  Yes (4A-TMDL)
Sampling Year(s):  1999

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<tr>
<td>50-500 m²</td>
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<td>Miles</td>
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High Magnitude Causes
- Direct Habitat Alterations
- Nitrate/Nitrite (Nitrite + Nitrate as N)
- Phosphorus (Total)

High Magnitude Sources
- Nonirrigated Crop Production
- Confined Animal Feeding Operations (NPS)
- Channelization - Agriculture
- Removal of Riparian Vegetation - Ag.
- Streambank Destabilization - Ag.

Recreation Use Assessment

Subcategory of Use:  Primary Contact
Impairment:  Yes (4A-TMDL)
Cause: Pathogens
No. of NPDES MOR Sites:  0
No. of NPDES MOR Records:  0
No. Ambient Sites:  7
No. Ambient Sampling Records:  57
Geometric Mean:  3585
75th %ile:  10000
90th %ile:  99999

Public Drinking Water Supply Assessment

Location(s):  Grand Lake St. Marys [Celina]
Impairment:  No (1)
Nitrate Indicator:  Full Support
Cause:  Pathogens
Pesticide Indicator:  Full Support

Fish Tissue Assessment

Waters Sampled:  Yes
Impairment:  Yes (5)
Stream Miles Monitored:  0.00
Stream Miles Impaired:  Pollutants (Waterbody):  PCBs (Grand Lake St. Marys)
Lake Acres Monitored: 12700.0
Lake Acres Impaired:  12700.0

WAU Comments

TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the Beaver Creek/Grand Lake St. Marys basin were approved by U.S. EPA on September 28, 2007. Chemical, physical, and biological monitoring in support of the TMDL development was conducted in 1999. For additional information, see http://www.epa.state.oh.us/dsw/tmdl/BeaverCreekWabashTMDL.html. The 2006 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. As such, the assessment unit will remain Category 5 until TMDLs for all beneficial use impairments are completed and approved by the U.S. EPA.

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Integrated Report Assessment Category: 4A
Priority Points: 2018
Next Scheduled Monitoring: 2018

Aquatic Life Use Assessment
Subcategories of ALU: Waterbody (WWH)
Impairment: Yes (4A-TMDL)
Sampling Year(s): 1999

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary Tributaries</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>&lt; 5 mi²</td>
<td>3 Site(s)</td>
<td>1 Site(s)</td>
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<tr>
<td>Primary Tributaries</td>
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High Magnitude Causes
Nonirrigated Crop Production
Confined Animal Feeding Operations (NPS)
Channelization - Agriculture
Removal of Riparian Vegetation - Ag.
Streambank Destabilization - Ag.

Recreation Use Assessment
Subcategory of Use: Primary Contact
Impairment: Yes (4A-TMDL)
Cause: Pathogens
Geometric Mean: 262
No. Ambient Sites: 4
No. Ambient Sampling Records: 39
No. of NPDES MOR Sites: 2
No. of NPDES MOR Records: 64
Other:

Public Drinking Water Supply Assessment
Location(s): No Public Drinking Water Supply Intakes
Impairment: Nitrate Indicator:
Cause:

Fish Tissue Assessment
Waters Sampled: Yes
Impairment: Unknown (3-Indeterminate Data)
Stream Miles Monitored: 8.20
Stream Miles Impaired: Pollutants (Waterbody):
Lake Acres Monitored: 0.0
Lake Acres Impaired:

WAU Comments
TMDLs for pollutants impairing beneficial uses (aquatic life and recreation) in the Beaver Creek/Grand Lake St. Marys basin were approved by U.S. EPA on September 28, 2007. Chemical, physical, and biological monitoring in support of the TMDL development was conducted in 1999. For additional information, see http://www.epa.state.oh.us/dsw/tmdl/BeaverCreekWabashTMDL.html.
Ohio EPA 2008 Integrated Report Section M2
Watershed Assessment Unit (WAU) Results

HUC11  WAU Description  WAU Size (m²):  12.6
05120101 040  Wabash River (downstream Beaver Creek to upstream Loblolly Creek [IN])

Integrated Report Assessment Category:  5
Next Scheduled Monitoring:  2018
Priority Points:  1

Aquatic Life Use Assessment
Subcategories of ALU:  WWH,MWH-C
Impairment:  Yes (5)
Sampling Year(s):  1999

<table>
<thead>
<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
<th>No. Attaining</th>
<th>% Attainment</th>
<th>WAU Score</th>
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<tbody>
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<td>Primary Tributaries</td>
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<td>Principal Streams</td>
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High Magnitude Causes
Direct Habitat Alterations
Nonirrigated Crop Production
Confined Animal Feeding Operations (NPS)
Channelization - Agriculture
Removal of Riparian Vegetation - Ag.
Streambank Destabilization - Ag.

Recreation Use Assessment
Subcategory of Use:  Primary Contact
Impairment:  Unknown (3)
Cause:  Unknown (3)
No. Ambient Sites:  No. Ambient Sampling Records: 75th %ile: 87
No. of NPDES MOR Sites:  No. of NPDES MOR Records: 90th %ile: 87
Other:

Public Drinking Water Supply Assessment
Location(s):  No Public Drinking Water Supply Intakes
Impairment:  None
Cause:  None
Nitrate Indicator:  None
Pesticide Indicator:  None

Fish Tissue Assessment
Waters Sampled:  No
Impairment:  Unknown (3)
Stream Miles Monitored:  0.00
Stream Miles Impaired:  Pollutants (Waterbody):
Lake Acres Monitored:  0.0
Lake Acres Impaired:  0.0

WAU Comments
A report developing TMDLs for some pollutants (nitrates/nitrites, phosphorus, total suspended solids) impairing aquatic life uses in the Wabash River basin was prepared by U.S. EPA on August 27, 2004. The TMDL report is available at http://www.epa.state.oh.us/dsw/tmdl/WabashRiverTMDL.html. Monitoring in support of the TMDL was conducted in 1999. As this assessment unit continues to have other pollutants impairing aquatic life beneficial uses, it will remain Category 5 until TMDLs are developed for all pollutants impairing all beneficial uses.

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Watershed Assessment Unit (WAU) Results

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<th>HUC11</th>
<th>WAU Description</th>
<th>WAU Size (m²)</th>
<th>Integrated Report Assessment Category</th>
<th>Priority Points</th>
<th>Next Scheduled Monitoring</th>
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Aquatic Life Use Assessment
- Subcategories of ALU: WWH,MWH-C
- Impairment: Yes (5)
- Sampling Year(s): 1999

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<tr>
<th>Stream Size Category</th>
<th>Raw Data Available</th>
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<td>Secondary Tributaries</td>
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<td>Principal Streams</td>
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<td>50-500 mi²</td>
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High Magnitude Causes
- Direct Habitat Alterations
  - Nonirrigated Crop Production
  - Confined Animal Feeding Operations (NPS)
  - Channelization - Agriculture
  - Removal of Riparian Vegetation - Ag.
  - Streambank Destabilization - Ag.

Recreation Use Assessment
- Subcategory of Use: Primary Contact
- Impairment: Yes (5-Historical)
- Cause: Pathogens
- Geometric Mean: 75⁰ percentile: 63
- 90⁰ percentile: 37

Public Drinking Water Supply Assessment
- Location(s): No Public Drinking Water Supply Intakes

Fish Tissue Assessment
- Waters Sampled: No
- Impairment: Unknown (3)
- Pollutants (Waterbody): Nitrate Indicator
- Cause: Pathogens
- Pesticide Indicator

WAU Comments
This is a very small watershed within Ohio. Monitoring to characterize physical, chemical, and biological condition was incorporated in the Wabash River basin intensive survey conducted in 1999.