Nonpoint Source Program

Approved and Pending Watershed Plans

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NPS Approved Watershed Plans

- 319 & CMI approved
 Nested Watershed
 319 & CMI approved
- CMI approved
 CMI approved
 CMI approved
- Plan Being Developed

8/7/2013

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Little Rabbit River	
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Munising Bay	
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Otter River	
Partridge Creek	
Pilgrim River	
Pine Creek (Dickinson Co.)	
Salmon Trout River	
Sault Saint Marie	
Trap Rock River	
Two Hearted River	
Whetstone Brook & Orianna Creek	

INTRODUCTION

A Watershed Management Plan considers all uses, pollutant sources, and impacts within a drainage area. More than 150 Watershed Management Plans have been developed at the local level utilizing DEQ grants from the Nonpoint Source grant program. Watershed Management Plans serve as guides for communities to protect and improve the water quality. Grant funding for implementation of best management practices identified within the Watershed Management Plans is available through the federal Clean Water Act as well as the Clean Michigan Initiative (CMI) Nonpoint Source Pollution Control Grant program. To be eligible for implementation funds, the Watershed Management Plan must meet certain criteria and be approved by the DEQ. The watersheds shown in this document have DEQ approved Watershed Management Plans that meet CMI criteria. Watershed plans approved under 319 also meet the USEPA nine minimum elements, and are eligible for grant funding under Section 319 of the federal Clean Water Act. Eligibility requirements for funding are included in each Request for Proposals issued through the NPS program.

For more information about Requests for Proposals, see Grant Applicant Information on the Nonpoint Source home page, <u>www.mi.gov/nps</u>. For more information about watershed management plans, see Developing an Approvable Watershed Management Plan, <u>http://www.michigan.gov/deq/0,4561,7-135-3313_3682_3714-95955--,00.html</u> or contact Peter Vincent, <u>VINCENTP@michigan.gov</u> or 517-284-5521.

SUMMARY OF APPROVED WATERSHED PLANS

Watershed Plan	Larger Watershed Plan	DEQ District	Approval
Anchor Bay		Southeast Michigan	CMI and 319
Battle Creek River (Calhoun Co.)	Kalamazoo River	Kalamazoo	CMI and 319
Bear Creek (Manistee Co.)	Manistee River	Cadillac	CMI and 319
Bear Creek (Oakland County)	Red Run Watershed	Southeast Michigan	CMI
Bear Creek/Bear Lake	Muskegon River	Grand Rapids	CMI and 319
Betsie River		Cadillac	CMI
Black Lake		Cadillac	CMI
Black River		Saginaw Bay	CMI and 319
Black River		Kalamazoo	CMI and 319
Boardman River	Grand Traverse Bay	Cadillac	CMI
Brighton Lake Subwatershed	Huron Chain of Lakes	Lansing, Southeast Michigan	CMI and 319
Buck Creek	Lower Grand River	Grand Rapids	CMI and 319
Carrier Creek		Lansing	CMI
Cedar Lake		Cadillac	CMI and 319
Cedar River (Gladwin County)		Saginaw Bay	CMI and 319
Cheboygan River, Lower Black River		Cadillac	CMI and 319
Ceresco Reach	Kalamazoo River	Kalamazoo	CMI and 319
Chocolay River		Upper Peninsula	CMI
Clinton River East Watershed		Southeast Michigan	CMI and 319
Clinton River Main Watershed		Southeast Michigan	CMI and 319
Clinton River North Branch		Southeast Michigan	CMI and 319
Coldwater River (Lower Grand)	Lower Grand River	Grand Rapids	CMI and 319
Combined Downriver		Southeast Michigan	CMI and 319
Davis, Gourdneck and Portage Creek	Kalamazoo River	Kalamazoo	СМІ

Watershed Plan	Larger Watershed Plan	DEQ District	Approval
Days River		Upper Peninsula	CMI and 319
Dowagiac River	St. Joe River	Kalamazoo	CMI
Duck Creek		Grand Rapids	CMI and 319
Eagle River		Upper Peninsula	CMI and 319
Eastern Sanilac Coastal Tributary		Saginaw Bay	CMI and 319
Ecorse Creek		Southeast Michigan	CMI and 319
Elk River Chain of Lakes	Grand Traverse Bay	Cadillac	CMI
Four Townships Area Watershed	Kalamazoo River	Kalamazoo	CMI and 319
Fumee Creek		Upper Peninsula	CMI and 319
Galien River		Kalamazoo	CMI and 319
Gilkey Creek		Lansing	CMI and 319
Glen Lake/Crystal River		Cadillac	CMI and 319
Grand Traverse Bay		Cadillac	CMI and 319
Greater Battle Creek Area	Kalamazoo River	Kalamazoo	CMI
Gun River	Kalamazoo River	Kalamazoo	CMI and 319
Hager Creek	Lower Grand River	Grand Rapids	СМІ
Hamilton Creek		Upper Peninsula	СМІ
Hamlin Lake/Big Sable		Cadillac	СМІ
Herring Lake		Cadillac	CMI
Higgins Lake	Muskegon River	Cadillac	CMI and 319
Hodunk-Messenger Chain of Lakes	St. Joe River	Kalamazoo	CMI and 319
Hog Creek	St. Joe River	Jackson	CMI and 319
Huron Chain of Lakes		Southeast Michigan	СМІ
Huron Creek		Upper Peninsula	CMI and 319
Huron RiverAnn Arbor-Ypsilanti		Jackson	CMI and 319
Iron River Watershed		Upper Peninsula	СМІ
Kalamazoo River		Kalamazoo	CMI and 319
Kawkawlin River		Saginaw Bay	CMI and 319
Kearsley Creek		Lansing	CMI and 319
Kent Lake Watershed		Southeast Michigan	CMI and 319
Lake Charlevoix		Cadillac	CMI and 319
Lake Huron Initiative			СМІ
Lake Leelanau Watershed		Cadillac	CMI and 319
Lake St. Clair		Southeast Michigan	CMI and 319
Les Cheneaux		Upper Peninsula	CMI and 319
Little Manistee River		Cadillac	СМІ
Little Rabbit River	Rabbit River, Kalamazoo River	Kalamazoo	СМІ
Little Traverse Bay		Cadillac	CMI and 319
Long Lake (Grand Traverse Co.)	Grand Traverse Bay	Cadillac	CMI and 319
Lower Dead River		Upper Peninsula	CMI and 319
Lower Grand River		Grand Rapids	CMI and 319
Lower Huron		Southeast Michigan	CMI and 319
Macatawa		Grand Rapids	CMI and 319
Manistee River		Cadillac	СМІ

Watershed Plan	Larger Watershed Plan	DEQ District	Approval
Mid-Shiawassee River		Lansing	CMI and 319
Mill Creek Watershed (Huron R.)		Jackson	CMI and 319
Millers Creek	Huron RiverAnn Arbor- Ypsilanti	Jackson	CMI and 319
Mitchell Creek	Grand Traverse Bay	Cadillac	СМІ
Mona Lake		Grand Rapids	CMI and 319
Mullet Lake		Cadillac	СМІ
Munising Bay		Upper Peninsula	СМІ
Muskegon Lake	Muskegon River	Grand Rapids	CMI
Muskegon River		Cadillac, Grand Rapids	CMI and 319
Nottawa Creek	St. Joe River	Kalamazoo	CMI
Ocqueoc River		Cadillac	CMI and 319
Otter River		Upper Peninsula	CMI
Partridge Creek		Upper Peninsula	CMI and 319
Paw Paw River	St. Joe River	Kalamazoo	CMI and 319
Pere Marquette		Cadillac	CMI and 319
Pigeon River (to Lake Huron)		Saginaw Bay	CMI and 319
Pigeon River (to Lake Michigan)		Grand Rapids	СМІ
Pilgrim River		Upper Peninsula	CMI and 319
Pine Creek (Dickinson Co.)		Upper Peninsula	СМІ
Pine River/Van Etten Lake		Cadillac	CMI and 319
Pinnebog River		Saginaw Bay	CMI and 319
Plaster Creek	Lower Grand River	Grand Rapids	CMI and 319
Platte River		Cadillac	СМІ
Pontiac Creek	Clinton River Main Watershed	Southeast Michigan	CMI and 319
Portage and Arcadia Creeks	Kalamazoo River	Kalamazoo	CMI and 319
Portage Creek (Huron R.)		Jackson	CMI and 319
Portage Lake		Cadillac	CMI and 319
Rabbit River	Kalamazoo River	Kalamazoo	CMI and 319
Red Run Watershed		Southeast Michigan	CMI and 319
Rice Creek	Kalamazoo River	Kalamazoo	CMI and 319
Rifle River		Saginaw Bay	CMI
River Raisin		Jackson	CMI and 319
Rocky River	St. Joe River	Kalamazoo	CMI and 319
Rogue River	Lower Grand River	Grand Rapids	CMI and 319
Rouge River		Southeast Michigan	CMI and 319
Salmon Trout River		Upper Peninsula	CMI and 319
Sand Creek	Lower Grand River	Grand Rapids	CMI
Sault Saint Marie		Upper Peninsula	CMI and 319
Schoolhouse Creek	Lower Grand River	Grand Rapids	CMI
Sebewaing River		Saginaw Bay	CMI and 319
South Branch Flint River		Lansing	CMI and 319
South Branch Pentwater River		Grand Rapids	СМІ
Spring Lake	Lower Grand River	Grand Rapids	СМІ

Watershed Plan	Larger Watershed Plan	DEQ District	Approval
St. Clair County's NE Watersheds		Southeast Michigan	СМІ
St. Joe River		Jackson, Kalamazoo	CMI and 319
Stony Creek (Monroe & Washtenaw Co.)		Jackson	СМІ
Stony Creek (Oakland County)	Stony/Paint Creek	Southeast Michigan	CMI and 319
Stony/Paint Creek		Southeast Michigan	CMI and 319
Sturgeon Creek (Midland Co.)		Saginaw Bay	CMI and 319
Swan Creek	St. Joe River	Kalamazoo	СМІ
Swartz Creek		Lansing, Southeast Michigan	CMI and 319
Thunder Bay River, Main Branch		Cadillac	СМІ
Thunder Bay River, North and South Branches		Cadillac	СМІ
Trap Rock River		Upper Peninsula	CMI
Two Hearted River		Upper Peninsula	CMI and 319
Upper Au Sable		Cadillac	СМІ
Upper Clam River	Muskegon River	Cadillac	CMI
Upper Grand River		Jackson	CMI and 319
Upper Looking Glass		Lansing	CMI and 319
Upper Manistee	Manistee River	Cadillac	CMI and 319
Upper Maple		Lansing	CMI and 319
Upper Rabbit River	Rabbit River, Kalamazoo River	Kalamazoo	СМІ
Whetstone Brook & Orianna Creek		Upper Peninsula	СМІ
White River		Grand Rapids	CMI and 319

WATERSHED PLANS

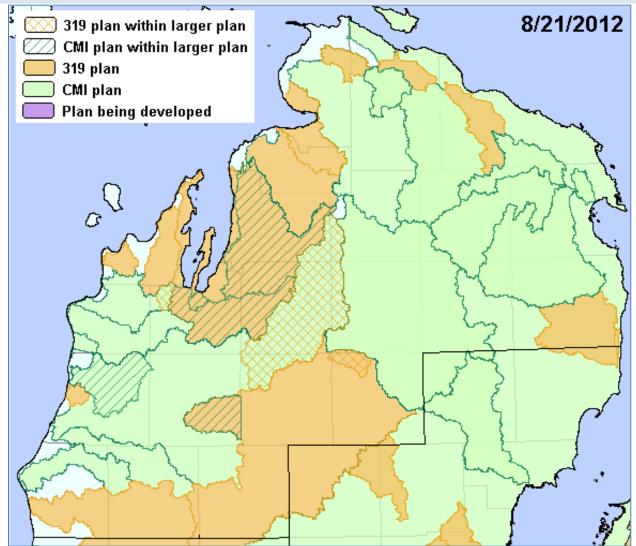
LAKE HURON INITIATIVE

Lake Huron is one of the Great Lakes. It has a surface area of 23,000 square miles and a watershed of 51,700 square miles. The U.S. Environmental Protection Agency and Environment Canada, the parties responsible for development of lakewide management plans do not have resources to initiate such an effort for Lake Huron at this time. As a result, the Michigan Office of the Great Lakes, with the U.S. Environmental Protection Agency and Environment Canada as partners, undertook an effort to initiate action on Lake Huron. The Lake Huron Initiative is recognized as an approved watershed management plan under Michigan's CMI rules.

- Lake Huron Initiative
- <u>Saginaw Bay Watershed Initiative Network (WIN)</u>
- Lake Huron Centre for Coastal Conservation
- North Channel Preservation Society
- <u>Tip of the Mitt Watershed Council</u>
- Georgian Bay Association



CADILLAC DISTRICT WATERSHEDS



CMI approved	CMI and 319 approved
Betsie River	Bear Creek (Manistee Co.)
Black Lake	Cedar Lake
Boardman River	Cheboygan River, Lower Black River
Elk River Chain of Lakes	Glen Lake/Crystal River
Hamlin Lake/Big Sable	Grand Traverse Bay
Herring Lake	Higgins Lake
Little Manistee River	Lake Charlevoix
Manistee River	Lake Leelanau Watershed
Mitchell Creek	Little Traverse Bay
Mullet Lake	Long Lake (Grand Traverse Co.)
Platte River	Ocqueoc River
Thunder Bay River, Main Branch	Pere Marquette
Thunder Bay River, North and South Branches	Pine River/Van Etten Lake
Upper Au Sable	Portage Lake
Upper Clam River	Upper Manistee
	Muskegon River

BEAR CREEK (MANISTEE COUNTY) WATERSHED

The geographic scope of the Bear Creek watershed encompasses 118,000 acres in Manistee and Benzie Counties, including the villages of Copemish, Bear Lake, Kaleva, and Brethren. The Bear's watershed contains little productive farmland due to the numerous swamps and rolling hills of Kalkaska sand in the area. Most of the upper and lower portions of the watershed are state or federal lands that are managed for recreation and timber resources, while the middle portion contains limited agriculture. The Bear Creek watershed plan was approved under the CMI administrative rules and was funded under section 319.

DEQ Nonpoint Source Links

• <u>Manistee River Watershed</u> (a larger watershed management plan encompassing Bear Creek)

Watershed Websites

- <u>Conservation Resource Alliance</u>
- Watershed Management Plan

BETSIE RIVER WATERSHED

The Betsie River watershed is located in the southwestern portion of Benzie County. It was approved under the CMI administrative rules and was funded under section 319.

MDEQ Nonpoint Source Links

<u>Betsie River Watershed Restoration Project -</u>
 <u>Phase I</u>

- Crystal Lake and Watershed Association
- <u>Conservation Resource Alliance</u>





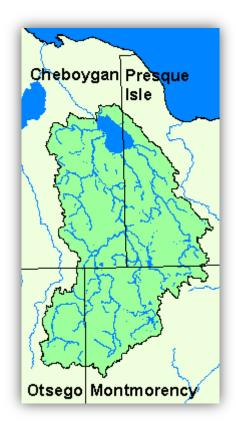
BLACK LAKE WATERSHED

The Black Lake Watershed is located in northeastern-lower Michigan (Cheboygan and Presque Isle counties). It was approved under the CMI administrative rules and was funded under section 205(j).

MDEQ Nonpoint Source Links

For a copy of the approved watershed management plan, please contact <u>Peter Vincent</u> via email, or at 517-284-5521.

Onaway Wastewater System Construction Project fact sheet



BOARDMAN RIVER WATERSHED

The Boardman River Watershed is located in northwestern-lower Michigan (Grand Traverse county). It was approved under the CMI administrative rules and was funded under section 205(j).

MDEQ Nonpoint Source Links

- Boardman River Implementation Project
- Boardman River Outreach Campaign fact sheet
- Boardman River Protection Project fact sheet
- <u>Grand Traverse Bay Watershed</u> (a larger watershed management plan encompassing Boardman River)

Watershed Websites

• Grand Traverse Conservation District - Boardman River Project



CEDAR LAKE

Information pending



CHEBOYGAN RIVER/LOWER BLACK RIVER WATERSHED

The Cheboygan River/Lower Black River watershed is a 19,212-acre watershed located in Cheboygan County and consists of 75% agricultural land. The Cheboygan River/Lower Black River Watershed is approved under the CMI administrative rules and was funded under section 319. The rivers are part of the Inland Waterway with 36 miles of navigable water from Lake Huron to the inland lakes of Mullett, Burt, Crooked, and Pickerel. Tourism has become an increasing part of the local economy, with residential seasonal home development occurring throughout the watershed. This project will decrease the amount of nutrients and sediment that enter the river from barnyard runoff, streambank erosion,



livestock access to the river, road stream crossings, septic systems, development practices, shoreline lawn maintenance practices, and urban runoff.

MDEQ Nonpoint Source Links

- Cheboygan River/Lower Black River Watershed Management Plan
- <u>Cheboygan River/Lower Black River Watershed Initiative fact sheet</u>

- Huron Pines RC&D
- Northeast Michigan Council of Governments (NEMCOG)
- Tip of the Mitt Watershed Council

ELK RIVER CHAIN OF LAKES WATERSHED

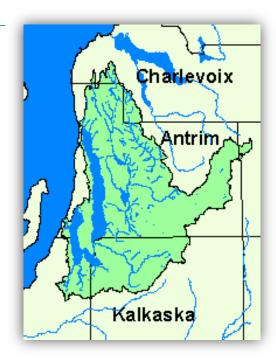
The Elk River Chain of Lakes Watershed is located in northwesternupper Michigan (Antrim County). It was approved under the CMI administrative rules and was funded under section 319.

MDEQ Nonpoint Source Links

For a copy of the approved watershed management plan, please contact <u>Peter Vincent</u> via email, or at 517-284-5521.

- Spencer Creek Watershed fact sheet
- <u>Elk River Watershed McMurray/Kladzyk Wetlands Project</u>
 <u>fact sheet</u>
- <u>Elk River Chain of Lakes/Jewel of the Midwest Partnership</u> <u>fact sheet</u>
- <u>Elk River Chain of Lakes Watershed Project fact sheet</u>
- <u>Grand Traverse Bay Watershed</u> (a larger watershed management plan encompassing Elk River Chain of Lakes)

- Regional
 - o <u>Tip of the Mitt Watershed Council</u>
 - o Antrim Conservation District
 - Charlevoix Conservation District
 - Grand Traverse Conservation District
 - o Kalkaska Conservation District
 - The Watershed Center Grand Traverse Bay
 - o Grand Traverse Regional Land Conservancy
 - o Northern Michigan Environmental Action Council
- Upper Chain
 - o Six Mile Lake Association
 - o Intermediate Lake Association
- Middle Chain
 - o <u>Three Lakes Association</u>
 - Friends of Clam Lake
 - o <u>Torch Lake Protection Alliance</u>
- Lower Chain
 - o <u>Elk- Skegemog Lakes Association</u>



GLEN LAKE/CRYSTAL RIVER WATERSHED

The Glen Lake/Crystal River is located in upper Michigan within Leelanau County. The watershed plan was approved under the CMI administrative rules and was funded under section 319.

MDEQ Nonpoint Source Links

• Watershed Management Plan (8 MB PDF)



GRAND TRAVERSE BAY WATERSHED

The Grand Traverse Bay Watershed is located in northwest lower Michigan along the eastern shore of Lake Michigan. The Grand Traverse Bay Watershed is approved under the CMI administrative rules and was funded under section 319. The 1,000-square mile basin is one of the fastest growing freshwater coastal watersheds in the Great Lakes. Land use and land cover in the watershed is predominantly forest (50%) and agriculture (20%). Other land uses include: open shrub/grassland, water, wetlands, and urban. Sediment and excessive nutrient loadings were reduced to enhance the cold-water fishery and aquatic life in the Grand Traverse Bay watershed. Other nonpoint source pollutants such as thermal pollution, toxins, hydrologic flow, invasive species, and pathogens were decreased to enhance the water quality, protect the aquatic habitat, and expand the number and diversity of aquatic organisms.

MDEQ Nonpoint Source Links

- Watershed Management Plan (4 MB PDF)
- Watershed Management Plan Appendices (5 MB PDF)
- Grand Traverse Bay Watershed Protection Planning Project fact sheet
- Grand Traverse Bay Watershed Center Database Grant fact sheet
- Grand Traverse Bay Watershed Project Transition Grant fact sheet
- Watershed Plans within the larger Grand Traverse Bay Watershed
 - o <u>Boardman River</u>
 - o Elk River Chain of Lakes
 - o <u>Mitchell Creek</u>

Watershed Websites

Watershed Center Grand Traverse Bay



HAMLIN LAKE/BIG SABLE WATERSHED

Hamlin Lake is located in western Mason County adjacent to the shoreline of Lake Michigan. The Hamlin Lake watershed is 178 square miles in area, a land area approximately 23 times the size of the lake. The predominant land cover in the watershed is forest. The Hamlin Lake watershed plan was approved under the CMI administrative rules and was funded under section 319.

MDEQ Nonpoint Source Links

Big Sable River Implementation fact sheet

Watershed Websites

<u>Conservation Resource Alliance</u>

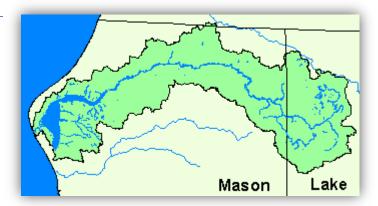
HERRING LAKE WATERSHED

The Herring Lake Watershed is approximately 16,000 acres in size and includes Upper Herring Lake, Lower Herring Lake, and Herring Creek. The Herring Lake Watershed is approved under the CMI administrative rules and was funded under section 319. Land use is 40% forested, 24% agriculture, and the rest other. With the exception of a 117-acre preserve and 35 acres of state land on Upper Herring Lake, property ownership in the watershed is entirely private. The Herring Lakes Watershed has improved its water quality by reducing the amount of agricultural pollutions that were a major concern since the watershed has relatively heavy agricultural land use.

MDEQ Nonpoint Source Links

- Herring Lakes Watershed Planning Project fact sheet
- Herring Lakes Watershed Transition Grant fact sheet

- Benzie Conservation District
- Herring Lakes Watershed Management Plan





HIGGINS LAKE WATERSHED

The Higgins Lake Watershed is a 23,806-acre watershed that is primarily 70% forested. The Higgins Lake Watershed is approved under the CMI administrative rules and was funded under section 604b. Sediment and nutrients, resulting from an increase in shoreline development and advancing age of inadequate septic systems, were reduced to enhance swimming and boating activities, and cold-water and warmwater fishery.

MDEQ Nonpoint Source Links

- Higgins Lake Watershed Implementation Project
- <u>Muskegon River Watershed</u> (a larger watershed management plan encompassing Higgins Lake)

Watershed Websites

- Higgins Lake Property Owners
- Huron Pines RC&D

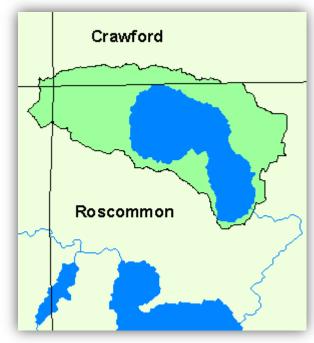
LAKE CHARLEVOIX WATERSHED

The Lake Charlevoix Watershed is located in the northwestern part of Michigan (Charlevoix County). It was approved under the CMI administrative rules and was funded under section 604(b).

MDEQ Nonpoint Source Links

- Lake Charlevoix Watershed Information and Education
 Project fact sheet
- Lake Charlevoix Watershed Project fact sheet
- Lake Charlevoix Watershed Plan update
- Lake Charlevoix Watershed Plan (9 MB)

- Charlevoix Conservation District
- <u>Charlevoix County</u>
- <u>Tip of the Mitt Watershed Council</u>





LAKE LEELANAU WATERSHED

The Lake Leelanau Watershed is located in northwestern Michigan (Leelanau County). It was approved under the CMI administrative rules and was funded under section 319.

MDEQ Nonpoint Source Links

For a copy of the approved watershed management plan, please contact <u>Peter Vincent</u> via email, or at 517-284-5521.

- Lake Leelanau Watershed Protection Plan (4 GB)
- Lake Leelanau Watershed Permanent Land Protection

Watershed Websites

Leelanau Conservancy



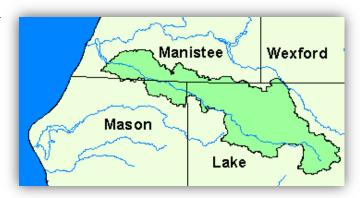
LITTLE MANISTEE RIVER WATERSHED

The Little Manistee River Watershed is located in northwestern Michigan (Lake County). The Little Manistee is a trout stream and one of only a few Michigan streams capable of providing wild, adult steelhead in sufficient quantities to support Michigan's stocking program. The Little Manistee Watershed Plan was approved under the CMI administrative rules and was funded under section 319.

MDEQ Nonpoint Source Links

For a copy of the approved watershed management plan, please contact <u>Peter Vincent</u> via email, or at 517-284-5521.

- Conservation Resource Alliance
- <u>Little Manistee Watershed Conservation Council</u>



LITTLE TRAVERSE BAY WATERSHED

At 47 square miles, Little Traverse Bay is Lake Michigan's fourth largest bay. The land use of its 153 square mile watershed is estimated to be 65% forested (including wetlands), 10% urban, and 25% agricultural. In addition to Harbor Springs, Petoskey, and Bay Harbor, the watershed contains nine local governments located in two counties. The Little Traverse Bay Watershed Plan was approved under the CMI administrative rules and was funded under section 319.

MDEQ Nonpoint Source Links

- Little Traverse Bay Watershed Management Plan
- <u>Little Traverse Bay Watershed Protection Transition Project</u>

Watershed Websites

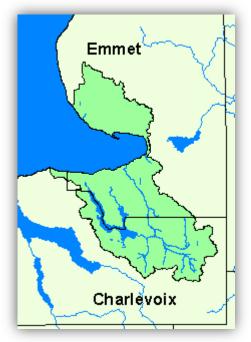
• <u>Tip of the Mitt Watershed Council</u>

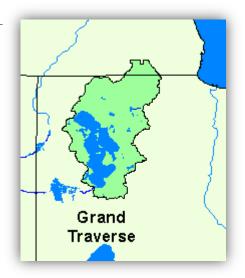
LONG LAKE WATERSHED

Long Lake Watershed is located in northwestern Michigan (Grand Traverse County).

MDEQ Nonpoint Source Links

- Long Lake Watershed Management Plan (9 GB)
- <u>Platte River Watershed</u> (a larger watershed management plan encompassing Long Lake)





MANISTEE RIVER WATERSHED

The Manistee Watershed is a 1.4 million acre watershed in northwestern Michigan. Land use in the watershed is approximately 41% forested, 39% agriculture, 13% wetland and the rest other. The watershed plan was approved under the CMI administrative rules and was funded under section 319.

MDEQ Nonpoint Source Links

- <u>Manistee River Watershed</u>
 <u>Implementation Project fact sheet</u>
- Watershed Plans within the larger Manistee River Watershed

 Bear Creek

Watershed Websites

- Conservation Resource Alliance
- Huron Pines RC&D



MITCHELL CREEK WATERSHED

The Mitchell Creek Watershed (located in Grand Traverse County) was a 4 year project which dealt with problems of rapid urban development. It was approved under the CMI administrative rules and was funded under section 319. Stream sampling and field surveys were conducted to determine the quality of the water. Grand Traverse Bay Watershed Team meetings and educational activities were held to increase public awareness.

MDEQ Nonpoint Source Links

For a copy of the approved watershed management plan, please contact <u>Peter Vincent</u> via email, or at 517-284-5521.

- Mitchell Creek Watershed Hydrologic Study (2 MB PDF)
- <u>Grand Traverse Bay Watershed</u> (a larger watershed management plan encompassing Mitchell Creek)



MULLET LAKE WATERSHED

The Mullet Lake Watershed is located in northeastern-lower Michigan (Cheboygan county). It was approved under the CMI administrative rules and was funded under section 319.

MDEQ Nonpoint Source Links

For a copy of the approved watershed management plan, please contact <u>Peter Vincent</u> via email, or at 517-284-5521.



MUSKEGON RIVER WATERSHED

The Muskegon River Watershed (Clare, Lake, Mecosta, Missaukee, Montcalm, Muskegon, Newaygo, Osceola, Roscommon, and Wexford Counties) is a large watershed in central lower Michigan that drains into Lake Michigan. It was approved under the CMI administrative rules and was funded under section 319. The Muskegon River was originally threatened by development and a variety of nonpoint sources.

MDEQ Nonpoint Source Links

For a copy of the approved watershed management plan, please contact <u>Peter Vincent</u> via email, or at 517-284-5521.

- <u>Muskegon River Transition/Implementation</u>
- <u>Muskegon River and AOC Watershed fact</u>
 <u>sheet</u>
- <u>Muskegon Lake RAP Project fact sheet</u>
- <u>Cedar Creek Watershed Hydrologic Study</u>
- <u>Ryerson Creek Hydrologic Study</u>
- Watershed Plans within the larger Muskegon River Watershed
 - o Bear Creek/Bear Lake
 - <u>Higgins Lake</u>
 - o Muskegon Lake
 - o Upper Clam River

- <u>Michigan State University's Ecological Assessment</u>
- <u>University of Michigan's Comprehensive Model, Risk Assessment, and Management Tools (MREMS)</u>
- Grand Valley State University's AWRI Muskegon River Project



OCQUEOC RIVER WATERSHED

The Ocqueoc River Watershed is a 102,000-acre system well known for desirable recreational and aesthetic qualities. The Ocqueoc River Watershed is approved under the CMI administrative rules and was funded under section 319. This project reduced sediment from road/stream crossings, stream bank erosion, recreational access and livestock access; and reduced nutrient loads from agricultural practices, lawn fertilizers, and septic systems.

MDEQ Nonpoint Source Links

- Ocqueoc River Watershed Management Plan
- Ocqueoc River Watershed Transition/Implementation Project

Watershed Websites

Huron Pines RC&D

PERE MARQUETTE WATERSHED

The Pere Marquette Watershed plan (Lake, Mason, Newaygo, and Oceana Counties) was approved under the CMI administrative rules and was funded under section 319. The Pere Marquette is a Blue Ribbon Trout Stream which was impacted by hundreds of road-stream crossings and eroding stream banks.

MDEQ Nonpoint Source Links

For a copy of the approved watershed management plan, please contact <u>Peter Vincent</u> via email, or at 517-284-5521.

- Pere Marquette Watershed Council
- <u>Conservation Resource Alliance</u>





PINE RIVER/VAN ETTEN LAKE WATERSHED

The Pine River/Van Etten Lake Watershed drains approximately 187,000 acres of forest, private agriculture, rural residential, and roadway drainage properties. The Pine River/Van Etten Lake Watershed is approved under the CMI administrative rules and was funded under section 319. It includes Van Etten Lake, which has 1,320 acres of publicly accessible lake area. The water quality was improved by reducing sediment and nutrients from the watershed.

MDEQ Nonpoint Source Links

- <u>Pine River/Van Etten Lake Watershed Management</u>
 <u>Plan</u>
- <u>Pine River/Van Etten Lake Hydrologic Study (2 MB PDF)</u>

Watershed Websites

Huron Pines RC&D

PLATTE RIVER WATERSHED

The Platte River Watershed project was started in 2000 to address water resource impairments associated with road stream crossings and unmitigated storm water runoff. This 118 square mile Lake Michigan coastal watershed contains approximately 100 miles of stream and more than 50 lakes, totaling over 8,500 acres that provide both cold water and warm water fish habitat and recreational opportunities. The Platte River Watershed Plan was approved under the CMI administrative rules and was funded under section 319.

MDEQ Nonpoint Source Links

- Platte River Watershed Implementation Project fact sheet
- Watershed Plans within the larger Platte River Watershed

 Long Lake

- Benzie Conservation District
- <u>Conservation Resource Alliance</u>





PORTAGE LAKE WATERSHED

The Portage Lake watershed is located in the northwest portion of Michigan's Lower Peninsula in Manistee County and encompasses portions of Bear Lake, Brown, Manistee, and Onekama Townships as well as the Village of Onekama. The watershed is approximately 24.6 square miles, or 15,777 acres. Portage Lake's surface area is 2,116 acres and comprises 13.4 percent of the total surface area of the watershed. It is a natural lake formed by glaciers with maximum depths in two areas of up to 60 feet and a mean depth of 19 feet. The Portage Lake Watershed Forever Plan is truly a community-driven



effort, as evidenced by the numerous and diverse stakeholders that have been engaged throughout the threeyear process. The process began in 2006, when more than 50 individuals, organizations, agencies, and businesses signed the Portage Lake Watershed Forever Partnership Agreement.

MDEQ Nonpoint Source Links

• Watershed Management Plan (5 MB PDF)

Watershed Websites

• Portage Lake Watershed Forever

THUNDER BAY RIVER, MAIN BRANCH WATERSHED

The 1,200 square mile Thunder Bay River watershed is 68% forested, 11% agriculture, 8% wetlands and open water, 10% urban built-up and 3% non-forest. The Thunder Bay River Watershed Plan was approved under the CMI administrative rules and was funded under section 319. Major pollutants include: 1) sediments from stream banks, road stream crossings and construction; 2) nutrients from agriculture, lawn care practices and septic systems, and 3) toxic pollution from storm water runoff.



MDEQ Nonpoint Source Links

• Thunder Bay River Water Tower Park Shoreline Stabilization

- Huron Pines RC&D
- Northeast Michigan Council of Governments (NEMCOG)
- Great Lakes Commission

THUNDER BAY RIVER, NORTH AND SOUTH BRANCHES

This planning phase consists of the North Branch, Upper South Branch, and Lower South Branch of the Thunder Bay River, and will compliment planning efforts underway for the Main Branch of the Thunder Bay River. Many local groups have been actively involved in protecting and enhancing the watershed, including the Thunder Bay River Watershed Council, Thunder Bay Audubon Society, and the Hubbard Lake Sportsmen & Improvement Association. Some of the known pollutants that have been documented in past studies include sedimentation and nutrient runoff from cattle access and crop production, urban runoff, storm water runoff, and sedimentation and pollutants resulting from road stream crossings. Northeast Michigan is experiencing growth, primarily in retirement and second homes. As development increases within the watershed, so do nonpoint sources of pollution. The goal of the plan is to develop a DEQ-approved watershed plan to correct existing sources of pollution and prevent future impacts from occurring.



MDEQ Nonpoint Source Links

• Thunder Bay River Watershed Planning Project: North and South Tributaries fact sheet

- Northeast Michigan Council of Governments (NEMCOG)
- Great Lakes Commission

UPPER AU SABLE WATERSHED

Located in northeastern Lower Michigan, the entire Au Sable River Watershed drains 1,932 square miles before flowing into Lake Huron. The watershed covers parts of eight counties: Otsego, Crawford, Montmorency, Roscommon, Ogemaw, Oscoda, Iosco, and Alcona. The Upper Au Sable River watershed plan was approved under the CMI administrative rules and was funded under section 319.

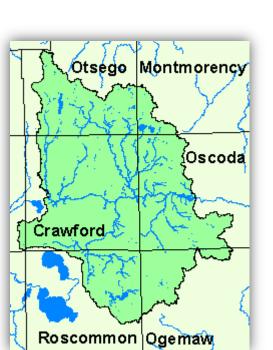
MDEQ Nonpoint Source Links

For a copy of the approved watershed management plan, please contact <u>Peter Vincent</u> via email, or at 517-284-5521.

Au Sable River Conservation Easement and Education Project

Watershed Websites

Huron Pines RC&D Council



UPPER CLAM RIVER WATERSHED

The Upper Clam River Watershed is located in northern Michigan within Wexford county. A watershed management plan was approved under the CMI administrative rules and was funded under section 319.

MDEQ Nonpoint Source Links

For a copy of the approved watershed management plan, please contact <u>Peter Vincent</u> via email, or at 517-284-5521.

- Upper Clam River Stabilization Project fact sheet
- <u>Muskegon River Watershed</u> (a larger watershed management plan encompassing Upper Clam River)



UPPER MANISTEE RIVER WATERSHED

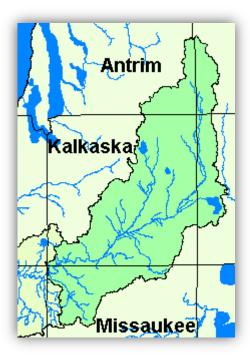
The Upper Manistee River is the northern branch of the Manistee River, located in the northwestern Lower Peninsula of Michigan and eventually emptying into Lake Michigan. The Upper Manistee River watershed originates near Alba and covers parts of Antrim, Otsego, Crawford, Kalkaska, and Missaukee Counties, passing near Grayling before turning southwest toward Manistee. Draining an area of 590 square miles, the mainstem is approximately 78 miles long and drops in elevation from 1,250 feet to about 935 feet at the planning boundary of the western edge of Missaukee County.

MDEQ Nonpoint Source Links

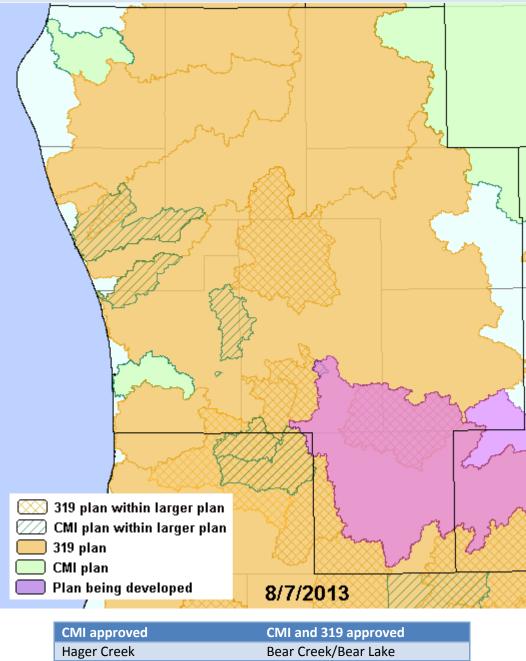
<u>Upper Manistee River Watershed Management Plan</u>

Watershed Websites

Huron Pines



GRAND RAPIDS DISTRICT WATERSHEDS



CMI approved	CMI and 319 approved
Hager Creek	Bear Creek/Bear Lake
Muskegon Lake	Buck Creek
Pigeon River	Coldwater River (Lower Grand)
Sand Creek	Duck Creek
Schoolhouse Creek	Lower Grand River
South Branch Pentwater River	Macatawa
Spring Lake	Mona Lake
	Muskegon River
	Plaster Creek
	Rogue River
	White River

BEAR CREEK/BEAR LAKE

The Bear Creek and Bear Lake Watershed is located in west-central Michigan and is approximately 11.5 miles long from its start in Dalton Township down to its mouth at Bear Lake Channel at Muskegon Lake. The Bear Creek and Bear Lake Watershed is approved under the CMI administrative rules and was funded under section 319. Muskegon Lake then flows into Lake Michigan at Muskegon Lake Channel. The Bear Creek and Bear Lake Watershed covers a land area of 19,058 acres or approximately 29 square miles. The watershed lies entirely within Muskegon County and is shared by five local governments: Dalton Township, Laketon Township, Cedar Creek Township, Muskegon Township, and the City of North Muskegon. It improved the water quality of its watershed by reducing nonpoint source pollutants to restore warm-water and cold-water fishery.



MDEQ Nonpoint Source Links

- Watershed Management Plan, report with appendices A & B (6 MB PDF)
- Watershed Management Plan, appendix C part 1 (8 MB PDF)
- Watershed Management Plan, appendix C part 2 (9 MB PDF)
- Watershed Management Plan, appendices D F (2 MB PDF)
- Bear Creek Watershed Hydrologic Study
- <u>Muskegon River Watershed</u> (a larger watershed management plan encompassing Bear Creek and Bear Lake).

BUCK CREEK

The Buck Creek Watershed drains approximately 51 square miles from its headwaters in southern Kent County to where it enters the Grand River in the City of Grandville. The Buck Creek Watershed is approved under the CMI administrative rules and was funded under section 319. The headwaters of Buck Creek are located in Byron and Gaines Townships, Michigan, where agricultural areas are becoming increasingly urbanized. Pine Hill Creek and Sharps Creek flow west through the City of Kentwood, and enter Buck Creek in the residential areas of the City of Wyoming. Water quality was improved and macroinvertebrate communities were enhanced by reducing the large amounts of sediment, pathogens, and nutrients from the Watershed.

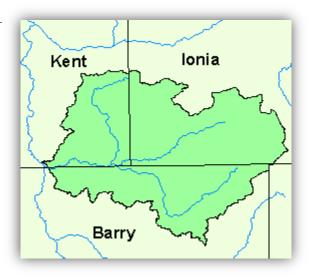
MDEQ Nonpoint Source Links

- Watershed Management Plan
- Watershed Management Plan Figures (1 MB PDF)
- Watershed Management Plan Appendix (1 MB PDF)
- Lower Grand River Watershed (a larger watershed management plan encompassing Buck Creek)



COLDWATER RIVER (LOWER GRAND)

The Coldwater River Watershed is located in the southwestern portion of the lower Michigan peninsula. The Coldwater River Watershed is approved under the CMI administrative rules and was funded under section 319. To the east of the watershed is the City of Lansing; to its west is the City of Grand Rapids. The watershed covers approximately 120,737 acres. A majority of land in the watershed, 70.6%, is being used agriculturally. The decrease of sediment, bacteria, and thermal pollution has improved the aquatic life, wildlife, cold-water fishery, and macroinvertebrate community of the Coldwater River.



MDEQ Nonpoint Source Links

For a copy of the 2009 version of the approved watershed management plan, please contact <u>Michelle Storey</u> via email, or at 616-356-0122, or <u>Peter Vincent</u> via email, or at 517-284-5521.

- <u>Coldwater River Watershed Hydrologic Study</u>
- Lower Grand River Watershed (a larger watershed management plan encompassing Coldwater River)

Watershed Websites

• Coldwater River Watershed Council

DUCK CREEK

Duck Creek Watershed Management Plan



HAGER CREEK

The Hager Creek Watershed, located in Georgetown Township, Ottawa County, encompasses 463 acres. It was approved under the CMI administrative rules and was funded under section 319. The Watershed includes part of Hager Park, a popular 104-acre community park managed by the Ottawa County Parks and Recreation Commission. Hager Creek, within Hager Park, meanders through picnic and playground areas, near activity buildings, and through a hardwood forest known for its spectacular spring wildflower displays. The project has greatly improved the erosion problem that was caused by undercut trees falling into the creek, streambank blowouts in numerous areas, and park visitors riding bikes up and down channel banks, destroying vegetation and wildflower habitats.

MDEQ Nonpoint Source Links

- Hager Creek Restoration fact sheet
- Hager Creek Reference Reach report
- <u>Lower Grand River Watershed</u> (a larger watershed management plan encompassing Hager Creek)



LOWER GRAND RIVER

The Lower Grand River watershed is approximately 3,020 square miles, and includes the Thornapple River, Flat River, and Rogue River Watersheds, which flow into the Grand River, and enters Lake Michigan at Grand Haven. The Lower Grand River Watershed is approved under the CMI administrative rules and was funded under section 319. The watershed is 53% agricultural, and includes the metropolitan area of Grand Rapids. The riparian habitat is 25-50% forested. This project has reduced sediment and nutrients in the watershed that helped to repair the poor fish and macroinvertebrate communities, sedimentation, elevated nutrient levels, and excessive algae growth. It also reduced mercury, pathogens, and Polychlorinated Biphenyls contamination to protect and preserve the



fisheries, agricultural, and recreational opportunities in West Michigan.

MDEQ Nonpoint Source Links

- Low Impact Development (LID) Campaign for Greater Grand Rapids
- Lower Grand River Watershed Planning Project fact sheet
- Illicit Connection Elimination in the City of Grand Rapids fact sheet
- Watershed Plans within the larger Lower Grand River Watershed
 - o <u>Buck Creek</u>
 - o Coldwater River
 - o Hager Creek
 - o Plaster Creek
 - o <u>Rogue River</u>
 - o Sand Creek
 - o Spring Creek

- Lower Grand River 319 Project
- <u>Thornapple River</u>
- Watershed Management Plan on GVSU's website
- <u>Stormwater Sustainability at GVSU</u>

MACATAWA

The Macatawa Watershed covers approximately 110,000 acres in Ottawa and Allegan Counties, including Lake Macatawa, the Macatawa River, and its tributaries. It was approved under the CMI administrative rules and was funded under section 319.

MDEQ Nonpoint Source Links

- <u>Watershed Management Plan Updates</u>
- Macatawa Watershed Project
- <u>Macatawa Watershed Management Plan, cover</u> <u>through chapter 2 (7 MB)</u>
- <u>Macatawa Watershed Management Plan, chapters 3</u> <u>through 6 (8 MB)</u>
- for Macatawa Watershed Management Plan appendices, please contact <u>Pete Vincent</u>, 517-284-5521.

Watershed Websites

• Macatawa Area Coordinating Council



MONA LAKE

The Mona Lake watershed is approximately 140 square miles and consists of Mona Lake, Black Creek, Little Black Creek, and several smaller tributaries. Land use includes a mix of agriculture, business, industry, residential, and forest. Primary pollutants include nutrients, stormwater runoff, sedimentation, and contaminated sediments. The Mona Lake watershed is relatively small, but it has some of the most serious water quality challenges in west Michigan; Mona Lake and both its major tributaries require TMDLs. The Mona Lake Watershed has two watershed plans. One developed under the Phase 2 Storm Water Program (accepted by the Storm Water Program and approved under CMI) and



another developed through the Nonpoint Source Program (approved under both CMI and 319).

MDEQ Nonpoint Source Links

- Mona Lake Watershed Planning Project Fact Sheet
- Mona Lake Boat Club Demonstration Project Fact Sheet
- Mona Lake Park Demonstration Project Fact Sheet
- Mona Shores High School Demonstration Project Fact Sheet
- Johnny O Harris Park Demonstration Project Fact Sheet

Watershed Websites

• Muskegon Conservation District, includes links to the Mona Lake Management Plan

MUSKEGON LAKE

The Muskegon Lake Watershed is located in Muskegon county and was approved under the CMI administrative rules.

MDEQ Nonpoint Source Links

- <u>Muskegon Lake RAP Project</u>
- <u>Muskegon Lake Watershed Management Plan</u>
- <u>Muskegon Lake Watershed Management Plan</u> <u>Figures (5 MB)</u>
- <u>Muskegon River Watershed</u> (a larger watershed management plan encompassing Muskegon Lake)

Watershed Websites

 <u>Muskegon Conservation District - includes links to</u> the Muskegon Lake Watershed Management Plan



MUSKEGON RIVER - SEE CADILLAC DISTRICT

PIGEON RIVER

Pigeon River flows into Pigeon Lake, then directly to Lake Michigan in western-lower Michigan (Ottawa county). It was approved under the CMI administrative rules and was funded under section 319. The primary land use is agriculture, with a mix of livestock, field crops, and nursery stock.

MDEQ Nonpoint Source Links

For a copy of the approved watershed management plan, please contact <u>Peter Vincent</u> via email, or at 517-284-5521.

• Pigeon River Watershed Hydrologic Study



PLASTER CREEK

The Plaster Creek Watershed is located in Kent county and was approved under the CMI administrative rules and was funded under section 205(j).

MDEQ Nonpoint Source Links

- Plaster Creek Watershed Management Plan
- Plaster Creek Stormwater Detention Basin Retrofit fact sheet
- <u>Lower Grand River Watershed</u> (a larger watershed management plan encompassing Plaster Creek)



ROGUE RIVER

The Rogue River Watershed is 167,625 acres in size, with the southern-most portion designated as a coldwater fishery. Land use throughout the watershed consists of 8% urban, 38% agricultural, 30% forested, 4% wetlands, and 20% other. The Rogue River Watershed Plan was approved under the CMI administrative rules and was funded under section 319.

MDEQ Nonpoint Source Links

- <u>Rogue River Watershed Management Plan</u>
- <u>Rogue River Watershed Physical Improvements fact sheet</u>
- Lower Grand River Watershed (a larger watershed management plan encompassing Rogue River)

Watershed Websites

- GVSU AWRI's Rogue River website
- <u>Cannon Township's Rogue River website</u>



SAND CREEK

Sand Creek is a designated cold-water stream, approximately 22 miles in length, and a tributary of the Grand River. The Sand Creek Watershed is approved under the CMI administrative rules and was funded with CMI NPS funds. It flows primarily southward from Section 35 of Chester Township to the Grand River, west of Grand Rapids. The Sand Creek Watershed encompasses 55 square miles and covers parts of 4 townships, 1 city, and 2 counties: Alpine Township and the City of Walker of Kent County; and Chester, Wright, and Tallmadge Townships of Ottawa County. The watershed is mostly agricultural and includes a mix of forest, residential, and urban areas. Many Nonpoint source pollutants such as sediment, nutrients, thermal pollution, hydrocarbons, and invasive/exotic plants have been reduced to improve the water quality. These pollutants are no longer impairing the designated use of cold-water fishery and threatening the other aquatic life and wildlife use.

MDEQ Nonpoint Source Links

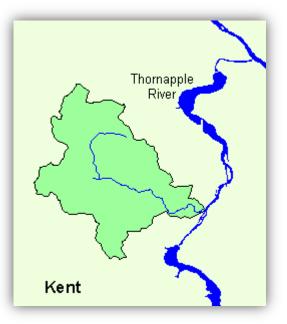
- Watershed Management Plan (1 MB PDF)
- <u>Watershed Management Plan Appendices (4 MB PDF)</u>
- Sand Creek Watershed Hydrologic Study (1 MB PDF)
- Lower Grand River Watershed (a larger watershed management plan encompassing Sand Creek)

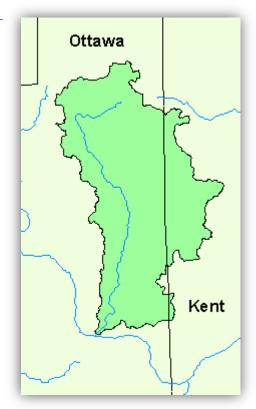
SCHOOLHOUSE CREEK

The Schoolhouse Creek Watershed is located in mid-western Michigan in Kent county. The Schoolhouse Creek Watershed Plan was approved under the CMI administrative rules and was funded under section 319.

MDEQ Nonpoint Source Links

• <u>Lower Grand River Watershed</u> (a larger watershed management plan encompassing Schoolhouse Creek)





SOUTH BRANCH PENTWATER RIVER

The South Branch of the Pentwater River Watershed is approximately 57,014 acres (89.3 square miles) and covers a portion of nine townships in Oceana County. The South Branch contains 127 miles of rivers, streams, and drains and runs directly through the City of Hart and the Village of Pentwater before emptying into Pentwater Lake. Land uses are 48% agricultural, 31% forest land, 14% open land, 4% urban, 2% wetlands, and 2% water. The South Branch of the Pentwater River Watershed Plan was approved under the CMI administrative rules and was funded under section 319.

Oceana

MDEQ Nonpoint Source Links

For a copy of the approved watershed management plan, please contact <u>Peter Vincent</u> via email, or at 517-284-5521.

• South Branch of the Pentwater River Watershed fact sheet

SPRING LAKE

Spring Lake is a eutrophic lake in Ottawa County that was being impacted by agricultural land in the headwater region of the watershed. The Spring Lake Watershed Plan was approved under the CMI administrative rules and was funded under section 319.

MDEQ Nonpoint Source Links

• <u>Lower Grand River Watershed</u> (a larger watershed management plan encompassing Spring Lake)



WHITE RIVER

The White River Watershed is located in west central Michigan and is approximately 83 miles long from its start in northeastern Newaygo County to its mouth at White Lake in Muskegon County and, eventually, Lake Michigan. The river was originally known as Waubish-sibi, (meaning White River) by local Native Americans because suspended clay particles eroded from marl deposits near its mouth caused the river to appear whitish as it flowed into Lake Michigan. The watershed (344,166 acres) spans three diverse counties: Newaygo, Oceana, and Muskegon. The watershed in Newaygo County is dominated by the Huron-Manistee National Forest and provides many areas for



hunting, fishing, boating, and other outdoor recreational activities. Oceana County is known as the Asparagus Capital of the World due to the high production of asparagus in the county's sandy soil. The county is also located within the heart of the state's renowned fruit belt. Muskegon County represents the commercial and industrial hub of the watershed and provides resorts, recreation, and tourism, which is dependent on White Lake and Lake Michigan.

MDEQ Nonpoint Source Links

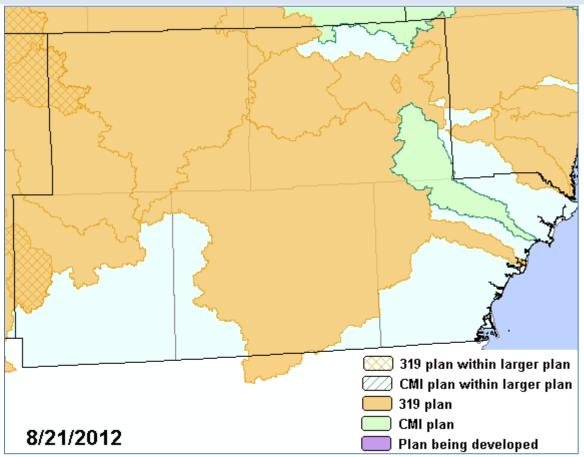
For a copy of the 2009 version of the approved watershed management plan, please contact <u>Michelle Storey</u> via email, or at 616-356-0122, or <u>Peter Vincent</u> via email, or at 517-284-5521.

White River Watershed Plan Project Fact Sheet

Watershed Websites

<u>White River Watershed Project Website</u>

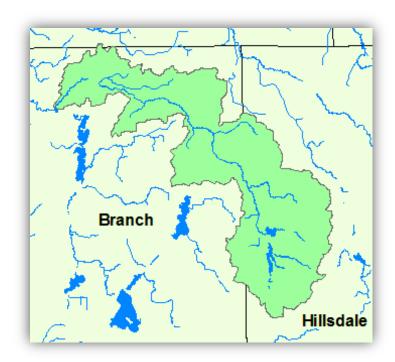
JACKSON DISTRICT WATERSHEDS



CMI approved	CMI and 319 approved
Stony Creek (Monroe and Washtenaw Co.)	Hog Creek
	Huron RiverAnn Arbor-Ypsilanti
	Mill Creek Watershed (Huron R.)
	Millers Creek
	Portage Creek (Huron R.)
	River Raisin
	Upper Grand River
	St. Joe River

HOG CREEK

The Hog Creek Watershed covers 68,928 acres in western Hillsdale and eastern Branch Counties, eventually outletting to the Coldwater River at Hodunk, then onto the St. Joseph River at Union City. The Hog Creek Watershed is approved under the CMI administrative rules and was funded under section 319. The designated uses are warm-water fishery, habitat for other indigenous aquatic life and wildlife, agriculture, and partial or total body contact recreation. Land use is 73% agricultural, 4% wetlands, 16% forested, 3% urban, 4% open fields, and other. This project significantly reduced sediment delivery from stream bank instability, agriculture and construction site runoff, nutrients and bacteria from livestock wastes and septic tank systems, and nutrient and pesticides from agricultural and other runoff.



MDEQ Nonpoint Source Links

For a copy of the approved watershed management plan, please contact <u>Bob Sweet</u> via email, or at 517-335-6967, or <u>Peter Vincent</u> via email, or at 517-284-5521.

- Hog Creek Watershed Planning Project Fact Sheet
- Hog Creek Watershed Hydrologic Study
- St. Joe River Watershed (a larger watershed management plan encompassing Hog Creek)

Watershed Websites

• Hillsdale Conservation District

HURON RIVER--ANN ARBOR-YPSILANTI

The Watershed Plan for the Huron River in the Ann Arbor-Ypsilanti Metropolitan Area is located in lower Michigan within Washtenaw county. It was approved under the CMI administrative rules and was funded under section 319.

MDEQ Nonpoint Source Links

For a copy of the approved watershed management plan, please contact <u>Bob Sweet</u> via email, or at 517-335-6967, or <u>Peter Vincent</u> via email, or at 517-284-5521.

- <u>Wildwood Subdivision Stormwater BMP Retrofit</u>
- Sarah Banks Middle School Stormwater BMP Retrofit
- Southeast Michigan Soft Engineering/Conservation Buffers Project fact sheet
- Mallets Creek Site Design for Regional Detention fact sheet
- Huron River Mass Media Campaign fact sheet
- Huron River Information & Education Campaign fact sheet
- Ann Arbor District Library: Innovative Storm Water System BMP System Overview fact sheet
- Ann Arbor District Library: Innovative Storm Water System Finished Project fact sheet
- Huron River Storm Water Demonstration Park fact sheet
- Upper Huron Transition/Implementation II
- Watershed Plans within the larger Huron River Watershed
 Millers Creek

Watershed Websites

Huron River Watershed Council



MILL CREEK WATERSHED (HURON R.)

The Mill Creek Watershed is a 92,000-acre watershed and the largest sub-watershed of the Huron River. The Mill Creek Watershed is approved under the CMI administrative rules, meets EPA's nine required elements, and was funded under section 319. It has had to reduce large amounts of phosphorus and construction pollutions in the middle of the Huron due to agricultural land being rapidly converted to urban and suburban areas. It has also significantly reduced nutrients, stabilized stream banks, stopped soil erosion, decreased flow, temperature alterations, and the loss of wetlands. Mill Creek residents were also trained in water resources, aquatic habitat quality, and related topics to help improve the water quality of Mill Creek.

MDEQ Nonpoint Source Links

- Mill Creek Blitz
- Mill Creek Watershed Management Plan (11 MB PDF)

Watershed Websites

- Huron River Watershed Council
- Watershed Management Plan on HRWC's website



Millers Creek has a 2.4 square mile watershed and is the smallest named tributary to the Huron River. The 125-mile Huron River, from its origin in Springfield Township in Oakland County to its outlet on Lake Erie, is a critical natural resource. It supplies drinking water to 140,000 people, and with two-thirds of the public recreational land of southeast Michigan, is one of the major recreational features in the region.

The goals of this project are to develop a set of recommendations that will improve stream habitat and watershed hydrology, improve recreational opportunities in and around the creek and help local stakeholders achieve the objectives of the Ford and Belleville Lakes total phosphorus TMDL and the Gallup (Geddes) Pond E. coli TMDL.



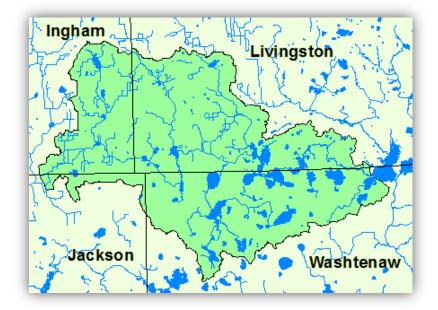
Implementation of these recommendations will also help foster activities that perpetuate urban watershed and stream stewardship, and create a healthier balance between the local community and its ecosystems.

- Watershed Management Plan, Part 1 (7 MB), appendices not available
- Watershed Management Plan, Part 2 (6 MB), appendices not available
- <u>Huron River Watershed</u> (a larger watershed management plan encompassing Millers Creek)



PORTAGE CREEK (HURON R.)

Information pending.



RIVER RAISIN

The River Raisin, known as "Nummasepee" (River of Sturgeon) by its American Indian inhabitants, drains to the western Lake Erie basin. The watershed covers most of Lenawee County and smaller portions of Monroe, Washtenaw, Jackson and Hillsdale counties in Michigan along with a piece of Fulton County in northeastern Ohio. Cities in the watershed include Saline, Adrian, Tecumseh, Petersburg and Monroe, and villages include Brooklyn, Cement City, Manchester, Blissfield, Britton, Clayton, Clinton, Deerfield, Onsted and Dundee. The northwestern headwaters are on the rim of the Defiance moraine and mark the most easterly advance of ancient glacial ice sheets in southeastern Michigan. The Irish



Hills area, a unique local high point in Hillsdale County is the headwaters for the Raisin, Grand, Kalamazoo, St. Joseph and Maumee rivers.

MDEQ Nonpoint Source Links

- River Raisin Watershed Plan Part 1
- <u>River Raisin Watershed Plan Part 2</u>

Watershed Websites

• River Raisin Watershed Council

ST. JOE RIVER - SEE KALAMAZOO DISTRICT

STONY CREEK (MONROE AND WASHTENAW CO.)

The Stony Creek Watershed lies within Washtenaw and Monroe Counties in Southeastern Michigan and contains portions of Pittsfield, Ypsilanti, York, Augusta, Milan, London, Exeter, Ash, and Frenchtown Townships, and very small parts of the cities of Ann Arbor, Ypsilanti, Milan, and the Village of Maybee. Sandwiched between the larger Huron River Watershed and the River Raisin Watershed, the Stony Creek Watershed is a long, narrow watershed (about 32 miles long and 8 miles at its widest) that is oriented northwestsoutheast and tapers as it drains toward Lake Erie in Frenchtown Township just north of Monroe, MI.

Several studies of water quality were conducted in the 1990s in various parts of the Stony Creek basin. A 1995 study by the Michigan Department of Environmental Quality concluded that the water quality and macroinvertebrate community in



Amos Palmer Drain, one of the tributaries of the Stony Creek, were extremely impaired. A similar assessment two years later by the MDEQ concluded that water quality and the macroinvertebrate community in Amos Palmer Drain were extremely impaired.

MDEQ Nonpoint Source Links

- Watershed Management Plan (9 MB PDF)
- Watershed Management Plan Appendices
- <u>Stony Creek Watershed Planning Project fact sheet</u>

Watershed Websites

• Stony Creek Watershed Project

UPPER GRAND RIVER

The Upper Grand River watershed is a 572,376-acre watershed in parts of Hillsdale, Jackson, Eaton, Washtenaw, and Ingham Counties. The Upper Grand River Watershed is approved under the CMI administrative rules and was funded under section 319. Land uses are about 6% agriculture, 20% urban, and 20% forestry. The Upper Grand River used to be listed on Michigan's 303(d) List. The water quality has been significantly improved by decreasing the nonpoint source pollutants, therefore, enhancing the fish and aquatic invertebrate community composition.

MDEQ Nonpoint Source Links

- <u>Upper Grand Watershed Management Plan</u> <u>Transition fact sheet (2 MB PDF)</u>
- Watershed Management Plan (5 MB PDF)
- Watershed Management Plan Appendices (7 MB PDF)

Watershed Websites

Upper Grand River Watershed Council



KALAMAZOO DISTRICT WATERSHEDS

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Plan being developed	- WY		8/8/2013

CMI approved	CMI and 319 approved	
Davis, Gourdneck and Portage Creek	Battle Creek River (Calhoun Co.)	
Dowagiac River	Black River	
Greater Battle Creek Area	Ceresco Reach	
Little Rabbit River	Four Townships Area Watershed	
Nottawa Creek	Galien River	
Swan Creek	Gun River	
Upper Rabbit River	Hodunk-Messenger Chain of Lakes	
	Kalamazoo River	
	Paw Paw River	
	Portage and Arcadia Creeks	
	Rabbit River	
	Rice Creek	
	Rocky River	
	St. Joe River	

# BATTLE CREEK RIVER (CALHOUN CO.)

The Battle Creek River Watershed Project focused on 187,000 acres in southeastern Barry, southern Eaton, and northern Calhoun Counties. The Battle Creek River is approved under the CMI administrative rules and was funded under section 319. This river was a leading contributor of sediment and phosphorus to the Kalamazoo River at Battle Creek. The designated uses are agriculture, warm water fishery, habitat for other indigenous aquatic life and wildlife, and partial or total body contact recreation. Land use is 68% agriculture, 13% forest land, 10% wetlands, and 9% urban/rural non-farm. This project helped to reduce: sediment, nutrients and pesticides from agricultural runoff; sediment from stream bank and road crossing erosion; nutrients and bacteria from residential septic systems; nutrients and pesticides from residential runoff; and sediment and other contaminants from commercial facilities.



# **MDEQ Nonpoint Source Links**

- <u>Watershed Management Plan (4 MB PDF)</u>
- Watershed Management Plan, Wetland Resources Map
- Battle Creek River Watershed Planning Project fact sheet
- <u>Rice Creek and Battle Creek River Partnership fact sheet</u>
- <u>City of Battle Creek Illicit Discharge Elimination fact sheet</u>
- Greater Battle Creek Area (a watershed management plan that overlaps Battle Creek River)

# BLACK RIVER

The Black River Watershed project will conduct a comprehensive water quality study on the 156,928 acre watershed in Allegan and Van Buren counties. Along with an in-depth water quality study, the project will develop ways to educate the residents of the watershed to minimize the introduction of contaminants into the waters. The goal of this project is to write a DEQ-approvable watershed management plan that defines the needs of the watershed and develops solutions to water quality problems on a watershed basis.

- Black River Watershed Management Plan (Part 1)
- Black River Watershed Management Plan (Part 2)
- Black River Watershed Planning Project fact sheet
- Black River Watershed Hydrologic Study



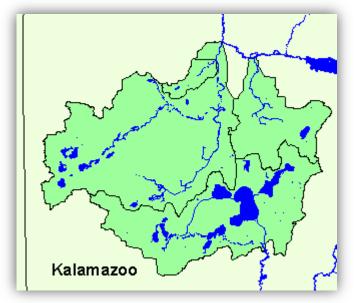
# CERESCO REACH

Ceresco Reach Watershed Management Plan covers 13,813 acres. Land use within the watershed is 68% agricultural, 3% residential, 1% transportation, communication, and utilities, 16% forest, 7 percent wetland and 4 % herbaceous. Priority pollutants off concern within the watershed are sediment, nutrients and hydromodification.



# DAVIS, GOURDNECK AND PORTAGE CREEK

The Davis Creek, Gourdneck Creek, and Portage Creek (DGP) watershed is located in two distinct river basins: the Kalamazoo River and St. Joseph River. The northern half of the watershed includes the Portage Creek, West Fork of Portage Creek, and Davis Creek tributaries to the Kalamazoo River. The southern half is characterized by the chain of lakes in the Gourdneck Creek watershed, a tributary in the St. Joseph River basin. The watershed plan was approved under the CMI administrative rules and was funded under section 319.



# **MDEQ Nonpoint Source Links**

- <u>City of Portage Illicit Discharge Elimination fact</u>
   <u>sheet</u>
- <u>Portage Creek and Arcadia Creek</u> (a watershed management plan that overlaps Davis, Gourdneck, and Portage Creeks)

### Watershed Websites

• The Forum of Kalamazoo - Davis Creek

# DOWAGIAC RIVER

The Dowagiac River Watershed lies within the St. Joseph River Basin and is located in the southwestern corner of Michigan's lower peninsula in Cass, Van Buren, and Berrien Counties. The Dowagiac River Watershed is approved under the CMI administrative rules and was funded under section 604b. The Dowagiac River Watershed has a total area of about 286 square miles or 183,117 acres. By reducing sediment and nutrients such as phosphorus and nitrogen, the cold-water fisheries were enhanced, and the water quality, temperature, and flow were improved.

# **MDEQ Nonpoint Source Links**

- Dowagiac River Meander Restoration II
- Watershed Management Plan
- <u>St. Joe River Watershed</u> (a larger watershed management plan encompassing Dowagiac River)

# Watershed Websites

• Meeting Ecological and Agricultural Needs within the Dowagiac River System (MEANDRS)



# FOUR TOWNSHIPS AREA WATERSHED

The Four Township area, located in Barry and Kalamazoo Counties, contains an abundance of high quality water resources, including Gull Lake, Augusta Creek and numerous other smaller lakes and streams. It was approved under the CMI administrative rules and was funded under section 319. This project conducted a carrying capacity study on the four largest lakes in the watershed and developed a GIS and booklet for use by local officials. Using the GIS, the project identified 12 critical areas in need of protection. They narrowed the areas to 5 initially and developed a targeted campaign to the 24 landowners who owned the 5 critical pieces of land. At the close of the project 2 formal agreements to install easements were being developed. An additional 49 landowners were contacted in the remaining critical areas. This project also developed a natural features inventory and implemented an information/education campaign aimed at local officials and landowners. As part of this campaign, numerous newsletters, articles, white papers, and workshops were developed, along with a web site.



### **MDEQ Nonpoint Source Links**

For a copy of the approved watershed management plan, please contact <u>Peter Vincent</u> via email, or at 517-284-5521.

• Four Township Water Resources Outreach Project

### Watershed Websites

• Four Township Water Resources Council

# GALIEN RIVER

The Galien River Watershed is a 111,714-acre watershed located in southwest Michigan and northern Indiana. The Galien River Watershed is approved under the CMI administrative rules and was funded under section 319. Land use is 4% urban, 62% agricultural, 19% forested, 8% wetlands, and 7% other. It sustains tourism in the harbor area of New Buffalo, and recreational use in Warren Woods, a State Park valued for its unique wildflower displays and mature hardwood forests. The Galien River used to be on the Michigan Department of Environmental Quality's 303(d) non-attainment list of impaired waters. A reduction of sediment, nutrients, and bacteria was necessary to protect and improve the Galien River.



# **MDEQ Nonpoint Source Links**

- Galien River Transition/Implementation Project fact sheet
- Watershed Management Plan (2 MB PDF)
- Watershed Management Plan Figures (7 MB PDF)
- Watershed Management Plan Appendices (8 MB PDF)
- Watershed Management Plan Addendum, November 2005 (4 MB PDF)

### Watershed Websites

• Southwestern Michigan Commission website - Galien River watershed

# GREATER BATTLE CREEK AREA

The Greater Battle Creek Watershed is part of the Kalamazoo River Watershed located in Calhoun County. The Kalamazoo River Watershed is approximately 2,047 square miles in area, with approximately 1,560 total river miles. The Kalamazoo River flows in a westward direction through 10 counties, with headwaters in Jackson, prior to passing through the Battle Creek/Kalamazoo urban area. The Greater Battle Creek watershed plan was approved under the CMI administrative rules and was funded under section 319.

- Harper Creek/Beadle Lake Water Quality Project
- <u>City of Battle Creek Illicit Discharge Elimination fact sheet</u>
- Battle Creek River (a watershed management plan that overlaps Greater Battle Creek Area)



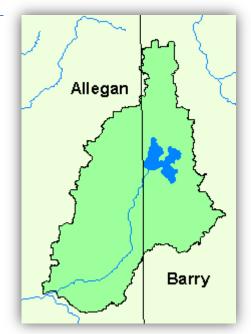
# GUN RIVER

The Gun River Watershed encompasses 107 square miles of agricultural, urban, and forested land in Allegan and Barry Counties. The Gun River Watershed is approved under 319 and CMI administrative rules and was funded under section 604b. The Gun River flows into the Kalamazoo River, which empties into Lake Michigan. The Gun River is one of the few rivers in southwest Michigan that is a State Designated Trout Stream. The watershed has been significantly altered from its presettlement conditions. Water quality issues include: 1) biological surveys in the Gun River indicate significantly degraded aquatic habitat due to nonpoint source pollution and hydrologic modification and 2) the Gun River ranks as the third highest contributor of phosphorus loads to the Kalamazoo River/Lake Allegan system.

# **MDEQ Nonpoint Source Links**

- Gun River Watershed Planning Project fact sheet
- <u>Gun River Transition Project</u>
- Watershed Management Plan (2 MB PDF)
- Watershed Management Plan Figures (6 MB PDF)
- Watershed Management Plan Appendices (1 MB PDF)
- Hydrologic and Hydraulic Analysis (3 MB PDF) Note: images have been rescaled.
- Hydrologic and Hydraulic Analysis Appendices 1-4 and 6 (6 MB PDF)

For a copy of the complete watershed management plan with unaltered appendices, contact <u>Julia Kirkwood</u>, MDEQ.



# HODUNK-MESSENGER CHAIN OF LAKES

The Hodunk-Messenger Chain of Lakes Watershed is a 39,386.4-acre area of land that drains to the six mile long, interconnected Hodunk-Messenger Chain of Lakes. Within the Hodunk-Messenger Watershed there are three smaller drainage basins, or sub-watersheds. These three subwatersheds correspond to the major streams or drains that they drain to: the Cold Creek subwatershed, the Miller Lake Drain Sub-watershed and the Sauk River Sub-watershed. Each of the three sub-watershed hold slightly varying characteristics and land use types, and therefore each present unique problems and benefits to the overall health of the Hodunk-Messenger Watershed. The Coldwater River flows into the chain of lakes in the southern-most lake (South Lake) and flows out of the northern-most lake (Craig Lake) to the mouth



of the watershed at Hodunk Dam in Hodunk. From Hodunk Dam, the Coldwater River then flows in a northeasterly direction to its confluence with the St. Joseph River. From here, the St. Joseph River ultimately flows into Lake Michigan.

# **MDEQ Nonpoint Source Links**

For a copy of the 2009 version of the approved watershed management plan, please contact <u>Chris Bauer</u> via email, or at 269-567-3578, or <u>Peter Vincent</u> via email, or at 517-284-5521.

# Watershed Websites

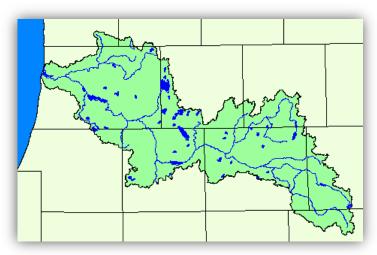
Branch County Conservation District

# KALAMAZOO RIVER

The Kalamazoo River watershed is approximately 1,292,800 acres making it the fifth largest subbasin in Michigan. The Kalamazoo is in portions of Allegan, Calhoun, Kalamazoo, Barry, Jackson, Eaton, Hillsdale, Van Buren, Ottawa, and Kent Counties. Land use within the Kalamazoo is 47.2% agricultural, 21.1% forested, 13% wetlands, 9% open/park, 7.4% urban, and 1.9% water based on the 2001 IFMAP data. Prioritized pollutants within the Kalamazoo include: nutrients, sediment, unstable flow, and pathogens.

# **MDEQ Nonpoint Source Links**

• <u>Watershed Management Plan (7 MB PDF)</u>



# LITTLE RABBIT RIVER

The Little Rabbit River (Allegan County) is a tributary of the Rabbit River, which flows into the Kalamazoo River. The primary land use within the watershed is agriculture. The Little Rabbit River Watershed Plan was approved under the CMI administrative rules and was funded under section 319.

# MDEQ Nonpoint Source Links

For a copy of the approved watershed management plan, please contact <u>Peter Vincent</u> via email, or at 517-284-5521.

# Watershed Websites

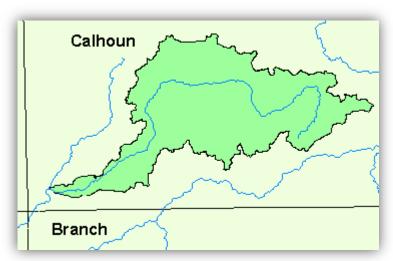
• EPA's Little Rabbit River Success Story

# NOTTAWA CREEK

The Nottawa Creek watershed (Calhoun County) is a 59,000 acre watershed that flows directly into the St. Joseph River. Nearly 68% of the land in the watershed is in agricultural use.

The Nottawa Creek Watershed Plan was approved under the CMI administrative rules and was funded under section 319.

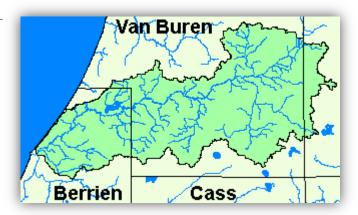
- <u>Nottawa Creek, Village of Athens</u> <u>Streambank Stabilization fact sheet</u>
  - St. Joe River Watershed (a larger watershed management plan encompassing Nottawa Creek)





# PAW PAW RIVER

The Paw Paw River Watershed (PPRW) is all of the land that drains into the Paw Paw River. The PPRW is a priority for protection and preservation among southern Michigan watersheds because a relatively high percentage of its natural land cover remains in spite of increasing development pressure throughout the region. The PPRW Management Plan is intended to guide individuals, businesses, organizations and governmental units working cooperatively to ensure the water and natural resources necessary for future growth and prosperity are improved and protected.



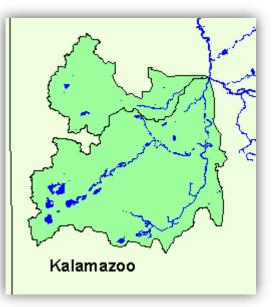
# **MDEQ Nonpoint Source Links**

Paw Paw River Watershed Management Plan

# PORTAGE AND ARCADIA CREEKS

The Portage Creek and Arcadia Creek drain is 36,344 acres in Kalamazoo County. Upper reaches are predominately agricultural, and lower reaches are predominately urban. The Portage and Arcadia Creek Watershed is approved under the CMI administrative rules and was funded under section 319. The watershed drains to the Kalamazoo River, which is a Great Lakes Area of Concern related to Polychlorinated Biphenyls (PCBs) contamination and nonpoint source impairments. The watershed also drains to Lake Allegan, a 1,587-acre impoundment. Nonpoint source loads rank the two project tributaries as the first (Portage Creek) and sixth (Arcadia Creek) largest contributors of phosphorus to the river. This project has improved the water quality by significantly decreasing the amounts of PCBs and phosphorus from its watershed.

- City of Portage Illicit Discharge Elimination fact sheet
- Portage and Arcadia Creeks Watershed Transition Project fact sheet
- Portage/Arcadia Creek Watershed Management Planning Project fact sheet
- <u>City of Portage Regional Storm Water Quality and Trailways Facility fact sheet</u>
- <u>Davis, Gourdneck, and Portage Creeks</u> (a watershed management plan that overlaps Portage and Arcadia Creeks)



# RABBIT RIVER

The Rabbit River Watershed (Watershed) is located primarily in Allegan County, with parts extending into Barry, Ottawa, and Kent Counties. The Watershed encompasses approximately 187,200 acres, primarily agricultural, forested, and urban land. A large majority of the Watershed is rural. The Rabbit River originates east of Wayland, Michigan, in Leighton Township, and flows westerly to join the Kalamazoo River at New Richmond, which then flows on to Lake Michigan north of the City of Saugatuck.



# **MDEQ Nonpoint Source Links**

For a copy of the approved watershed management plan, please contact <u>Julia Kirkwood</u> via email, or at 269-567-3583, or <u>Peter Vincent</u> via email, or at 517-284-5521.

# RICE CREEK

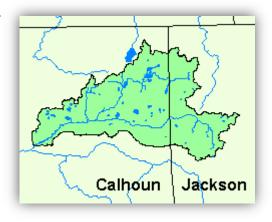
The Rice Creek Watershed consists of 58,200 acres in northwestern Jackson and northeastern Calhoun Counties. The Rice Creek Watershed is approved under the CMI administrative rules and was funded under section 319. It flows into the Kalamazoo River at Marshall. Land use is 60% agriculture, 15% wetlands, 15% woodlands, and 10% other. The creek was on the 303(d) list for poor macroinvertebrate community. Rice Creek has improved its water quality by decreasing sediment resulting from stream channel dredging, road crossings, and agricultural runoff; nutrients and bacteria from livestock wastes and septic tanks systems; and nutrients and pesticides from agricultural and other runoff.

# **MDEQ Nonpoint Source Links**

- Watershed Management Plan (2 MB PDF)
- <u>Rice Creek and Battle Creek River Partnership fact sheet</u>

# Watershed Websites

<u>Calhoun Conservation District</u>



# ROCKY RIVER

The Rocky River Watershed is a 112,144-acre watershed located in the northwest corner of St. Joseph County, the southwest corner of Kalamazoo County, the northeast corner of Cass County, and the southeast corner of Van Buren County. The Rocky River Watershed is approved under the CMI administrative rules and was funded under section 319. A significant portion of the watershed is agricultural, with growing urban areas. This project repaired and/or reduced sediment, nutrients, hydrology, temperature, pesticides, and pathogens to enhance and protect the water quality now and in the future.

# **MDEQ Nonpoint Source Links**

- <u>Rocky River Watershed Planning Project fact sheet</u>
- Watershed Management Plan (5 MB PDF)
- <u>St. Joe River Watershed</u> (a larger watershed management plan encompassing Rocky River)

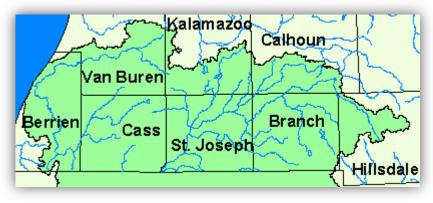
### Watershed Websites

Watershed Management Plan



# ST. JOE RIVER

The St. Joseph River Watershed, located in the southwest portion of the lower peninsula of Michigan and northwestern portion of Indiana, is the third largest river basin in Michigan. Beginning in Michigan's Hillsdale County at Baw Beese Lake, it spans the Michigan-Indiana border and empties into Lake Michigan at St. Joseph,



Michigan. In the fall of 2002, a grant was awarded from the Michigan Department of Environmental Quality to develop a Watershed Management Plan for the entire St. Joseph River Watershed. This plan will unite stakeholders in a concerted effort to address water quality issues and natural resource protection across jurisdictional boundaries. Although projects have been conducted in subwatersheds in both Michigan and Indiana, and the St. Joseph River has been identified by U.S. EPA as the biggest contributor of atrazine to Lake Michigan and a significant contributor of sediments and toxic substances such as mercury and polychlorinated biphenyl (PCB).

# **MDEQ Nonpoint Source Links**

- St. Joseph River Watershed Planning Project fact sheet
- St. Joseph River Watershed Planning Project Supplemental Tasks fact sheet
- St. Joseph River Watershed Management Plan (11 MB PDF)
- Watershed Plans within the larger St. Joe River Watershed
  - Dowagiac River
  - o Hodunk-Messenger Chain of Lakes Watershed
  - o Hog Creek
  - o Nottawa Creek
  - o <u>Rocky River</u>
  - o Swan Creek

# Watershed Websites

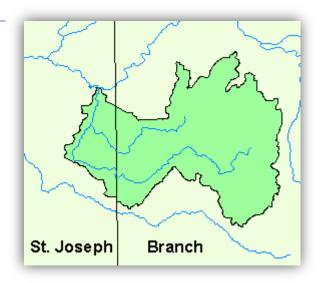
- <u>St. Joe River</u>
- Watershed Management Plan

# SWAN CREEK

The Swan Creek Watershed is located in the extreme southcentral part of Michigan's lower peninsula in Branch and St. Joseph Counties. The watershed contains 70,530 acres. Agriculture and recreation are the economic mainstays of the area. The Swan Creek watershed plan was approved under the CMI administrative rules and was funded under section 319.

# **MDEQ Nonpoint Source Links**

- Sprong Lake Inlet fact sheet
- <u>St. Joe River Watershed</u> (a larger watershed management plan encompassing Swan Creek)



# UPPER RABBIT RIVER

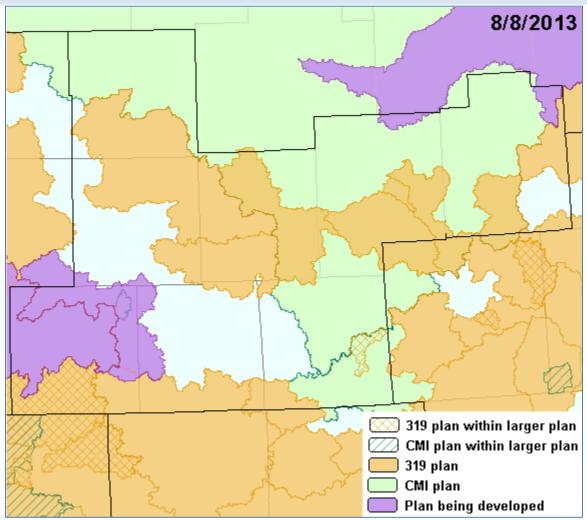
The Upper Rabbit River Watershed is located primarily in Allegan County, with parts extending into Barry, Ottawa, and Kent Counties. The Upper Rabbit River Watershed is approved under the CMI administrative rules and was funded under section 319. The watershed encompasses approximately 96,500 acres of agricultural, urban, and forested land. A large majority of the Upper Rabbit River Watershed is rural. The Rabbit River originates east of Wayland, Michigan, in Leighton Township, and flows westerly to join the Kalamazoo River at New Richmond, which then flows on to Lake Michigan. The Upper Rabbit



River has worked with its community to preserve high quality natural areas and improve recreation opportunities in the Watershed by reducing the nonpoint source pollutants.

- Upper Rabbit River Implementation Project
- Watershed Management Plan (9 MB PDF)
- <u>Watershed Management Plan Appendices (3 MB PDF)</u>
- Upper Rabbit River Watershed Planning Project fact sheet

# LANSING DISTRICT WATERSHEDS



CMI approved	CMI and 319 approved
Carrier Creek	Brighton Lake Subwatershed
	Gilkey Creek
	Kearsley Creek
	Mid-Shiawassee River
	South Branch Flint River
	Swartz Creek
	Upper Looking Glass
	Upper Maple

# BRIGHTON LAKE SUBWATERSHED

The Brighton Lake Subwatershed is located in southeastern Livingston County. This 23 square mile (14,730 acres) area extends from the headwaters of South Ore Creek downstream to the Brighton Lake impoundment just south of the City of Brighton. The subwatershed lies within Livingston County and comprises all or portions of Hartland, Oceola, Genoa, Brighton, and Hamburg Townships and the City of Brighton. The Brighton Lake Watershed Plan was approved under the CMI administrative rules and was funded under section 319.

# **MDEQ Nonpoint Source Links**

Brighton Lake Watershed Management Plan



# CARRIER CREEK

Carrier Creek is a designated Eaton County Drain, located primarily in Delta Township. It functions as a storm water drain for approximately 11.1 square miles of Delta and Windsor townships and the City of Lansing, and is a tributary of the Grand River. The upper portion of the watershed is largely industrial, and the lower portion mainly residential. The Carrier Creek Watershed was approved under the CMI administrative rules and was funded under section 319.

- <u>Carrier Creek Restoration CMI I</u>
- <u>Carrier Creek Habitat Restoration fact sheet</u>



# GILKEY CREEK

The Gilkey Creek Watershed consists of a fifteen square mile area of land that drains to the Gilkey Creek in the cities of Burton and Flint in Genesee County, Michigan. The headwaters of the Gilkey Creek begin near the intersection of Grand Blanc, Atlas, and Davison Townships. The Gilkey flows northwest through the cities of Burton and Flint where it joins the Flint River above Hamilton Dam. The Gilkey Creek has two main tributaries, Robinson Drain and North Branch, that flow into the Main Branch.

# **MDEQ Nonpoint Source Links**

Gilkey Creek Watershed Management Plan

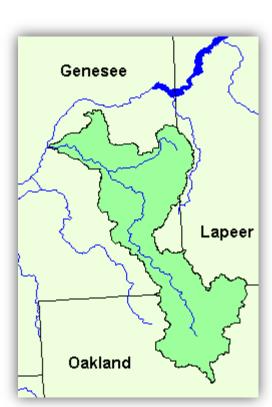
### Watershed Websites

Flint River Watershed Coalition

# KEARSLEY CREEK

The Kearsley Creek is approximately 115 square miles in size. The watershed is within the Saginaw River/Bay Remedial Action Plan area. Intense development pressure is threatening the water quality of the Kearsley Creek. The upper portions of the Creek are designated as a cool water stream and support a stocked population of brown trout. The Kearsley Creek Watershed Management Plan is approved as a CMI Watershed Management Plan.

- Kearsley Creek Watershed Management Plan
- <u>Kearsley Creek Watershed Planning Project</u>





# MID-SHIAWASSEE RIVER

The Mid-Shiawassee Watershed Plan was approved under the CMI and 319 administrative rules and was funded under section 319.

# **MDEQ Nonpoint Source Links**

- <u>Mid-Shiawassee River Watershed Restoration Project</u>
   <u>fact sheet</u>
- <u>Three Mile Creek (Durand) Illicit Connection Elimination</u>
   <u>fact sheet</u>

# Watershed Websites

• <u>Shiawassee County Conservation District</u>



# SOUTH BRANCH FLINT RIVER

In Michigan's Flint River system, the South Branch Watershed drains into the larger Flint River Sub-basin that ultimately drains into the Saginaw River Basin. The Saginaw River ultimately terminates at the Saginaw Bay and Lake Huron The South Branch Watershed begins in Oxford Township in northern Oakland County and flows north through Metamora, Dryden and Lapeer Townships. The headwaters of the South Branch of the Flint River also convey water carried by streams that drain portions of Addison Township in Oakland County and Attica Township in Lapeer County.

# **MDEQ Nonpoint Source Links**

- Project Fact Sheet
- Watershed Management Plan, without appendices
- <u>Watershed Management Plan Appendices 1 through 3 (2 MB)</u>
- Watershed Management Plan Appendix 4 part 1 (7 MB)
- Watershed Management Plan Appendix 4 part 2 (7 MB)
- Watershed Management Plan Appendix 4 part 3 (7 MB)
- Watershed Management Plan Appendix 4 part 4 (7 MB)
- Watershed Management Plan Appendix 4 part 5 (7 MB)
- Watershed Management Plan Appendices 5 through 8 (2 MB)

# Watershed Websites

• Flint River Watershed Coalition



# SWARTZ CREEK

The Swartz Creek Watershed occupies 82,500 acres in Genesee and Oakland counties. Swartz Creek is a major tributary to the Flint River that flows into the Saginaw River, a Michigan Area of Concern. The MDNR classified Swartz Creek as a second quality warm water fishery, with biological features indicating that fair to good water quality and habitat conditions exist. The Swartz Creek Watershed Management Plan is approved as a CMI Watershed Management Plan.

# **MDEQ Nonpoint Source Links**

- Swartz Creek Watershed Plan
- <u>Swartz Creek Watershed Planning fact sheet</u>



# UPPER LOOKING GLASS

The Upper Looking Glass watershed comprises 13 sub-basins within four counties (which are ranked by area situated within the watershed): Shiawassee, Clinton, Ingham, and Livingston. This Upper Looking Glass River watershed management plan was designed to focus on the 12 sub-basins above the Remy-Chandler drain in order to avoid duplicating the storm water planning efforts in the Remy-Chandler subbasin. This plan includes limited information on the Remy-



Chandler and generally lists the sub-basin as an area that requires further watershed protection measures. The dominant land use in the upper Looking Glass watershed is agriculture; however, much of the upper watershed exists in a relatively natural state providing forest land, open fields, wetlands, and long segments of abundant tree canopies that shade the river. Low-density residential is the second most prominent land use in the watershed.

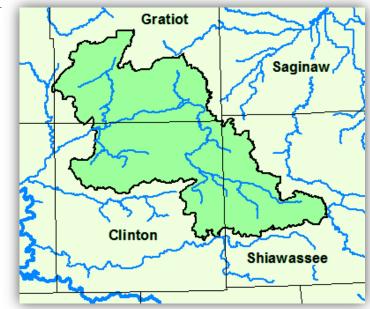
# **MDEQ Nonpoint Source Links**

<u>Upper Looking Glass River Watershed Management Plan</u>

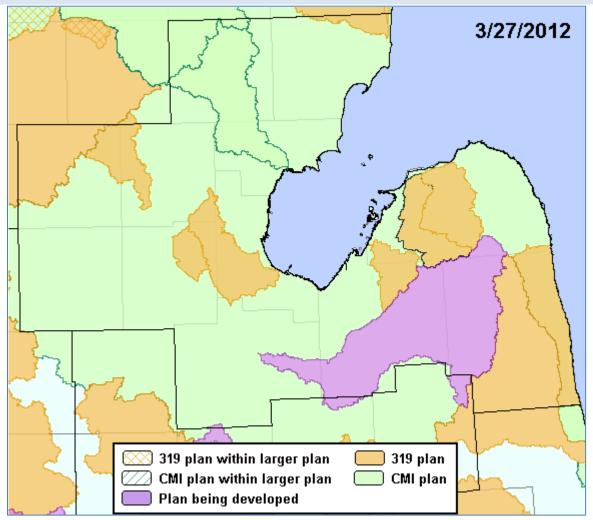
# UPPER MAPLE

The Upper Maple watershed is approximately 328,320 acre and is part of the larger Maple River Watershed, one of six major tributaries of the Grand River. The project area of the Upper Maple River begins in Shiawassee Township, Shiawassee County, and flows northwest approximately 54 miles to the project end point in the Village of Maple Rapids, Essex Township, Clinton County. The watershed is approximately 79% agricultural land.

- Upper Maple River Watershed
   Management Plan, without Appendices
- Upper Maple River Watershed
   Management Plan, Appendices 1 4
- Upper Maple River Watershed Management Plan, Appendices 5 17



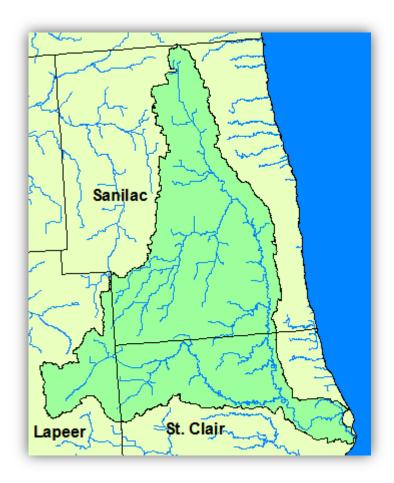
# SAGINAW BAY DISTRICT WATERSHEDS



CMI approved	CMI and 319 approved
Rifle River	Black River
	Cedar River (Gladwin County)
	Eastern Sanilac Coastal Tributary
	Kawkawlin River
	Pigeon River
	Pinnebog River
	Sebewaing River
	Sturgeon Creek (Midland Co.)

# BLACK RIVER

Information pending.



# CEDAR RIVER (GLADWIN COUNTY)

The Cedar River Watershed is a 120,000 acre watershed located primarily in Gladwin County and is a tributary to the Tobacco River. The northern portion of the river is a coldwater fishery, while the southern portion is a warm water fishery. The Cedar River Watershed was approved under the CMI administrative rules and was funded under section 319.

# **MDEQ Nonpoint Source Links**

For a copy of the approved watershed management plan, please contact <u>Peter Vincent</u> via email, or at 517-284-5521.

• Cedar River Road Crossings Project, Clare county, fact sheet



# EASTERN SANILAC COASTAL TRIBUTARY

The Eastern Sanilac Coastal Tributary Watersheds encompass approximately 114,560 acres of predominately agricultural land located on the eastern edge of the "thumb" area of Michigan. The Eastern Sanilac Coastal Tributary Watershed is approved under the CMI administrative rules and was funded under section 319. They are a series of small tributaries feeding into Lake Huron. Beaches at the outlets of the watersheds are used by residents and are important for tourism. Excessive sediment, bacteria, and nutrients were impairing the water quality of the tributaries and impacting the shore of Lake Huron. This project preserved its rural character, maintained tourism, enhanced fisheries, and improved the waters entering Lake Huron by reducing nonpoint source pollutants.

# **MDEQ Nonpoint Source Links**

- Watershed Management Plan
- <u>Eastern Sanilac Coastal Tributaries Watershed Planning Project Fact</u>
   <u>Sheet</u>



# KAWKAWLIN RIVER

Information pending.



# **PIGEON RIVER**

Information pending.



# PINNEBOG RIVER

The 195 square mile Pinnebog River Watershed is primarily agricultural, with a high concentration of seasonal homes along the Saginaw Bay lakeshore.

# **MDEQ Nonpoint Source Links**

<u>Pinnebog River Watershed Plan Project Fact Sheet</u>

For a copy of the 319 and CMI approved watershed management plan, please contact <u>Charlie Bauer</u> via email, or at 989-894-6272, or <u>Peter Vincent</u> via email, or at 517-284-5521.

# Watershed Websites

Huron County Conservation District



# RIFLE RIVER

The Rifle River (Ogemaw and Arenac Counties) is a tributary to Saginaw Bay. The Rifle River Watershed Plan was approved under the CMI administrative rules and was funded under section 319. As a part of this project, streambank erosion was addressed by implementing whole tree revetments and lunker structures. Critical area treatment was also applied to public use and recreation areas, primarily brush replacement. An information and education plan was developed which will be implemented over the next 20 years.

## **MDEQ Nonpoint Source Links**

• <u>Rifle River Watershed Restoration</u>

#### Watershed Websites

• Huron Pines RC&D - Rifle River

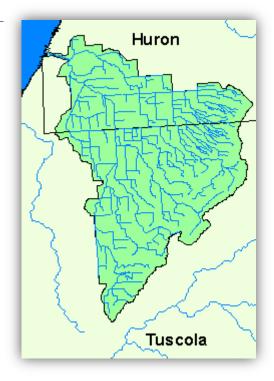


## SEBEWAING RIVER

The Sebewaing River Watershed (Huron and Tuscola Counties) is a 66,000 acre watershed located in the Eastern Coastal Basin of the Saginaw Bay watershed. Agricultural land use makes up 93.5% of the watershed, which includes 150 miles of established county and intercounty drains. The Sebewaing Watershed Plan was approved under the CMI administrative rules and was funded under section 319.

## **MDEQ Nonpoint Source Links**

- Watershed Management Plan Updates
- <u>Sebewaing River Watershed Tillage and Cover Crop Project</u> Information and Education fact sheet



# STURGEON CREEK (MIDLAND CO.)

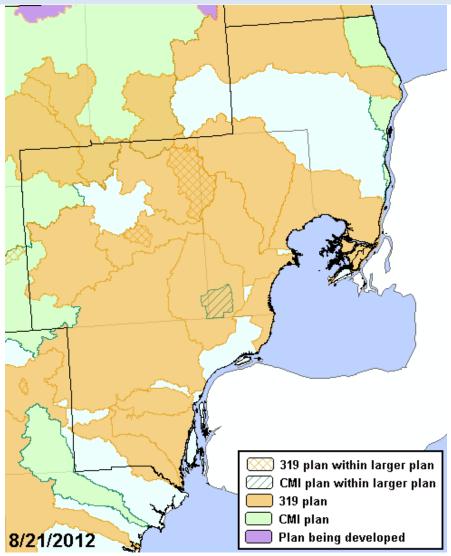
The Sturgeon Creek is a 40,000-acre watershed located in Midland County. The Sturgeon Creek Watershed is approved under the CMI administrative rules and was funded under section 319. The watershed includes 14,000 acres of cropland, 21,300 acres of forested land, and over 4,700 acres of urban land (within the City of Midland). By reducing the amount of sediment and erosion from agricultural practices, urban development, and streambank erosion, the Sturgeon Creek Watershed was able to improve their water quality while raising awareness of water quality issues to their community.

## **MDEQ Nonpoint Source Links**

- Watershed Management Plan (2 MB PDF)
- Watershed Management Plan Figures (4 MB PDF)
- Watershed Management Plan Appendices (6 MB PDF)



# SOUTHEAST MICHIGAN DISTRICT WATERSHEDS



CMI approved	CMI and 319 approved
Bear Creek (Oakland County)	Anchor Bay
Huron Chain of Lakes	Brighton Lake Subwatershed
St. Clair County's NE Watersheds	Clinton River East Watershed
	Clinton River Main Watershed
	Clinton River North Branch
	Combined Downriver
	Ecorse Creek
	Kent Lake Watershed
	Lake St. Clair
	Lower Huron
	Pontiac Creek
	Red Run Watershed
	Rouge River
	Stony Creek (Oakland County)
	Stony/Paint Creek
	Swartz Creek

# ANCHOR BAY

The Anchor Bay Watershed Project was a two-year project that developed a watershed management plan for the 110,000-acre Anchor Bay lake drainage basin. The Anchor Bay Watershed is approved under the CMI administrative rules and was funded under section 319. The primarily urban (23%) and agricultural (36%) watershed was faced with increasing development pressures. Since the Anchor Bay watershed overlaps downstream portions of both the Clinton and St. Clair River Areas of Concern, the plan built on efforts under the Remedial Action Plan process, as well as efforts of the Blue Water Task Force on Water Quality, the Macomb County Blue Ribbon Commission on Lake St. Clair, and the Macomb/St. Clair Inter-County Watershed Advisory Group.



## **MDEQ Nonpoint Source Links**

- Watershed Management Plan (2 MB PDF)
- <u>Watershed Management Plan Appendices (5 MB PDF)</u>
- Watershed Management Plan Technical Report (7 MB PDF)
- Watershed Management Plan Technical Report Appendices (7 MB PDF)
- Anchor Bay Watershed Planning Project fact sheet
- St. Clair River Watershed Illicit Connection Elimination fact sheet (1 MB PDF)
- St. Clair County Illicit Connection Elimination fact sheet
- Macomb County Office of Public Works Illicit Connection Elimination fact sheet
- Macomb County Health Department Illicit Discharge Elimination fact sheet
- Harrison Township Failing On-Site Disposal System Correction fact sheet

## Watershed Websites

• St. Clair County - Anchor Bay

# BEAR CREEK (OAKLAND COUNTY)

Bear Creek flows into the Clinton River and then into Lake St. Clair within Macomb and Oakland County. The watershed is predominantly commercial and industrial. The Bear Creek Watershed is approved under the CMI administrative rules and was funded under section 319.

## **MDEQ Nonpoint Source Links**

For a copy of the approved watershed management plan, please contact <u>Peter Vincent</u> via email, or at 517-284-5521.

- <u>Macomb County Office of Public Works Illicit Connection</u>
   <u>Elimination fact sheet</u>
- <u>Macomb County Health Department Illicit Discharge Elimination</u>
   <u>fact sheet</u>

#### Watershed Websites

• Bear Creek Drainage Board



## BRIGHTON LAKE SUBWATERSHED

The Brighton Lake Subwatershed is located in southeastern Livingston County. This 23 square mile (14,730 acres) area extends from the headwaters of South Ore Creek downstream to the Brighton Lake impoundment just south of the City of Brighton. The subwatershed lies within Livingston County and comprises all or portions of Hartland, Oceola, Genoa, Brighton, and Hamburg Townships and the City of Brighton. The Brighton Lake Watershed Plan was approved under the CMI administrative rules and was funded under section 319.

#### **MDEQ Nonpoint Source Links**

• Brighton Lake Watershed Management Plan



# CLINTON RIVER EAST WATERSHED

The Clinton River East Subwatershed covers the final stretch of the Clinton River, from its discharge point in Harrison Township upstream to Shelby Township (where the river enters Macomb County). The Clinton River East Subwatershed is a 132 square mile basin that also incorporates the entire drainage area of the Middle Branch of the Clinton River and is home to 300,000 people. The Clinton River East Subwatershed is locally funded, approved under the CMI administrative rules, and meets EPA's nine required elements.

#### **MDEQ Nonpoint Source Links**

- <u>Clinton River Hydrologic Project</u>
- Middle Clinton Road Crossing Improvement
- <u>Southeast Michigan Soft Engineering/Conservation</u> <u>Buffers Project</u>
- Harrison Township Failing On-Site Disposal System
   <u>Correction fact sheet</u>

#### Watershed Websites

- <u>Clinton River Watershed Council</u>
- <u>Clinton River East Watershed Plan</u>



## CLINTON RIVER MAIN WATERSHED

The Clinton Main Subwatershed is over 70 square miles in area and is located within the central portion of Oakland County. A total of twelve communities, one county, two school districts, and one university are located within this subwatershed. Land use types are varied across the subwatershed. The top land use in the Clinton Main Subwatershed is single family residential. This accounts for more than 27% of the subwatershed, and points to the importance of citizen action and education in the improvement of water quality. The Clinton Main Subwatershed is locally funded and approved under the CMI administrative rules.



## **MDEQ Nonpoint Source Links**

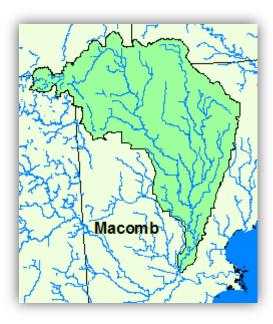
- <u>Clinton River Hydrologic Project</u>
- Southeast Michigan Soft Engineering/Conservation Buffers Project
- <u>Clinton River Permanent Riparian Easement</u>
- <u>Clinton Township Illicit Connection Elimination fact sheet</u>

#### Watershed Websites

- <u>Clinton River Watershed Council</u>
- <u>Clinton River Main Watershed Plan</u>

## CLINTON RIVER NORTH BRANCH

Information pending.



## COMBINED DOWNRIVER

The Combined Downriver Watershed is located within Wayne County, in southeast Michigan. The Detroit River, the Frank & Poet Drain, and the Blakely Drain are the three primary water courses within the watershed. The watershed drains an area of approximately 85.9 square miles in a relatively urbanized region, including a portion of the Detroit Metropolitan Airport in the headwater region of the Frank & Poet Drain. The Combined Downriver Watershed is locally funded and approved under the CMI administrative rules.

## **MDEQ Nonpoint Source Links**

For a copy of the approved watershed management plan, please contact <u>Peter Vincent</u> via email, or at 517-284-5521.

## Watershed Websites

- Combined Downriver Watershed
- <u>Combined Downriver Watershed Management Plan</u>



## ECORSE CREEK

The Ecorse Creek Watershed is located within Wayne County, in southeast Michigan. The North Branch of the Ecorse Creek and the Sexton-Kilfoil Drain (South Branch) join each other in Lincoln Park and Ecorse and flow east for a half mile before reaching the Detroit River. The watershed drains an area of approximately 43.4 square miles in a heavily urbanized region, including a portion of the Detroit Metropolitan Airport in the headwater region of the Sexton-Kilfoil Drain. The Ecorse Creek Watershed is locally funded and approved under the CMI administrative rules.

## **MDEQ Nonpoint Source Links**

• Ecorse Creek Illicit Connection Elimination fact sheet



# HURON CHAIN OF LAKES

The Huron Chain of Lakes Watershed is part of the Huron River Watershed. The immediate drainage area to the Huron Chain of Lakes Watershed is 253 square miles (161,919 acres), representing approximately 28% of the Huron River Watershed. The majority of the watershed lies within Livingston County, with eastern portions in southwest Oakland County and southernmost areas in Washtenaw County. The Huron River supplies drinking water to approximately 150,000 people, supports one of Michigan's finest smallmouth bass fisheries, and is the State's only designated Scenic River in southeast Michigan. The Huron Chain of Lakes Watershed is locally funded and approved under the CMI administrative rules.

# Livingston Oakland

#### **MDEQ Nonpoint Source Links**

Watershed Management Plan

#### Watershed Websites

Livingston County Drain Commissioner's Office - Watershed Plan

## KENT LAKE WATERSHED

The Kent Lake Subwatershed is located in southwestern Oakland County. This 556 square-mile (100,000 acres) area, which extends from the headwaters of the Huron River downstream to the Kent Lake impoundment in the Kensington Metropark, contains nearly 700 individual lakes comprising approximately 9,000 acres, the Pettibone and Norton Creeksheds, and innumerable wetlands providing water quality and aesthetic value. Land use in the Kent Lake Subwatershed ranges from heavily commercial and residential areas in the east and south to small rural farms and housing in the north and west. The Kent Lake Subwatershed plan was approved under the CMI administrative rules and was funded under section 319.

#### **MDEQ Nonpoint Source Links**

<u>Kent Lake Watershed Management Plan</u>



# LAKE ST. CLAIR

The Lake St. Clair Direct Drainage Subwatershed is a 41 square mile basin that is part of the larger Lake St. Clair Regional sub-basin and extends along the Lake St. Clair shore from the Clinton River Spillway in Harrison Township to the outlet of Lake St. Clair into the Detroit River near the City of Grosse Pointe Park. The Lake St. Clair Direct Drainage Subwatershed is locally funded, approved under the CMI administrative rules, and meets EPA's nine required elements.

## **MDEQ Nonpoint Source Links**

- <u>Macomb County Office of Public Works Illicit</u> <u>Connection Elimination fact sheet</u>
- <u>Macomb County Health Department Illicit</u> <u>Discharge Elimination fact sheet</u>

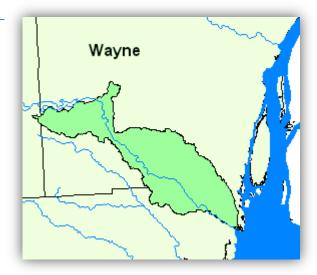
## Watershed Websites

- <u>Clinton River Watershed Council</u>
- Lake St. Clair Watershed Plan



# LOWER HURON

The Lower Huron River Watershed covers 74-square miles of the 908-square-mile Huron River basin. The Lower Huron River begins downstream of the French Landing Dam that creates Belleville Lake in Van Buren Charter Township, and flows into Lake Erie. Nearly 10,940 acres of wetlands remain in the watershed as of 2000. Included in the watershed are four Metroparks (Lower Huron; Willow; Oakwoods; and Lake Erie), and the Pointe Mouillée State Game Area providing over 7,500 acres of public land for recreation and natural resource protection. The Metroparks contain some of the most diverse native ecosystems remaining in the lower Huron River Watershed. The Lower Huron River Watershed is locally funded and approved under the CMI administrative rules.



#### **MDEQ Nonpoint Source Links**

Lower Huron River Watershed Management Plan

#### Watershed Websites

• Lower Huron River Watershed

## PONTIAC CREEK

Pontiac Creek is a 10-square mile, highly urbanized watershed that drains much of the City of Pontiac. The Pontiac Creek Watershed is approved under the CMI administrative rules and was funded under section 319. Its confluence is the Clinton River. It has greatly reduced nutrients, suspended solids, BOD, and other related pollutants to improve the water quality of Pontiac Creek and the Clinton River.

## **MDEQ Nonpoint Source Links**

- Watershed Management Plan Update
- Pontiac Creek Transition/Implementation



## **RED RUN WATERSHED**

The Red Run Subwatershed is part of the 760 square mile Clinton River Watershed located in Macomb and Oakland County. The Red Run Subwatershed is a 142 square mile basin that also incorporates other waterbodies, such as Plum Brook and Big Beaver Creek, and is home to 550,000 people. The Red Run Subwatershed is locally funded and approved under the CMI administrative rules.

## Watershed Websites

- <u>Clinton River Watershed Council</u>
- Red Run Watershed Plan



## ROUGE RIVER

The Rouge River Watershed is located in the lower eastern part of Michigan (Wayne and Oakland counties). It was approved under the CMI administrative rules and was funded under section 319.

## MDEQ Nonpoint Source Links

- <u>Watershed Management Plan Updates</u>
- Rouge River Illicit Discharge Elimination
- Quail Ridge Drain Improvements
- <u>City of Dearborn Illicit Connection Elimination fact</u>
   <u>sheet</u>
- <u>City of Novi Outfall and Streambank Stabilization fact</u>
   <u>sheet</u>
- <u>City of Wayne City Hall Storm Water Quality</u>
   <u>Improvements fact sheet</u>
- <u>City of Westland Outfall Inventory and Storm Water Study fact sheet</u>
- Fleming's Roseland Sedimentation Basin fact sheet
- <u>Rouge River Improvement Ford Field Bridge fact sheet</u>
- Section 34 Swale BMP Project fact sheet

## Watershed Websites

- Friends of the Rouge
- Rouge River Wet Weather Demonstration Project



## ST. CLAIR COUNTY'S NE WATERSHEDS

The Northeastern watershed (NEW) is a subwatershed of the St. Clair River, and drains the northeast corner of St. Clair County and part of Sanilac County. The NEW encompasses approximately 31% of the land in St. Clair County draining 144,000 acres of land into 376 mile of tributaries that ultimately discharge into the St. Clair River. The NEW also encompasses 46.8 miles of shoreline along Lake Huron and the St. Clair River and contains twenty communities spanning St. Clair and Sanilac counties. The NEW watershed management plan was developed using local funding in response to the Phase 2 Stormwater Program. The plan is accepted by the Storm Water Program and approved by the Nonpoint Source Program under CMI watershed planning rules.

## Watershed Websites

- <u>St. Clair County's Storm Water Program</u>
- Northeastern Watersheds Management Plan

# STONY CREEK (OAKLAND COUNTY)

Stony Creek is a warm water tributary of the Clinton River, straddling the Oakland-Macomb County line in the northern half of the watershed. The main branch is 21.2 miles long, most of which is a designated county drain, and has five impoundments. The West Branch Stony Creek is 13.4 miles long in Oakland Township and has one impoundment.

## Watershed Websites

- <u>Clinton River Watershed Council</u>
- <u>Stony/Paint Creek Watershed Plan</u>





## STONY/PAINT CREEK

Stony Creek is a high-quality coldwater tributary of the Clinton River, with headwaters in the primarily rural communities of Oxford and Addison townships in northeastern Oakland County. The creek has two main branches, the West and Main, which flow through Bruce, Oakland, and Washington townships before entering the Stony Creek Lake impoundment in Stony Creek Metropark.

Stony Creek's subwatershed spans over 74 square miles in 12 communities and is inhabited by roughly 17,500 people. Paint Creek is a high-quality coldwater tributary of the Clinton River, with headwaters in Brandon and Oxford Townships upstream of Lake Orion. The creek then flows through Lake Orion, Orion Township followed by Oakland Township, Rochester Hills and Rochester before reaching its confluence with the Clinton River near downtown Rochester. Paint Creek's subwatershed spans over 70 square miles in 10 communities and is inhabited by roughly 68,000



people. The Stony/Paint Creek Subwatershed is locally funded, approved under the CMI administrative rules, and meets EPA's nine required elements.

#### Watershed Websites

- <u>Clinton River Watershed Council</u>
- <u>Stony/Paint Creek Watershed Plan</u>

## SWARTZ CREEK - SEE LANSING DISTRICT

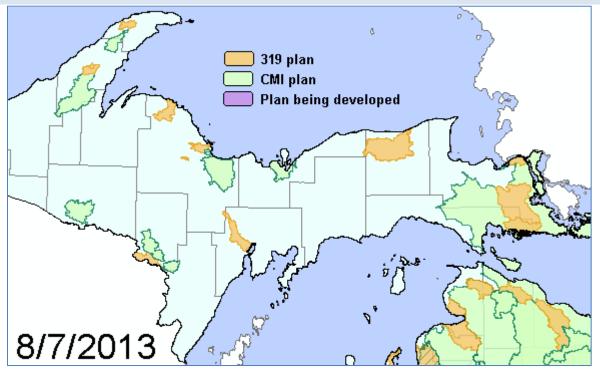
The Swartz Creek Watershed occupies 82,500 acres in Genesee and Oakland counties. Swartz Creek is a major tributary to the Flint River that flows into the Saginaw River, a Michigan Area of Concern. The MDNR classified Swartz Creek as a second quality warm water fishery, with biological features indicating that fair to good water quality and habitat conditions exist. The Swartz Creek Watershed Management Plan is approved as a CMI Watershed Management Plan.

## **MDEQ Nonpoint Source Links**

- Swartz Creek Watershed Plan
- <u>Swartz Creek Watershed Planning fact sheet</u>



# UPPER PENINSULA DISTRICT WATERSHEDS



CMI approved	CMI and 319 approved
Chocolay River	Days River
Hamilton Creek	Eagle River
Iron River Watershed	Fumee Creek
Munising Bay	Huron Creek
Otter River	Les Cheneaux
Pine Creek (Dickinson Co.)	Lower Dead River
Trap Rock River	Munuscong River
Whetstone Brook & Orianna Creek	Partridge Creek
	Pilgrim River
	Salmon Trout River
	Sault Saint Marie
	Two Hearted River

# CHOCOLAY RIVER

The Chocolay River Watershed is located in the Upper Peninsula in Marquette County. It was approved under the CMI administrative rules and was funded under section 104(b).

## **MDEQ Nonpoint Source Links**

- Chocolay River Watershed Management Plan
- <u>Superior Watershed Partnership fact sheet</u>

## Watershed Websites

• <u>Superior Watersheds Partnership</u>



# DAYS RIVER

The Days River watershed is a 40,594-acre cold-water fishery that empties into the Little Bay de Noc in the south central portion of Michigan's Upper Peninsula. The watershed is primarily within Delta County however, the headwaters of the stream begin in the south east corner of Marquette County. The river is approximately 61 linear miles in length including the East and West Branches and eight other small tributaries.

## Watershed Plan Updates and Approvals

CMI and 319 approved

#### Land Use

Forested: 81% Wetland and Water: 8% Agricultural: 5% Range Land: 4% Urban/Residential: 2%

#### Pollutants

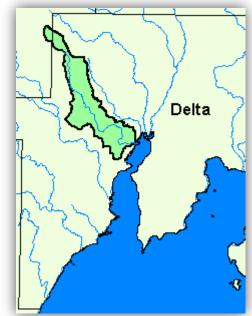
Sediment, nutrients, bacteria, and pathogens

#### **Causes/Sources**

Pollutants	Source	Cause
Sediment Streambank erosion		Change in hydrology
	Streambank orocion	Human access
	Streamballk erosion	Road Runoff increased velocity
	Lack of vegetative buffer	
Sediment, Road Salt		Gravel road grading
	Road stream	Winter road salt runoff
	crossings	Erosion from/around bridges, culverts, and roads
		Culvert sizing and placement
Nutrients, Bacteria &	Failing septic system	Poorly maintained, designed, or sited septic systems
Pathogens	Failing septic system	Foorty maintained, designed, of sited septic systems
Nutrients, Bacteria &	Septic lagoon	Poorly maintained, designed, or sited sewage lagoon
Pathogens	discharge	systems
Nutrients, Bacteria &	Livestock near	Improper manure management practices
Pathogens	stream	Inadequate of Buffer Zone

## Links

- Days River Watershed Plan, without appendices (2 MB PDF)
- Days River Watershed Plan appendices (10 MB PDF)



# EAGLE RIVER

The Eagle River Watershed (ERW) contains the Eagle River and tributaries and covers 13,594 acres in Michigan's Keweenaw Peninsula. Pre-historic and historic mining, including the Central, Cliff and Phoenix/St. Clair mines, has been conducted in the ERW. Significant amounts of stamp sand from copper mines have direct contact with surface waters and are eroding into the Eagle River. As a result of high copper concentrations, the Eagle River is on the state's non-attainment list.



## **MDEQ Nonpoint Source Links**

For a copy of the approved watershed management plan, please contact <u>Lindsey Ringuette</u> via email, or at 906-346-8518, or <u>Peter Vincent</u> via email, or at 517-284-5521.

Project Fact Sheet

# FUMEE CREEK

Fumee Creek Watershed Project (Dickinson County) is a 24,500 acre watershed in Dickinson County which flows into the Menominee River. Eight of the nine streams within the Menominee River watershed are warm water streams and Fumee Creek is a cold water stream. A significant portion of the watershed is urban and 48% is forested. Suspected pollutants are sediments, nutrients, and toxics. Fumee Creek Watershed was approved under the CMI administrative rules and was funded under section 319.

In the process of developing a watershed management plan that met the goals established for the project, this project partnered with 26 other agencies. Throughout the project,



information/education activities were implemented, including numerous outreach activities at six schools, the local fair, and via workshops, tours and local clubs. Baseline physical and chemical monitoring was conducted at 32 stations in the watershed, benthic data at 12 stations, and temperature loggers at six locations. This project also addressed exotic species concerns and began implementation work with other grant funds.

## **MDEQ Nonpoint Source Links**

- <u>Fumee Creek Watershed Management Plan</u>
- Fumee Creek Watershed Information & Education Grant
- <u>Fumee Creek Watershed Planning Project fact sheet</u>

## Watershed Websites

Dickinson Conservation District

# HAMILTON CREEK

Hamilton Creek Watershed Project (Dickinson County) is an 18,322 acre watershed which flows into the Sturgeon River. The area includes 12 lakes and 6 creeks, and was approved under the CMI administrative rules and was funded under section 319.

In the process of developing a watershed management plan that met the goals established for the project, this project partnered with 23 other agencies. Throughout the project, information/education activities were implemented, including numerous outreach activities at nine schools, the local fair, and via workshops, tours and other events. The project was also highlighted in three newspapers and on two radio stations. Water quality monitoring was conducted at 18 stations in the watershed, and a frog and



toad survey conducted three times each year. In addition, aquatic plants were mapped and a stream cleanup conducted. This project also began implementation work with other grant funds, including native plantings along the shores of Lake Mary County Park using Michigan Department of Agriculture funding.

## **MDEQ Nonpoint Source Links**

For a copy of the approved watershed management plan, please contact <u>Bob Sweet</u> via email, or at 517-335-6967, or <u>Peter Vincent</u> via email, or at 517-284-5521.

## Watershed Websites

• Dickinson Conservation District

## HURON CREEK

Information pending.



## IRON RIVER WATERSHED

The Iron River Watershed is located in the Upper Peninsula within Iron County. It was approved under the CMI administrative rules and was funded under section 604(b).

As part of this planning project, a poll of residents' knowledge of the watershed was taken and used in the development of information and education materials.

Throughout the timetable in which this project took place, education sessions were held at local schools to enlighten and involve the youth of the area. Participants responded favorably to the sessions and the younger generation of the region proved to be more open to taking an active role in the maintenance of the Iron River watershed than the older members. Many presentations were held outside of schools as



well, including those made to such groups as Trout Unlimited, Audubon Society, Michigan Lakes & Streams Association, and others. Information was also presented at local workshops and events and distributed through the Iron River Informer newsletter. Articles in the local newspaper were also published. The watershed was publicized on the local radio station and was also featured on the television show "Discovering", a nature and outdoors program shown on the NBC affiliate, WLUC TV-6 in Marquette, MI, which reaches the entire Upper Peninsula.

#### **MDEQ Nonpoint Source Links**

- Iron River Watershed Plan (Part 1)
- Iron River Watershed Plan (Part 2)
- Iron River Watershed Project fact sheet
- Iron River Watershed Project Non-Physical Improvements

# LES CHENEAUX

The Les Cheneaux Watershed is considered a sub-watershed of the Pine-Carp Watershed located in Michigan's Eastern Upper Peninsula. Specifically, the Les Cheneaux Watershed is located in eastern Mackinac County with one sub-watershed located in south-central Chippewa County. The Les Cheneaux drains approximately 115 square miles within the Carp-Pine Watershed. The watershed covers all of Mackinac County's Clark Township (80 square miles) and approximately 35 square miles in both Marquette (Mackinac) and Raber (Chippewa) Townships.

By implementing the plans recommendations the Les Cheneaux Watershed hopes to improve their water quality to protect the integrity of aquatic and terrestrial ecosystems



within the watershed, preserve the unique nature-based aesthetic character of the Les Cheneaux Islands Area, and provide appropriate opportunities for public enjoyment of aquatic/terrestrial resources such as walking trails, scenic overlooks, boat launches, and public access areas.

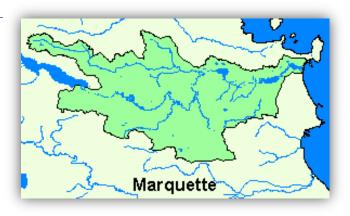
## **MDEQ Nonpoint Source Links**

For a copy of the approved watershed management plan, please contact <u>Bob Sweet</u> via email, or at 517-335-6967, or <u>Peter Vincent</u> via email, or at 517-284-5521.

Les Cheneaux Watershed Planning Project fact sheet

# LOWER DEAD RIVER

The Lower Dead River Watershed is a 22-square mile watershed in Marquette County that drains into Lake Superior. The Lower Dead River Watershed is approved under the CMI administrative rules and was funded under section 319. Land use in the critical area has been estimated at 65% forested, 30% urban/residential, and 5% other. This watershed has reduced the large amounts of storm water and severe sedimentation from contaminating the water, while improving aquatic habitat. The Lower Dead River Watershed Project is



unique in that it is one of the most rapidly developing sub-watersheds in the Upper Peninsula of Michigan (Wal-Mart, Target, Sears, new roads, parking lots, industrial parks, etc.). The Lower Dead River Watershed Project has been a success to protect and restore the water quality in the Lake Superior Basin.

## **MDEQ Nonpoint Source Links**

For a copy of the approved watershed management plan, please contact <u>Bob Sweet</u> via email, or at 517-335-6967, or <u>Peter Vincent</u> via email, or at 517-284-5521.

- Lower Dead River Watershed Transition Project fact sheet
- Lower Dead River Watershed Management Plan (3 MB PDF)
- <u>Riparian Buffer Implementation Report (2 MB PDF)</u>
- Superior Watershed Partnership fact sheet

## Watershed Websites

Superior Watersheds Partnership

## MUNISING BAY

The Munising Bay Watershed Restoration Project is located in north central Alger County, Michigan. The Munising Bay Watershed is approved under the CMI administrative rules and was funded under section 319. The total surface area encompasses ~30,350 acres including the City of Munising and portions of Munising and AuTrain Townships. The Munising Bay has worked hard to protect and restore its rivers and streams by closing abandoned wells, repairing, replacing, or stabilizing erosion sites and bad road or rail stream crossings, and planting forested buffer zones, wildlife corridors, and filter strips. These improvements combined with in-stream fisheries enhancements have helped to restore, create, and improve lost fish and wildlife habitat and help rid streams of tons of accumulated sediments, while sustaining the local economy, environmental health, and enhancing recreational opportunities.



## **MDEQ Nonpoint Source Links**

- Watershed Management Plan
- Watershed Management Plan Updates Fact Sheet
- Munising Bay St. Martin's Hill fact sheet

## MUNUSCONG RIVER

Munuscong River Watershed Management Plan covers 149,120 acres. Land cover within the watershed is 40% wetland, 28% agriculture, 23% upland forest, 5% open field, and 3% urban. Priority pollutants off concern within the watershed are E. Coli, sediment, and runoff volume.



# OTTER RIVER

The Otter River Watershed covers approximately 106,350 acres. It is predominantly forested (89.1%). The Otter River Watershed Plan was approved under the CMI administrative rules and was funded under section 319. An inventory/evaluation was conducted to identify high priority sites for Best Management Practice installment, along with an educational outreach program. An assortment of large corporate, small private, and public partners were all actively involved in the project in an effort to restore this watershed to its historic and natural water quality state.

## **MDEQ Nonpoint Source Links**

For a copy of the approved watershed management plan, please contact <u>Peter Vincent</u> via email, or at 517-284-5521.

#### Watershed Websites

• Friends of the Land of Keweenaw

## PARTRIDGE CREEK

Information pending.





# PILGRIM RIVER

The Pilgrim River watershed is approximately 15,546 acres in size and is located in Houghton County. Land cover within the Pilgrim is 58% forested, 25% open, 12% wetland, 4% developed, and 1% lake and ponds.

## **MDEQ Nonpoint Source Links**

For a copy of the approved watershed management plan, please contact <u>Peter Vincent</u> via email, or at 517-284-5521.



## PINE CREEK (DICKINSON CO.)

The Pine Creek Watershed consists of approximately 47,350 acres in Dickinson County. The Pine Creek Watershed is approved under the CMI administrative rules and was funded under section 319. This largely forested watershed has been subjected to excessive sediment deposition, which affects fish habitat. Sediment, nutrients, and pesticides from agricultural sources were reduced to improve the quality of the water.

## **MDEQ Nonpoint Source Links**

- <u>Pine Creek Watershed Implementation fact sheet</u>
- <u>Pine Creek: District 5 Road Bridge fact sheet</u>

## Watershed Websites

Dickinson Conservation District



# SALMON TROUT RIVER

The Salmon Trout River watershed includes high quality aquatic and terrestrial ecosystems of regional significance and should be protected and maintained as such. Because of its unique natural state and significant natural resources, the Salmon Trout River watershed is a haven for scientific study and a topic of interest for a diverse group of stakeholders. The recommendations of this plan are intended to promote coordinated and collaborative actions among these stakeholders and to provide guidance for implementation of actions that will reduce existing water quality impacts and provide a basis for protection from future impacts.

## **MDEQ Nonpoint Source Links**

• Salmon Trout Watershed Management Plan



# SAULT SAINT MARIE

The Sault Ste. Marie Area Watershed Management Plan is a guide to help the Sault Ste. Marie community and other stakeholder, including local units of government, nonprofit organizations, and local residents protect water quality and aquatic resources in the Sault area watershed. Furthermore, similar communities facing similar concerns can use the guide to protect their aquatic resources.

## **MDEQ Nonpoint Source Links**

• Sault Ste. Marie Area Watershed Management Plan



## TRAP ROCK RIVER

The Trap Rock River Watershed encompasses approximately 29,528 acres and is located in Houghton County. Major land uses, in descending order, include forest, wetlands, urban, agricultural, and miscellaneous. The watershed's main channel, the Trap Rock River, is a major tributary to the Keweenaw Waterway, which connects to Lake Superior. The Trap Rock River Watershed Plan was approved under the CMI administrative rules and was funded under section 319.

## **MDEQ Nonpoint Source Links**

For a copy of the approved watershed management plan, please contact <u>Peter Vincent</u> via email, or at 517-284-5521.



## TWO HEARTED RIVER

The Two Hearted River Watershed includes high quality aquatic and terrestrial ecosystems of regional significance and should be protected and maintained as such. The recommendations of this plan are intended to promote coordinated and collaborative actions among these stakeholders and to provide guidance for implementation of actions that will reduce existing water quality impacts and provide a basis for protection from future impacts.



## **MDEQ Nonpoint Source Links**

For a copy of the approved watershed management plan, please contact <u>Mitch Koetje</u> via email, or at 517-284-5521.

Project Fact Sheet

## Watershed Websites

Superior Watershed Partnership - Watershed Management Planning Projects

## WHETSTONE BROOK & ORIANNA CREEK

The Whetstone Brook & Orianna Creek Watershed is located in the Upper Peninsula in Marquette county. A watershed plan for this area has been approved under the CMI administrative rules and was funded under section 319. Both Whetstone Brook and Orianna Creek support limited cold water fisheries, and Orianna Creek is a designated cold water trout stream.

## **MDEQ Nonpoint Source Links**

For a copy of the approved watershed management plan, please contact <u>Peter Vincent</u> via email, or at 517-284-5521.

- <u>Superior Watershed Partnership fact sheet</u>
- <u>Whetstone Brook Restoration Project fact sheet</u>

