

Menominee River Watershed

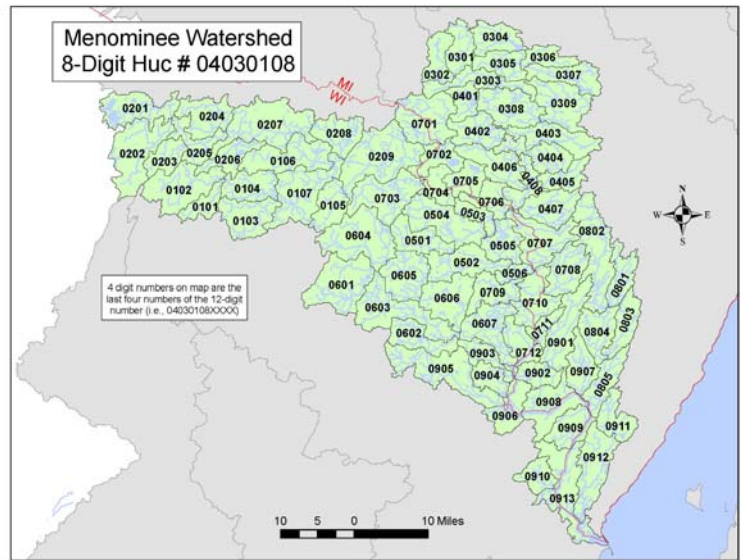
Hydrologic Unit Code: 04030108

For more information, see the USEPA "Surf Your Watershed" website at

cfpub.epa.gov/surf/huc.cfm?huc_code=04030108 or

contact the Michigan Department of Environmental Quality at 517-335-6969 to request a copy of the following reports:

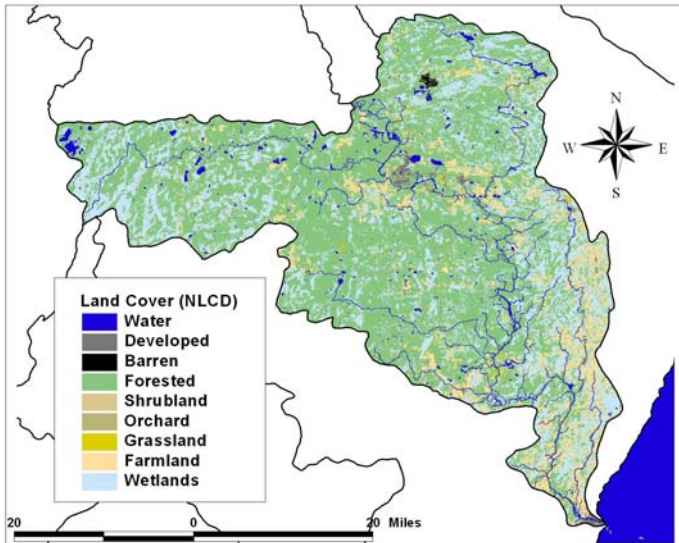
- MI/DEQ/WD-03/039 "A Biological Survey of selected Streams in the Menominee River Watershed, Dickinson County, 2002"
- MI/DEQ/WB-08/020 "A Biological Survey of the Menominee River Watershed including the Iron, Brule, Paint, Michigamme, Sturgeon, and Little Cedar Rivres Subwatersheds, Barage, Dickinson, Iron, Marquette, and Menomine Counties, Michigan, June 2007."



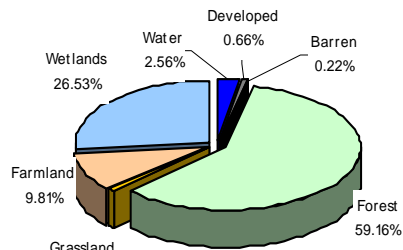
Subwatersheds of the Menominee River Watershed

- | | |
|--|---|
| 0101 Little Popple River | 0601 Headwaters South Branch Pike River |
| 0102 Upper Popple River | 0602 Little South Branch Pike River |
| 0103 South Branch Popple River | 0603 South Branch Pike River |
| 0104 Middle Popple River | 0604 Upper North Branch Pike River |
| 0105 Lamon Tanguie Creek | 0605 Middle North Branch Pike River |
| 0106 Woods Creek | 0606 Lower North Branch Pike River |
| 0107 Lower Popple River | 0607 Pike River |
| 0201 North Branch Pine River | 0701 Twin Falls Dam-Menominee River |
| 0202 McDonald Creek-Pine River | 0702 Henry Ford Dam-Menominee River |
| 0203 Jones Creek | 0703 Little Popple River |
| 0204 Stevens Creek | 0704 Big Quinnesec Dam-Menominee River |
| 0205 Kingstone Creek-Pine River | 0705 Little Quinnesec Falls-Menominee River |
| 0206 Fay Lake Outlet | 0706 Sturgeon Dam-Menominee River |
| 0207 Wakefield Creek/Johnson Creek-Pine River | 0707 Silver Creek-Menominee River |
| 0208 Keys Lake-Pine River | 0708 Pemenee Creek |
| 0209 Halls Creek-Pine River | 0709 Miscauno Creek |
| 0301 North Branch Sturgeon River | 0710 Chalk Hill Dam-Menominee River |
| 0302 Gestner Branch-West Branch Sturgeon River | 0711 White Rapids Dam-Menominee River |
| 0303 Mill Pond-West Branch Sturgeon River | 0712 Squaw Creek-Menominee River |
| 0304 Genes Pond Dam-East Branch Sturgeon River | 0801 Holmes Creek-Little Cedar River |
| 0305 Sixmile Creek-East Branch Sturgeon River | 0802 Schetter Creek-Little Cedar River |
| 0306 Skunk Creek-East Branch Sturgeon River | 0803 Hays Creek |
| 0307 Peronto Lake-East Branch Sturgeon River | 0804 Ross Creek-Little Cedar River |
| 0308 West Branch Sturgeon River | 0805 Little Cedar River |
| 0309 East Branch Sturgeon River | 0901 Little Shakey Creek-Shakey River |
| 0401 Tailings Pond Outlet-Pine Creek | 0902 Shakey River |
| 0402 Seiberts Creek-Pine Creek | 0903 Holmes Creek-Menominee River |
| 0403 Breen Creek-Sturgeon River | 0904 Wolf Creek |
| 0404 Cassidy Creek-Sturgeon River | 0905 Wausaukee River |
| 0405 Beaver Creek-Sturgeon River | 0906 The Oxbow-Menominee River |
| 0406 Pine Creek | 0907 Phillips Creek |
| 0407 Hamilton Creek | 0908 Grand Rapid Dam-Menominee River |
| 0408 Sturgeon River | 0909 Maggies Island-Menominee River |
| 0501 Headwaters South Branch Pemebonwon River | 0910 Twin Creek |
| 0502 South Branch Pemebonwon River | 0911 Hanson Creek-Little River |
| 0503 Spikehorn Creek-North Branch Pemebonwon River | 0912 Little River |
| 0504 North Branch Pemebonwon River | 0913 Menominee River |
| 0505 Sullivan Creek-North Branch Pemebonwon River | |
| 0506 Pemebonwon River | |

More -



Land Cover: Menominee River Watershed



Watershed size = 4070 sq. miles

Between 1996 and 2001, there has been a slight increase in developed land and farmland and a slight decrease in grassland, and wetland.

Watershed Management Plans

- Fumee Creek — Dickinson Conservation District — www.dickinsoncd.org/fumeeecreek
- Hamilton Creek — Dickinson Conservation District -- www.dickinsoncd.org/hamiltoncreek
- Pine Creek (Dickinson Co) — Dickinson Conservation District -- www.dickinsoncd.org/pinecreek

Watershed Groups

- Dickinson Conservation District — www.dickinsoncd.org
- Hamilton, Fumee, and Pine Creek Watershed Projects — www.dickinsoncd.org/hamiltoncreek;
- www.dickinsoncd.org/fumeeecreek; and www.dickinsoncd.org/pinecreek
- Menominee River Area of Concern — www.epa.gov/glnpo/aoc/menominee.html
- Menominee River RAP, Great Lakes Commission — www.glc.org/spac/rapdocs.html

Watershed Overview

- The Menominee River forms the boundary between Wisconsin and the Upper Peninsula of Michigan in Marinette, Florence, Forest, Vilias, Menominee, Dickinson, and Iron counties before draining its contents into Lake Michigan.
- Historic iron mining in Menominee was a catalyst for growth in the watershed.
- Piers Gorge whitewater area is located in the watershed. It is often done as a big-water, carry-up park-and-play whitewater rafting area.
- The Menominee system is comprised of a number of large and small tributaries, the major tributaries being the Michigamme, Brule, Pine, Paint, Iron and Sturgeon Rivers. The Menominee originates at the confluence of the Michigamme and Brule Rivers and flows approximately 115 miles to the east towards the waters of Green Bay.
- The total basin covers approximately 4,070 square miles with 2,618 square miles located in Michigan and 1,452 square miles located in Wisconsin.

Impaired (303d) Waters

Waterbody Name	State Impairment
Chalk Hills Impoundment (Menominee River), MI	Mercury (Fish Tissue)
Fumee Lake, MI	Mercury (Fish Tissue)
Hamilton Lake, MI	Mercury (Fish Tissue)
Lower Menominee AOC, MI	Arsenic, Mercury Fish Consumption Advisory, PAHs
Menominee River (Pier's Gorge to Lower Scott Flowage, MI)	Mercury Fish Consumption Advisory, PCB Fish Consumption Advisory
Menominee River in Marinette County, WI	Mercury Fish Consumption Advisory, PCB Fish Consumption Advisory
Menominee River, MI	Mercury, PCB Fish Consumption Advisory, Mercury (Fish Tissue)
Menominee River Watershed	PCBs
Sand Lake T38 R18E S21, WI	Mercury Fish Consumption Advisory
Sea Lion Lake, WI	Mercury Fish Consumption Advisory
South Groveland Pond	Mercury (Fish Tissue)
Unnamed Tributary to Porterfield Creek, MI	Phosphorus Algal Growth
Van Zile Lake, WI	Mercury Fish Consumption Advisory

Data Sources. Land cover map and percentages: National Land Cover database, 1992 (edc.usgs.gov/products/landcover/nlcd.html); Land use change: NOAA Coastal Change Analysis Program, 1996 and 2001 (www.csc.noaa.gov/crs/lca/ccap.html); Total Maximum Daily Load (TMDL) Impaired Waters: Surf Your Watershed (www.epa.gov/surf)

- The topography in the Menominee River basin was formed and heavily altered by periodic glaciation, the most recent of which was the Wisconsin period- 10,000-20,000 years ago.
- The region is characterized by lakes, glacial plains, end moraines, and poorly integrated east to west drainage. Bedrock outcrops and moraine deposits in the northern river basin create a more rugged terrain with a maximum elevation of 1300 feet, giving the basin a gradient of approximately five feet per mile. The Menominee basin consists mostly of sand and gravel called outwash which is underlain by dolomite.
- Active natural resource exploitation and land use changes occurred throughout the watershed in the mid-1800's. Iron ore deposits were discovered in the 1850's on the western edge of the Menominee Iron Range and numerous mines opened shortly thereafter particularly in the Iron Mountain, Michigan area.
- The logging era impacted water quality and physical habitat conditions in the watershed. The rivers and streams were used extensively for log drives during the 1880's and 1890's.
- Some of the developed areas are constructed on man-made soils that were deposited during the lumbering boom around the turn of the century. These man-made soils are composed of sawdust and waste wood that was discarded and then overlain with sand or topsoil as the building surface. These unstable soils have subjected many structures with excessive settling and alignment shifting.
- Two large impoundments are located on the Sturgeon River including Genes Pond and the Hardwood Reservoir. These impoundments modify river temperatures and influence downstream fish and macroinvertebrate communities. Warmwater fish species such as Walleye, Black Crappie, and Yellow Perch are now common in the Sturgeon River downstream of these impoundments.
- Consistent with the Wilderness Shores Settlement (WSS), the Wisconsin Electric Power Company is required to remove a 65-foot dam located on the Sturgeon River near Loretto, Michigan. This dam removal project is scheduled to be complete by 2007.
- The major economic activities are logging, paper making, tourism, and potato farming.
- The Menominee is a sturgeon spawning area.
- The Nature Conservancy identified the Pine-Popple River as having a critical large to moderate groundwater flow and small to medium-sized streams on outwash and coarse ground/end moraine.
- The Nature Conservancy identified the Lower Menominee River as a critical ecological system with riverine coastal marsh, Lake sturgeon, and Skillet clubtail.

Watershed Activities

- The Wisconsin portion of the watershed is part of the Wisconsin DNR's Upper Green Bay basin management area.
- There are ongoing effort to address non-point source pollution throughout the watershed.
- Grants have targeted sediment and nutrient pollution caused by road crossings, forest harvest practices, agriculture, cropland erosion, ORV trail crossing, and eroding streambanks.
- The watershed has received funding to promote education about Best Management Practices and non-point source pollution control.
- There are efforts to protect and restore creeks, lakes and streams within the watershed from further degradation due to non-point sources of pollution.

Menominee River Area of Concern Activities

Location

Lower 4.8 km of river to the mouth and 5 km north and south of the mouth along the bay shore

Stressors and Primary Contaminants

- Lloyd/Flanders Paint Sludge Site-high level of lead and other heavy metals coated sediments where deposited
- Arsenic
- Mercury
- PCBs
- PAHs
- Oil and grease
- Pathogens
- Sediments
- Coastal wetlands habitat loss
- Nonpoint pollution
- Historic shoreline developments to support harbor activities

Programs

- MDNR-Administrative Order
- RCRA Corrective Action
- Superfund
- Menominee Watershed Initiative

Clean-up Activities

- Paint sludge cleanup completed in 1995 (10 million pounds of hazardous waste from Bay and 20 million pounds of contaminated sediments).
- Development of cleanup plans for the Ansul site and river.

Delisting Targets

- In progress.

Key Activities Needed

- Arsenic source control
- Dredging of arsenic and coal tar contaminated sediments
- Protect riparian and coastal habitat
- Manufactured Gas Plant PAH site remediation and dredging.

Challenges

- Funding for dredging the Menekaunee Harbor.
- Funding needed for monitoring for BUI evaluation and delisting targets.

Next Steps

- Ansul site barrier wall installation.
- Complete Arsenic dredging
- Manufactured Gas Plant site remediation and dredging for coal tar (PAHs).
- Identify sources for fish consumption advisories (mercury, PCBs, dioxin) to ensure that sources are controlled