

Manistique River Watershed

Hydrologic Unit Code: 04060106

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

http://cfpub.epa.gov/surf/huc.cfm?huc_code=04060106 or

contact the Michigan Department of Environmental Quality at 517-335-6969 to request a copy of report number MI/DEQ/WB-05/106, "A Biological Survey of Manistique River Watershed, Luce, Mackinac, Alger, Schoolcraft, and Delta Counties, Michigan."

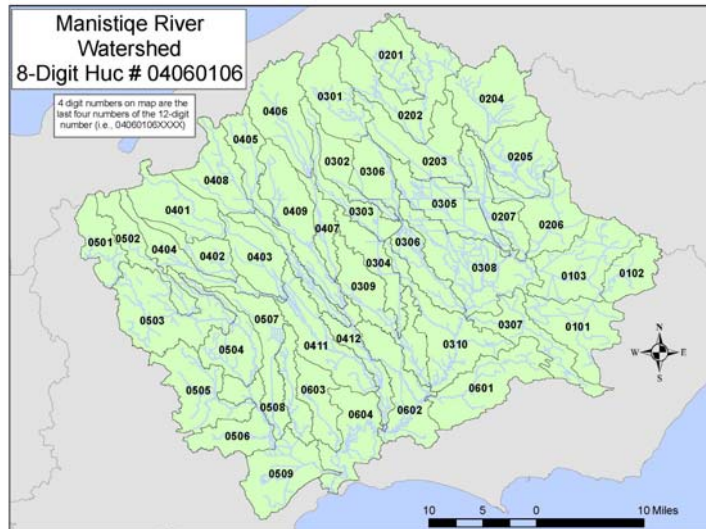
Watershed Groups

Manistique River Chapter of the Michigan Statewide Public Advisory Council; Corey Barr, Chair, www.gtc.org/spac/spacmemb.html

- Manistique River Area of Concern — www.epa.gov/glnpo/aoc/manistique.html

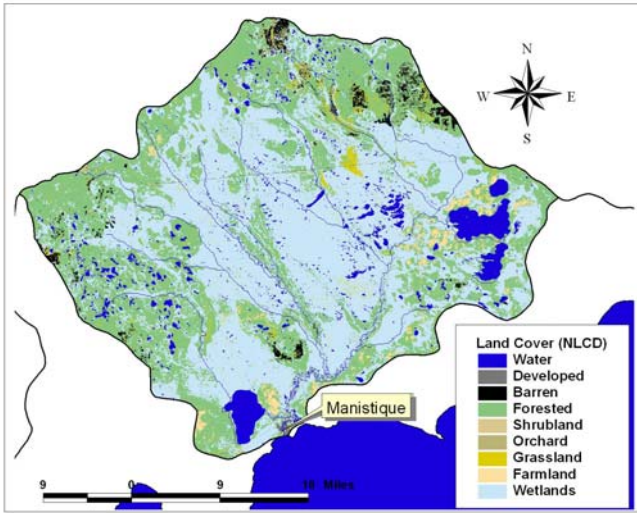
Watershed Overview

- Historical uses of Manistique River waters in the AOC include receiving wastes from sawmills, a paper mill, small industries, the municipal waste water treatment plant, plus navigation for shipping, ferrying, recreational boating and commercial fishing. Current uses include receiving the wastewater discharges from Manistique Papers, Inc. and the City of Manistique Wastewater Treatment Plant.
- Recreational uses are mainly boating, sightseeing, and fishing.
- The Seney National Wildlife Refuge is upriver of Manistique. The refuge is 95,455 acres of field and secondary growth forest. Almost two-thirds of the refuge is comprised of varying types of wetlands that provide habitat for threatened and endangered species and a variety of wildlife. The refuge is home to 26 fish species, 50 mammalian species, and 200 bird species, including eagles, loons, and trumpeter swans.
- Historically, a majority of forestland in the Manistique headwaters was logged and subsequent fires burned over the land leaving behind many white pine stump fields that are now being overcome by forest again.
- The dredging of contaminated sediments was completed at the end of 2000. Final dredging was done by divers with hydraulic hoses to minimize resuspension of PCBs and to ensure a clean substrate when completed.
- The Nature Conservancy identified the following critical ecological resources in the watershed: Seney Fens and East Branch Fox River have White Pine / Blueberry Dry-Mesic Forest; Critical ecological systems include the lower reaches of

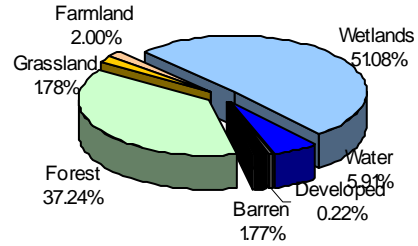


Subwatersheds of the Manistique River Watershed

- | | |
|---|--|
| 0101 South Manistique Lake | 0405 Star Creek |
| 0102 Black Creek | 0406 Stoner Creek-Creighton River |
| 0103 Manistique Lake | 0407 Creighton River |
| 0201 West Branch Fox River | 0408 Prairie Creek-Hickey Creek |
| 0202 Little Fox River-Fox River | 0409 Section Nineteen Creek-West Branch Manistique River |
| 0203 Twomile Ditch-Fox River | 0410 Hickey Creek |
| 0204 Camp Seven Creek-East Branch Fox River | 0411 Stutts Creek |
| 0205 Deer Creek-East Branch Fox River | 0412 West Branch Manistique River |
| 0206 East Branch Fox River | 0501 Squaw Creek-Indian River |
| 0207 Fox River | 0502 Little Indian River |
| 0301 Negro Creek-Driggs River | 0503 Delias Run-Indian River |
| 0302 Walsh Creek | 0504 Little Murphy Creek-Indian River |
| 0303 C-3 Pool-Walsh Creek | 0505 Big Murphy Creek |
| 0304 Walsh Ditch | 0506 Iron Creek-Indian River |
| 0305 Holland Ditch | 0507 Dead Creek |
| 0306 Driggs River | 0508 Smith Creek |
| 0307 Mead Creek | 0509 Indian Lake-Indian River |
| 0308 Pine Creek-Manistique River | 0601 Bear Creek |
| 0309 Duck Creek | 0602 Merwin Creek-Manistique River |
| 0310 Marsh Creek-Manistique River | 0603 Sturgeon Hole Creek |
| 0401 Beaver Creek-North Branch Stutts Creek | 0604 Manistique River |
| 0402 Middle Branch Stutts Creek | |
| 0403 North Branch Stutts Creek | |
| 0404 South Branch Stutts Creek | |



Land Cover: Manistique River Watershed



Watershed size: 1466 sq. miles

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

Tahquamenon and Manistique Rivers and Seney sand lake plain streams; Critical specie at the Seney Fens and East Branch Fox River - Auricled Twayblade

Watershed Activities

- The Manistique River RAP found that the main problem contributing to fishery use impairment was PCBs. Aquatic nuisance species also threaten the fishery productivity. The dam at the head of the old flume restricts fish passage
- There are plans to phase out combined sewer systems by 2020.
- A study conducted in 1994 showed 115 erosion sites covering 10,821 feet of stream bank that contributes an estimated 3,000 tons of sediment each year to the Driggs River, which is a tributary to the Manistique River.

Area of Concern Activities

Location

The last 1.7 miles of the river to the mouth of the harbor at Lake Michigan

Primary Contaminants and Stressors

- PCBs
- Combined sewer overflow
- PCB-contaminated sediments

Programs

- Superfund
- USACE

Clean-Up Actions

- Dredging of contaminated sediments completed in 2000 (190,000 cubic yards)
- Manistique Wastewater Treatment Plant made improvements to its system toward elimination of CSOs

Delisting Targets

- All delisting targets were set in 2006

Key Activity Needed

- Sampling and monitoring follow-up to confirm downward trends of contamination
- Coordination with RAP program for AOC delisting purposes

Challenges

- Navigational dredging
- Fish consumption advisories
- CSO to be closed by 2020

Next Steps

- Sampling and monitoring continuing as part of delisting process

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

Impaired (303d) Waters

Waterbody Name	Impairment
Manistique Lake	Mercury (Fish Tissue)
Manistique River	Pathogens, Mercury
Manistique River Watershed	PCBs
West Branch Lakes	Mercury (Fish Tissue)