

Pere Marquette-White Watershed

Hydrologic Unit Code: 04060101

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

cfpub.epa.gov/surf/huc.cfm?huc_code=04060101 or contact the Michigan Department of Environmental Quality at 517-335-6969 to request a copy of report number 02/050 "A Biological Survey of the Big Sable River, Mason and Lake Counties, June 5-6 and Sept 14, 2000".

Pere Marquette (2000): MI/DEQ/SWQ-02/055 and MI/DEQ/SWQ-02/056

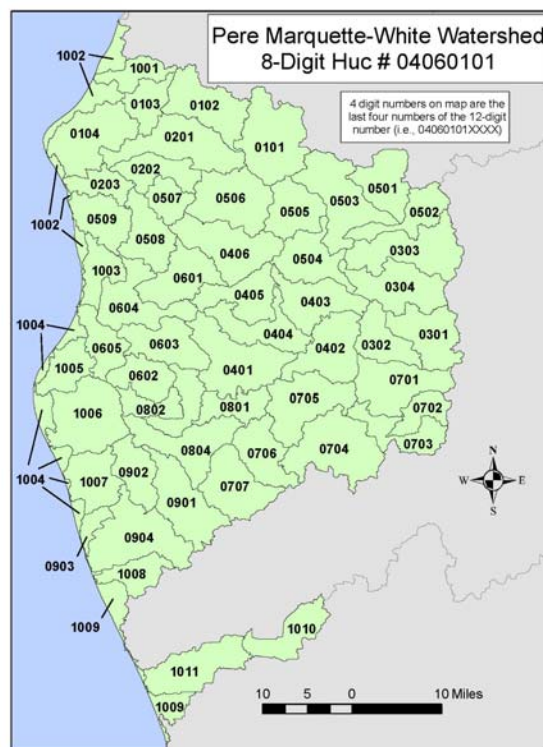
Pentwater (2005): MI/DEQ/WB-06/097

White Lake Tributaries: MI/DEQ/WD-03/063

Watershed Groups

- White River Watershed Partnership — www.wrwp.org
- Conservation Resource Alliance — www.rivercare.org
- Pere Marquette Watershed Council — www.peremarquette.org
- The Mona Lake Watershed Council — www.monashores.net/monalakewatershed/Design1/home.htm

White Lake Public Advisory Council—www.muskegoncd.org/White%20Lake%20PAC.htm



Subwatersheds of the Pere-Marquette-White Watershed

- | | |
|--|---|
| 0101 Muckwa Creek-Big Sable River | 0603 South Branch Pentwater River |
| 0102 Ritters Creek-Big Sable River | 0604 North Branch Pentwater River |
| 0103 Freeman Creek-Big Sable River | 0605 Pentwater River |
| 0104 Big Sable River | 0701 Mullen Creek-South Branch White River |
| 0201 North Branch Lincoln River | 0702 Fivemile Creek |
| 0202 South Branch Lincoln River | 0703 Flinton Creek-South Branch White River |
| 0203 Lincoln River | 0704 Black Creek-South Branch White River |
| 0301 McDuffee Creek | 0705 Martin Creek-South Branch White River |
| 0302 Headwaters Little South Branch Pere Marquette River | 0706 Brayton Drain-South Branch White River |
| 0303 Middle Branch Pere Marquette River | 0707 South Branch White River |
| 0304 Little South Branch Pere Marquette River | 0801 McLaren Lake-North Branch White River |
| 0401 Beaver Creek | 0802 Robinson Creek |
| 0402 Winnepesaug Creek-Big South Branch Pere Marquette River | 0803 Osborn Creek-North Branch White River |
| 0403 Cedar Creek | 0804 North Branch White River |
| 0404 Freeman Creek-Big South Branch Pere Marquette River | 0901 Sand Creek-White River |
| 0405 Ruby Creek-Big South Branch Pere Marquette River | 0902 Carlton Creek |
| 0406 Big South Branch Pere Marquette River | 0903 Pierson Drain |
| 0501 Cole Creek-Baldwin River | 0904 White River |
| 0502 Sanborn Creek | 1001 Gurney Creek |
| 0503 Baldwin River | 1002 Cooper Creek-Frontal Lake Michigan |
| 0504 Danaher Creek-Pere Marquette River | 1003 Bass Lake |
| 0505 Tank Creek-Pere Marquette River | 1004 Bigsbie Lake-Frontal Lake Michigan |
| 0506 Weldon Creek-Pere Marquette River | 1005 Silver Creek |
| 0507 Black Creek-Pere Marquette River | 1006 Stony Creek |
| 0508 Swan Creek-Pere Marquette River | 1007 Flower Creek |
| 0509 Pere Marquette River | 1008 Duck Creek |
| 0601 Allen Drain-North Branch Pentwater River | 1009 Little Black Creek-Frontal Lake Michigan |
| 0602 Huftile Creek | 1010 Muskegon Newaygo Drain-Black Creek |
| | 1011 Mona Lake-Black Creek |

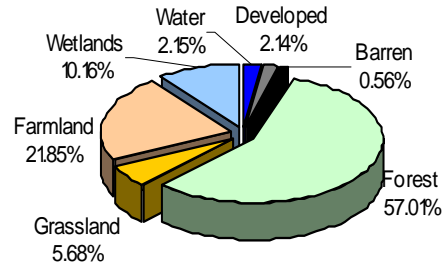
Watershed Management Plans

- Pere Marquette — Conservation Resource Alliance
- South Branch, Pentwater River — Oceana Conservation District
- Hamlin Lake/Big Sable — Conservation Resource Alliance

Watershed Overview

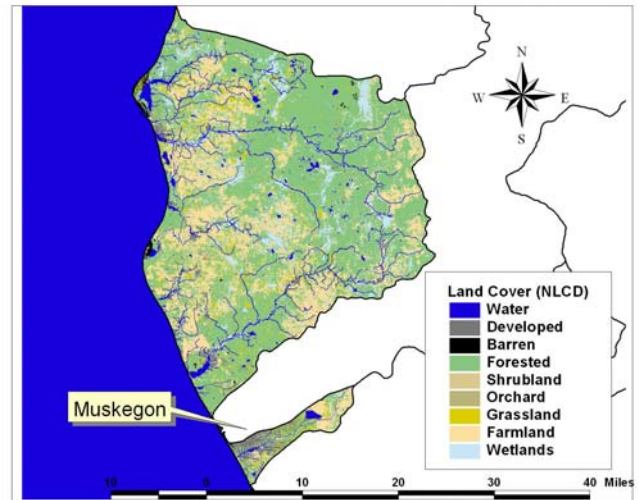
- The Pere Marquette watershed covers over 2100 square miles.
- The watershed has over 90 miles of Lake Michigan shoreline.
- The watershed is primarily forested.
- Recreational uses include fishing, wildlife viewing, boating, canoeing, kayaking, camping, and hiking.
- The White River is a State designated natural river.
- Pere Marquette River is a designated National Scenic River
- The Big Sable River's headwaters and upstream are recognized for both Brook and Brown Trout, while downstream to Hamlin Lake is noted mostly for Brown Trout. Hamlin Lake is recognized as one of west Michigan's best fishing spots.
- Excessive sedimentation and erosion are major problems in the watershed.
- The Nature Conservancy identified the following critical ecological resources in the watershed:
 - ◊ Big Sable Point and Hamlin Lake include Great Lakes Dune Pine Forest, Great Lakes Beachgrass Dune, and Interdunal Wetland
 - ◊ The Pentwater Marsh includes Great Lakes Shoreline Cattail - Bulrush Marsh
 - ◊ The Pere Marquette watershed includes Central Cordgrass Wet Prairie and Central Cordgrass Wet Sand Prairie
 - ◊ Flower Creek and Dunes include Great Lakes Shoreline Cattail - Bulrush Marsh
 - ◊ Newaygo Prairies include Inland Coastal Plain Marsh, Midwest Dry Sand Prairie, and White Pine - White Oak Forest
 - ◊ Hoffmaster-Kitchel Dunes contains Great Lakes Beachgrass Dune
 - ◊ Stony Creek-Camp Miniwanca contains Great Lakes Shoreline Cattail - Bulrush Marsh
 - ◊ Pere Marquette River Watershed contains drowned river mouth lakes
 - ◊ Big Sable Point-Hamlin Lake is home to Pitcher's Thistle
 - ◊ Pere Marquette River Watershed is home to Karner Blue Butterfly, and Hill's Thistle
 - ◊ Flower Creek and Dunes is home to Pitcher's thistle
 - ◊ Newaygo Prairies is home to Hill-prairie spittlebug, Karner blue butterfly, and Hill's thistle
 - ◊ Hoffmaster-Kitchel Dunes is home to pitcher's thistle
 - ◊ Stony Creek-Camp Miniwanca is home to Pitcher's thistle

Land Cover: Pere Marquette-White Watershed



Watershed size: 2105 sq. miles

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



Watershed Activities

- The White River Watershed partnership, formed in 2003, has a mission to protect the unique characteristics and the natural resources of the White River watershed by promoting education, conservation, restoration, and preservation activities.
- The primary goals of the Pentwater River Watershed Program are to protect and enhance the high quality waters of the South Branch of the Pentwater River by implementing Best Management Practices (BMPs) within the watershed. BMPs are defined as any structural, vegetative, or managerial practice to treat, prevent, or reduce water pollution.
- The Pere Marquette River Restoration Committee is working to repair road/stream crossing, stabilize streambanks and develop livestock and agricultural projects .
- The Conservation Resource Alliance works with Kanouse Outdoor Restoration to repair erosion at steep, sandy eroding

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)

streambanks along the Baldwin River. In addition, a combination of woody debris and fish habitat platform structures are placed at all of the sites to provide hiding and resting cover for fish, aquatic insects and a variety of wildlife.

- In 2003, the Lake Michigan Forum conducted an assessment of environmental stewardship in Michigan’s Mona Lake watershed. The assessment process was aimed at identifying opportunities for creating a permanent ethic of environmental stewardship among leaders and the general public in the local watershed.
- The Mona Lake Watershed Council is working on projects to support the health of the watershed.

Impaired (303d) Waters	
Waterbody	Impairment
Big Blue Lake	Mercury (Fish Tissue)
Black Creek	PCB Fish Consumption Advisory
Hamlin Lake	Mercury (Fish Tissue)
Lake Michigan— South of Frankfort	Chlordane Fish Consumption Advisory DDT Fish Consumption Advisory Dioxin Fish Consumption Advisory PCB Fish Consumption Advisory Mercury (Fish Tissue)
Mona Lake	PCB Fish Consumption Advisory
Pere Marquette Lake	PCB Fish Consumption Advisory
Pere Marquette River Watershed	PCBs
White Lake	Chlordane Fish Consumption Advisory PCB Fish Consumption Advisory

White Lake Area of Concern Activities

Location

The White Lake AOC is located in the west central portion of Muskegon County in Michigan, and is connected to Lake Michigan by a federally maintained navigation channel. The white Lake AOC includes White Lake proper and a one-quarter mile wide zone around the lake.

Stressors and Primary Contaminants

- Heavy metals
- Stormwater nonpoint pollution
- Arsenic
- Chromium
- Sediments
- Industrial contamination
- Groundwater contamination

Programs Programs

- Superfund
- RCRA

Clean-Up Actions

- Dredging in Tannery Bay@ (2002) – 73,000 cubic yards of waste (hides, chromium, and arsenic)
- Cleanup of Occidental Chemical site in 2002
- Potential sources of groundwater contamination to White Lake and its tributaries have been identified and remediation efforts are underway
- Some eutrophication has been alleviated by improvements to the sewage collection and treatment systems
- Contaminated groundwater venting to the lake is being intercepted by purge wells and treated prior to discharge

Delisting Targets

- Yes; Targets are pending MDEQ approval

Key Activity Needed

- Assessment and further study of contaminated sites
- Coordination with RAP program for AOC delisting purposes

Challenges

- Monitoring achievement of delisting targets

Next Steps

- Further study of the extent of contamination from the Whitehall Leather Company is needed, in addition to possible remediation funds.
- Assessment is needed of sediments at discharge points for other contaminated sites
- Fish and Wildlife Habitat Preservation