The Marengo River watershed is not drastically altered, so ***small changes can and will improve it****.*

We can **make a difference**.

Many residents, agencies, and organizations are working together to "slow the flow" along with other important activities that will improve the watershed including:

- Replacing failed culverts to allow for fish passage,
- Following Best Management Practices for agriculture and logging,
- Improving or replacing failing septic systems,
- Restoring wetlands and eroding stream banks, and
- Identifying invasive species and controlling their spread.

More remains to be done!

How **you** can help:

- Pump and maintain your septic tank on a regular basis.
- Plant and protect trees along the river to improve fish habitat and help "slow the flow."
- Talk to a forestry professional about developing a forest management plan for your property that will help the river.
- Watch for invasive species on your property.
- Wash your boats to prevent aquatic "hitchhikers."
- Talk to your neighbors and town representatives about issues related to water quality and habitat improvement.
- Find out how to become involved with groups who are actively monitoring and protecting water quality.
- Reduce your use of fertilizer on lawns and gardens.
- Recycle all allowable items in your area and reduce your use of disposable items. Fumes from burn barrels used to dispose of household garbage contribute toxins directly to local waters.

For more **information**:

Lake Superior Binational Program
www.epa.gov/glnpo/lakesuperior/

Bad River Watershed Association
www.badriverwatershed.org

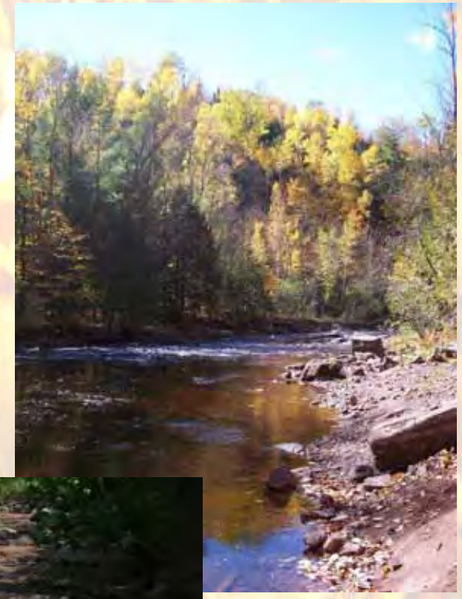
Wisconsin DNR
www.dnr.state.wi.us/org/gmu/superior/BasinPlan/Watersheds.html

Marengo River Watershed Test Case Report
http://clean-water.uwex.edu/pubs/pdf/add.marengotest.pdf

All photos courtesy of Bad River Watershed Association except purple loosestrife (National Park Service), wood turtle (U.S. EPA), and "slow the flow" (Stable Solutions, LLC)

Help Protect and Restore the **Marengo River Watershed**

The Marengo River, located in central Ashland and south central Bayfield counties, is a unique and diverse watershed. It is home to eagles, bears, trout, and residents who feel strongly about protecting the condition of the Marengo River watershed. It is also a tributary of Lake Superior, making the river a source of new water for the greatest of the Great Lakes.



Residents of the watershed describe the significance of their surroundings with words like "natural beauty," "rural character," "fish," and "hunting." Some are not quite able to describe the feelings that the natural beauty of the land evokes, but they recognize the watershed's special features and the importance of maintaining them for future generations.

There have been noticeable changes in the river — smaller fish, and shallower waters. Some of the changes are part of the river's ever-changing nature, but other factors are at work, as well.

What can any one person do to help?

This brochure describes some of the challenges affecting the health of the Marengo watershed and how you can be a part of efforts to improve, maintain, or restore the health of the watershed.

Read on to learn how you can make a difference!

Everything I do on my land ***affects my neighbor downstream****.*
—Ken Lindquist, watershed resident and farmer

What is a watershed and **why do we care**?

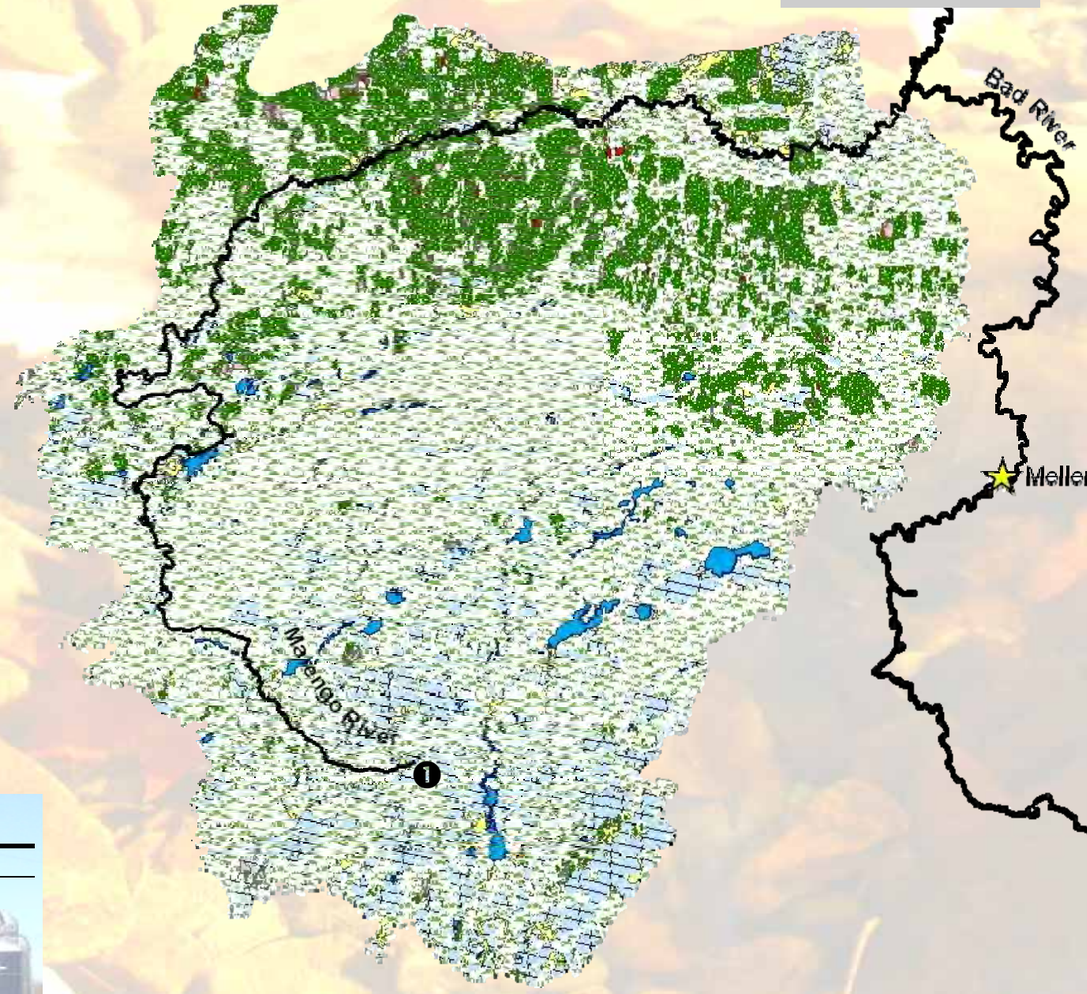
A watershed is like a funnel, formed by the contours of the land and drained by all the rivers and streams that flow through it. Everything in the funnel flows to the lowest point and out into a larger basin. All the rain and snow that falls in a watershed eventually washes into the rivers and streams, carrying soil and pollutants through the watershed and to the larger basin. Even small amounts of pollution, when contributed by many people, can combine to cause significant problems.


3

2

The 218-square-mile Marengo River watershed originates in swampy wetlands at the top of the Penokee Mountains (1,443 feet) 1 and drops 732 feet over a distance of 54 miles before emptying into the Bad River, which in turn flows to Lake Superior. Hundreds of miles of tributaries contribute to the Marengo River, including the Brunsweiler River and Morgan Creek. Some tributaries, such as Troutmere Creek and Spring Brook, are high quality trout streams. The Marengo River crosses onto the Bad River Reservation three miles upstream from its confluence with the Brunsweiler River. 2

Migratory fish including steelhead, white sucker, brown trout, and brook trout move up the river to spawn or find refuge. Wood turtles, a threatened species in Wisconsin, 3 lay their eggs in the river's floodplain, and songbirds use the river-side forests to breed during the summer and rest during migration. Wolves, fishers, and bobcats also live and raise their young here.



Land use/land cover in the Marengo watershed

Class	*% Cover*	*Acres*
Barren	0.76	1,054
Crop/Agriculture	1.40	1,943
Forested	66.86	93,079
Grassland	15.99	22,260
Open Water	1.57	2,185
Shrub	3.38	4,699
Urban	0.02	30
Wetland	10.03	13,962
TOTAL	100%	139,214

Source: WISCLAND, 1998. Wisconsin DNR.

Keeping a watershed healthy and beautiful ***depends on a series of personal decisions****.*
—Michele Wheeler, watershed resident

No watershed is without its **challenges**

While the health of the Marengo River watershed has not reached a critical point, there are a few issues of concern:


4

Slowing the Flow — The key to improving many of the challenges in the Marengo River watershed is tied to a concept called "slow the flow." Too much open land, especially near streams and ravines, causes water to run off the land rather than soak in. This leads to erosion that carries sediment and other pollutants to local streams. 4

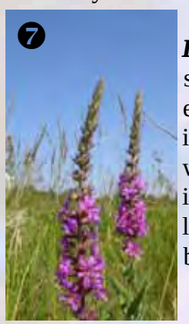

5

Sedimentation — Sand and silt from eroding banks and other sources are another large challenge. Sediments accumulate on the river bed, degrading water quality and smothering plants and habitat for 5 aquatic species like fish.

Road culverts — The river flows through culverts at many road crossings, but poorly placed or maintained culverts can cause erosion and often do not allow fish and other organisms to pass through. These barriers can lead to declines in abundance, but at their worst, they can cause populations to disappear altogether. 6


6

Pollutants — High bacteria counts, including *E. coli*, have been documented in the river's lower reaches. Lakes and rivers in the watershed have fish advisories for mercury.


7

Invasive species — Non-native invasive species can cause environmental and/or economic harm to watersheds. Examples of invasive species in the Marengo River watershed are sea lamprey larvae that thrive in the river's sandy bottom, and purple loosestrife that is taking hold along its banks. 7