



**Federal Clean Water Act
Section 319 Grant
Tracking code 2007-0137**



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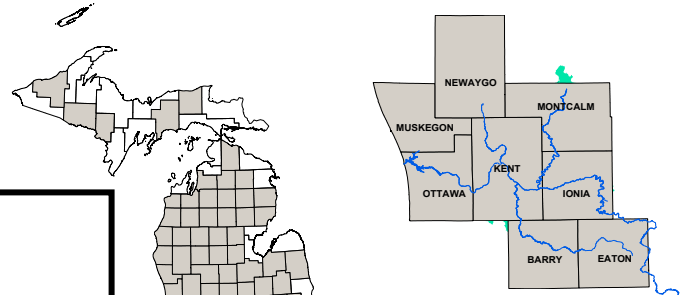
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Lower Grand River Organization of Watersheds Initiatives Project

February 1, 2008 - December 31, 2010

The Lower Grand River Watershed (LGRW) is the lower portion of the Grand River starting by the City of Portland and ending at Lake Michigan within the City of Grand Haven. The watershed has a drainage area of 2,909 square miles and encompasses large portions of seven counties. Most of the Watershed is covered by residences, urban centers, forests, and agricultural. The major pollutants of concern are pathogens, sediment, and nutrients. The Lower Grand River Organization of Watersheds (LGROW) was formed to work with West Michigan communities in restoring, protecting, and enhancing water quality in the LGRW. Grand Valley Metropolitan Council, on behalf of LGROW, was awarded the LGROW Initiatives Project grant. Fishbeck, Thompson, Carr & Huber, Inc., GVSU's Annis Water Resources Institute, Center for Environmental Study, Alex Nesterenko and West Michigan Environmental Action Council were contracted to assist in completing the project. The goals of the LGROW Initiatives Project were to: 1) Update the Lower Grand River WMP to include the EPA Nine Elements; 2) Create tools to assist watershed stakeholders to restore, protect and enhance water quality of the Grand River; 3) Build awareness about the Grand River, nonpoint source pollution, opportunities to incorporate best management practices into people's lifestyle, and LGROW as an organization; and 4) develop organizational sustainability.

Grant Amount: \$ 372,618
Match Funds: \$ 137,316
Total Amount: \$ 509,003



Lower Grand River Watershed

Tools/Products Created:

- Updated Watershed Management Plan to meet EPA 9 elements.
- Created an interactive map to illustrate priority sites to integrate low impact development practices.
- Developed a Functional Wetland Assessment within LGRW.
- Developed recommendations for updating the Kent County Storm Water Model Ordinance for channel protection.
- Created a social profile.
- Developed extended detention rating curves for Michigan's 10 climatic zones.
- Conducted an accomplishment survey.
- Created Water Quality Monitoring Decision Making Tool in a Power Point format.


I&E Activities:

- Developed LGROW logo.
- Conducted a watershed survey (Kent County).
- Distributed 3 Grand Rapids Press inserts (all Kent County zip codes residents receiving the Grand Rapids Press, and Grand Haven residents receiving the Grand Haven Tribune).
- Purchased and prepared four traveling displays for the four active sub-watersheds groups and a set of four banners for watershed outreach events.

Key Partners involved:

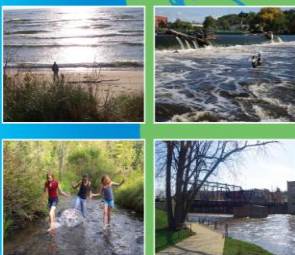
- Fishbeck, Thompson, Carr & Huber, Inc.
- GVSU Annis Water Resources Institute
- Cannon Township
- Center For Environmental Study
- Cities of East Grand Rapids, Grand Rapids, Grandville, Kentwood, Wyoming, Walker, Grand Haven
- Sub-watersheds: Coldwater River Watershed Council, Thornapple River Watershed Council, Sand Creek Watershed Partners, Plaster Creek Watershed Stewards, and Rogue River Watershed Council
- Frey Foundation
- Kent County and Ottawa Drain Commissioners
- Ottawa County Conservation District
- West Michigan Environmental Action Council
- Herbruck Farms
- Calvin College
- Grand Rapids Press
- Grand Haven Tribune
- Alex Nesterenko, Ph.D.

Coordinated 4-Banner Exhibit




LOWER GRAND RIVER ORGANIZATION of WATERSHEDS

Your watershed needs your help!




We strive to protect the watersheds where we live, work and play.

Join us!




WHERE'S YOUR WATERSHED?

You live in a watershed, the area of land that drains to a single body of water.




Lower Grand River Watershed
12,545 square miles

Grand River Watershed
5,572 square miles
The Grand River is Mississippi's longest at 209 miles.




Help Prevent These Sources of Pollution:



Keep farm runoff on the farm.



Your local storm drain goes straight to the river!
Only rain down the drain.




Pick the right fertilizer and use it with care.





Keep Your Watershed Clean by Going Green!



Your agricultural buffer soaks up farm runoff before it reaches the water.



Save your rain for a sunny day! Green roofs and rain garden help manage rain where it falls.



Your landscape makes a difference. Native plantings are easy care and need little to no fertilizer.

EPA 9-Element Approved WMP



Part
3 of 3

Have you hugged your green infrastructure today?



The nature of green infrastructure

The Grand River begins as a few small trickles.

These trickles merge with other trickles, coming from many different places: a creek, from a storm, and finally a river, black slugs.

The spirit of the watershed greets these trickles and directs them to the river. The Grand River then carries them to Lake Michigan. This is how our trickles from your part flow to meet the Great Lakes.

Choices we have when we walk in your part of the watershed are choices – choices of how we walk and how we move. These choices of how we walk and how we move are choices of how we live. These choices of how we live are choices of how we live. These choices of how we live are choices of how we live.

Since there are so many choices in the watershed where these paths start, they are often called *watershed choices*. Watershed choices are choices of how we live.

A watershed is a pattern of developed areas, cultivated ground and forested land.

All of these areas and their uses have an impact on water quality in the watershed.

Storm water flows across certain areas (urban, suburban, and agricultural) and into the river. These watersheds are part of the watershed's agricultural lands.

Some people have a choice of how to live in their part of the watershed. It is their choice to make.

A user's guide to green infrastructure for long-term thinkers.

To meet the need for water in the long term, we need green infrastructure. Other parts include such essential facilities as the power grid, gas pipelines, telephone lines and rail lines, and flood barriers, levees and dikes.

Infrastructure is the physical framework and services that make it possible for us and our communities to function. For example, this infrastructure allows us to get the internet, drive to work, and a small child to go to school in California.

This part of our infrastructure we call *gray infrastructure*. Another kind of infrastructure is called *green infrastructure*. Green infrastructure is the part of nature that has also been designed for us to use.

It provides habitat for producing fish and wildlife. Forestlands, knolls, soils and wetlands are all part of green infrastructure – the foundation of the Great Lakes watershed.

Sometimes green infrastructure is very obvious, such as Michigan's forests, and sometimes it is not, such as microscopic communities (bacteria) in the soil. You can think of green infrastructure as everywhere, even poking through sidewalk cracks.

Green infrastructure can be designed and built, such as a green roof and walls, air-purting, tree gardens and wetland basins. In parks, fields or water bodies, you require the green infrastructure. It will be difficult to enjoy fishing, hiking or riding a horse without it. Your choices may be in gardening, organic food, lawn markets or buying Michigan green food. All dependent on green infrastructure, how we live and where we live in one of the Lake Michigan watersheds, but it is green infrastructure that makes it all work.

To help in your understanding of green infrastructure, here are the ABCs:

Apple trees are a part of the watershed. They produce apples and other fruit that we eat. They are also a part of the watershed's agricultural lands. They are also a part of the watershed's agricultural lands. They are also a part of the watershed's agricultural lands.

Biodiversity is the variety of life in the watershed. It is the variety of life in the watershed. It is the variety of life in the watershed. It is the variety of life in the watershed. It is the variety of life in the watershed.

Connections are the links between different parts of the watershed. They are the links between different parts of the watershed. They are the links between different parts of the watershed. They are the links between different parts of the watershed.

Dunes are a part of the watershed. They are a part of the watershed. They are a part of the watershed. They are a part of the watershed. They are a part of the watershed.