

Message From the New Coordinator



Carley Kratz

River Raisin Watershed Council

Spring 2014 Meeting

April 23, 2014

Outline

- My Background
- What Does the Watershed Council Do?
 - Education
 - Monitoring & Protection
 - Volunteer Programs
 - Recreation
- Michigan Agriculture Environmental Assurance Program (MAEAP)
- Mycofiltration: Using Fungi to Improve Water Quality

My Background

- Grew up near Bridgewater
 - Enjoyed the River Raisin from a young age
- 2009 University of Michigan, B.S.
 - Program in the Environment
 - Botany
 - Honors thesis on prescribed burns
- 2014 Michigan Technological University, Ph.D.
 - Impacts of climate change on soil microorganisms
 - Fungi in forests and wetlands



What Does the Watershed Council Do?

We Support...

- Education
- Monitoring & Protection
- Volunteer Programs
- Recreation



Education

- Public Forums
 - Libraries, Fairs, Local Governments
 - Information tailored to interest of both children and adults
- Classroom Presentations
 - Lake Erie Water Festival Partner
 - 2014-2015 School Year
- Freely Available Materials
 - Activity books for children
 - Maps
 - Grant funding guides
 - Informational books and pamphlets on gardening, fishing, pollution, septic systems, etc.

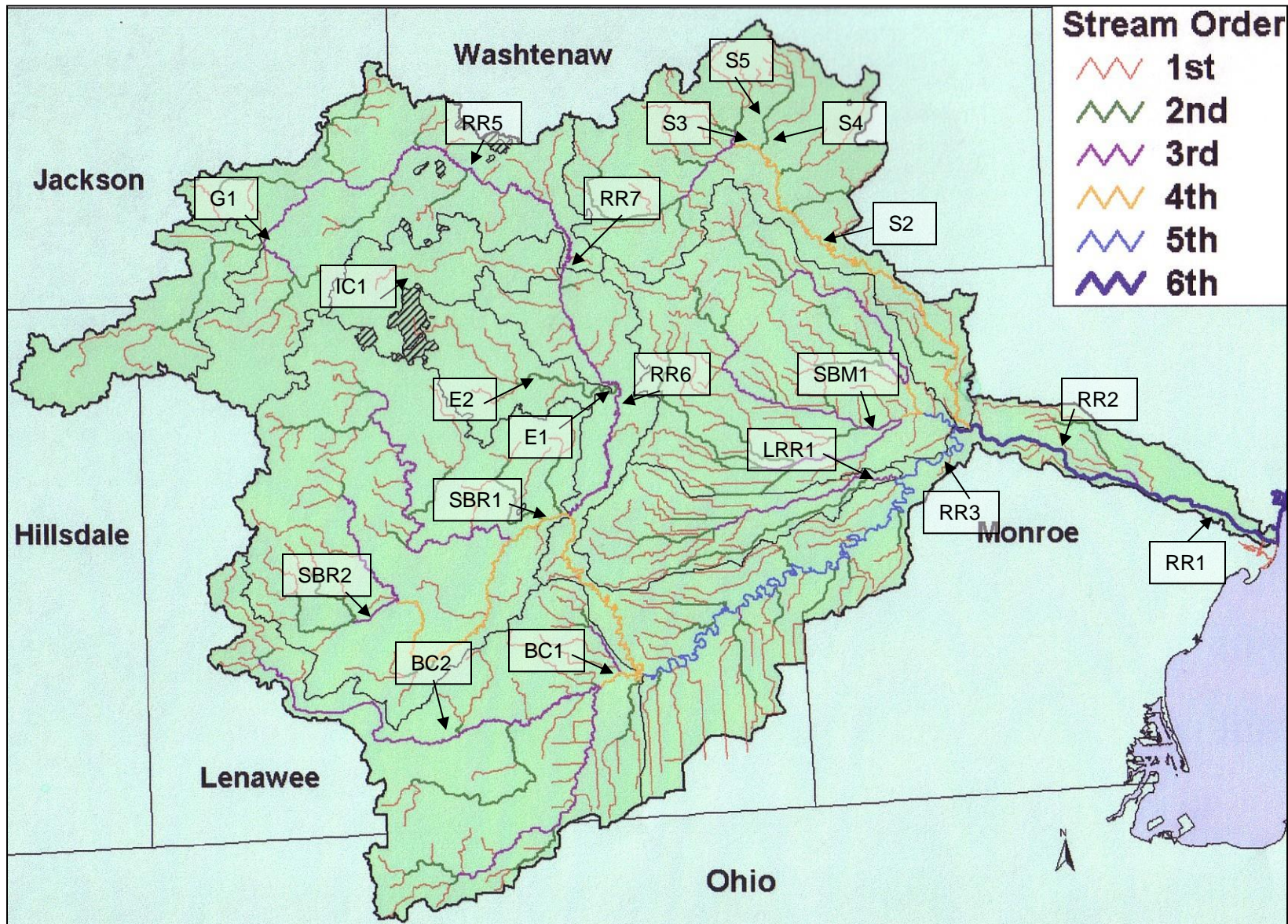


Monitoring & Protection

- River Raisin Watershed Management Plan
 - Published in 2009 by RRWC and partners
 - Includes history, geology, biology, water quality
 - Freely available to everyone
 - Useful resource when applying for funding
- Protection of Habitat
 - Work to preserve habitat for native plants, fish & wildlife
 - Help guide land use decisions
- Water Quality Monitoring
 - Long-term data collected by Heidelberg University
 - RRWC will expand nitrogen, phosphorus, sediments & dissolved oxygen measurements to more sites
 - Coordinate new measurements with macroinvertebrate sampling

Adopt-A-Stream

- 12th Year
- Volunteers learn to monitor water quality by sampling macroinvertebrates
 - Some “bugs” are more sensitive to changes in water quality than others
- Jim Martin at Adrian College is our lead Entomologist
- New partners
 - Jackson Community College
 - Lenawee County Intermediate School District



Adapted from: DEQ, River Raisin Watershed Hydrologic Study

Dave Fongers
 Hydrologic Studies Unit
 Land and Water Management Division

Michigan Department of Environmental Quality
 Feb. 17th 2006



May 17th **Training Day**

Learn how to sample aquatic bugs

May 31st **Stream Search Day**

Volunteer teams collect samples

June 7th **Bug ID Day**

Identify bugs and learn about water quality

Volunteer

- Organize local stream cleanups
 - Small cleanup events at the headwaters (June 7th) and in Monroe (TBA) this summer
- Help lead special educational sessions in your community
- Man a booth at a fair or expo
- Coordinate paddles or fishing trips

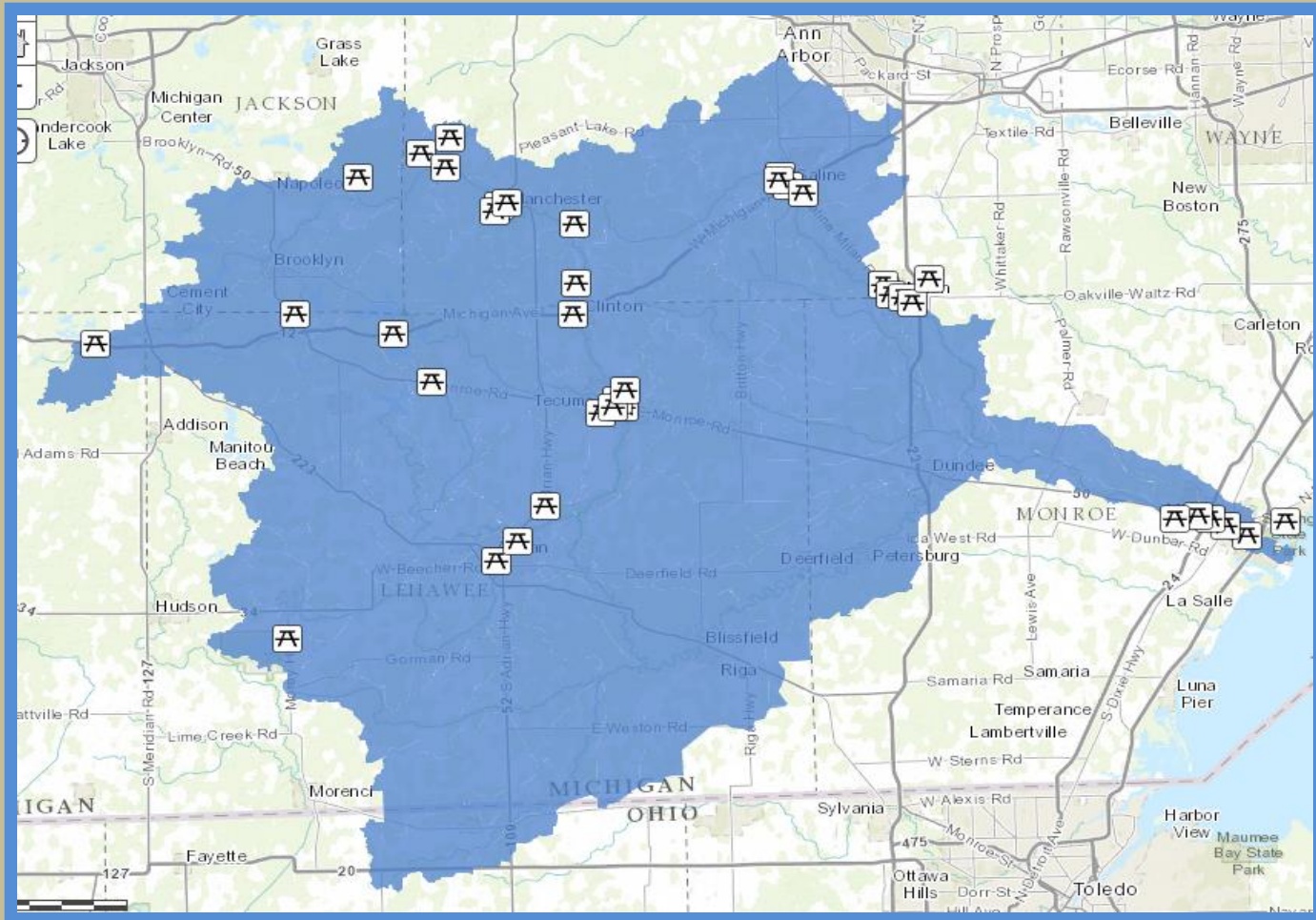
River Raisin Rescue

- Three sites will be target for cleanup in 2014
 - Manchester
 - June 21st
 - Adrian
 - July 19th
 - Dundee
 - August 23rd



Recreation

Michigan Water Trails-Public Access Site Map





- Michigan Agriculture Environmental Assurance Program
- Certifies farms as environmentally friendly
- FREE and voluntary program
- Guides farmers in livestock, crop and farmstead programs
- Does NOT write citations
- Organizes Tall Ship Sails on Lake Erie

No-Till Agriculture & Fungi

- Tilling breaks up fungal hyphae in the soil
- Mycorrhizal fungi help plants take up nutrients
- Fungi produce substances that hold the soil in place



Mycoremediation

- Using Fungus to Improve Water Quality
 - Reduce Erosion
 - Absorb Nutrients
 - Improve Crop Yield
 - Break Down Contaminants
- “Mycelium Running” by Paul Stamets

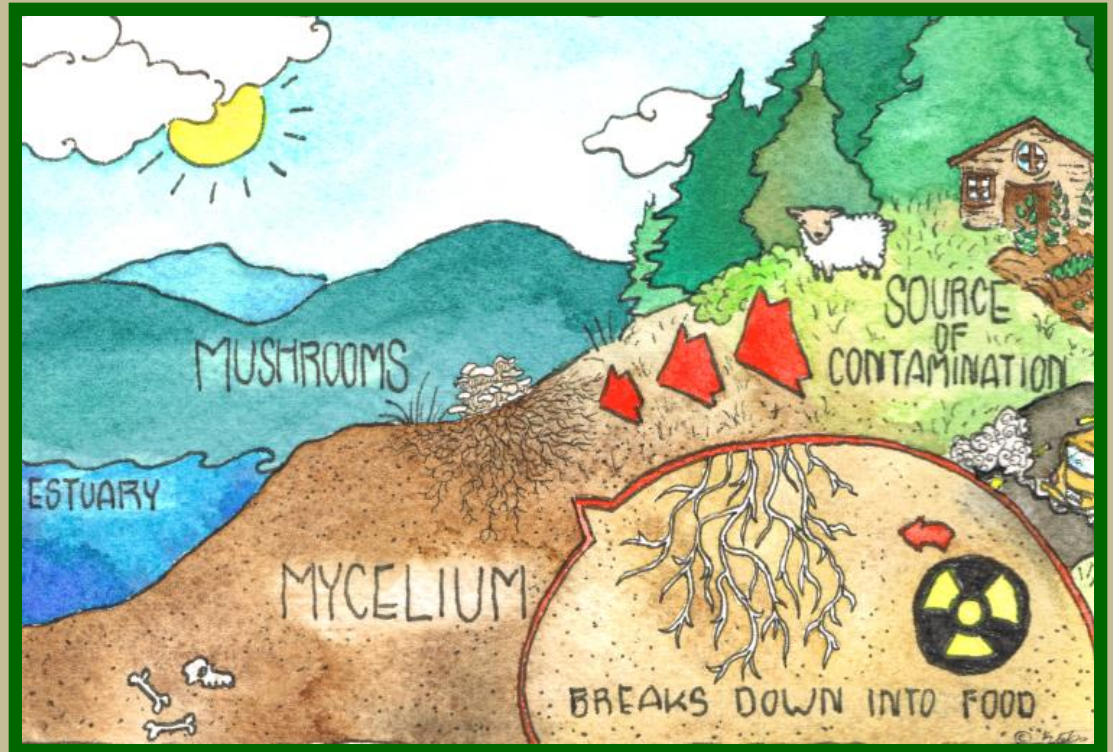
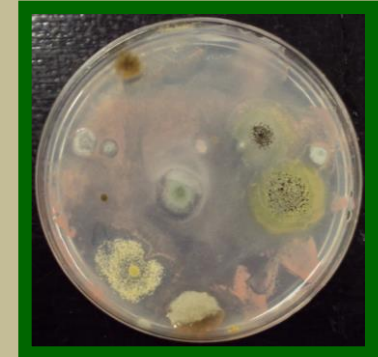


Image: <http://www.orcas-island-rentals.com/mycoremediation.png>

How It Works

- Inoculate wood chips with fungi
- Fill burlap bags with wood chips
- Stack bags to create bunkers in ecologically important areas



Importance of Citizens

- The River Raisin Watershed is as large as Rhode Island (1,080 square miles)
- We rely on the input of citizens to guide our activities
 - Recreational Opportunities
 - Volunteers Task-Force
 - Areas that Need Attention
 - Water Quality Concerns

Questions?

