

An aerial photograph of Lake Macatawa, showing the lake's winding path through a landscape of green trees and residential areas. A large dam structure is visible at the bottom of the frame, where the lake meets a larger body of water. The sky is clear and blue.

Macatawa Watershed Project

Lake Macatawa A Resource Worth Protecting

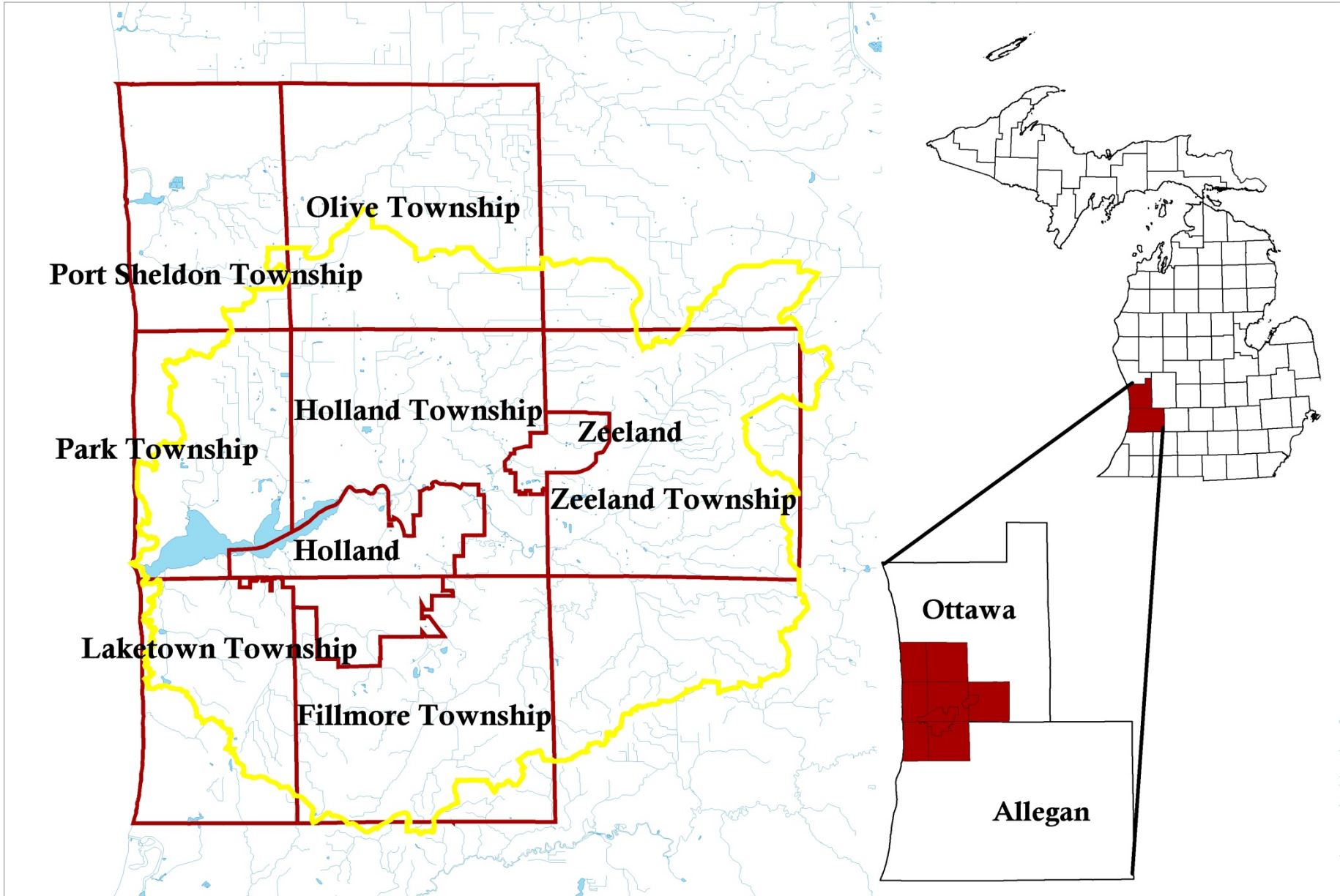
Mary Fales,
Watershed Coordinator
Macatawa Watershed Project
October 26, 2009

Macatawa Area Coordinating Council



MACC Mission:

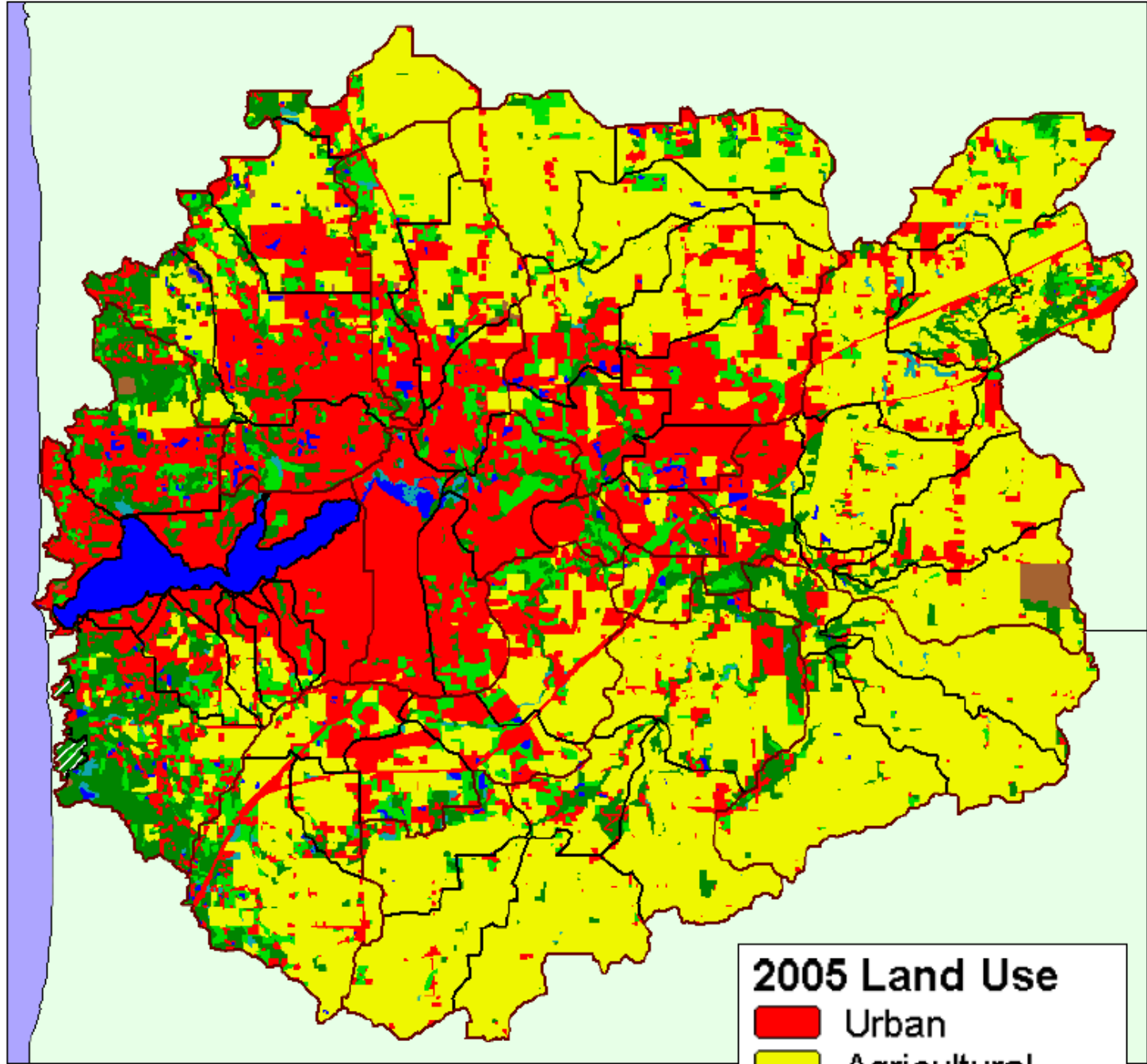
“To encourage cooperation among neighboring units of government on area wide issues”



Macatawa Watershed Location and Boundaries



**MA
AC** Macatawa Area
Coordinating Council
A Cooperative Effort Among Units of Government



2005 Land Use

- Urban
- Agricultural
- Forest

History of the Watershed Project

- 1970s-1995: Degraded water quality, low DO, high nutrients, algal blooms: hypereutropic
- 1996 : put on 303 d list for nonattainment
 - DEQ rcvd EPA Grant
 - Main problem: Phosphorus
 - Develop Total Maximum Daily Load (TMDL)
- Goal Set – 70% Phosphorus Reduction
 - Annual load was 126,100 lbs – 138,500 lbs P
 - Goal was set at capping P inputs at 55,000 lbs/yr
 - 90% coming from non point sources

How did we get to this point ?

- Why is the Project at the MACC?
 - Watershed is a regional issue!
 - Developed Implementation Plan
 - Signed a Voluntary Agreement (2001)
- Who is responsible for the condition of Lake Macatawa?

What has been done in the last 10 years?

- Increase Community Awareness
- Education! Education! Education!
- Allegan and Ottawa Co Phosphorus Ban!
- Lawn Care Seal of Approval Program!
- Research, Water Quality Monitoring
- Storm Water Regulations
- Demonstration Sites
 - Rain gardens, wetlands, bioswales etc

Wetlands

- DEQ completed a [Landscape Level Functional Wetlands Assessment](#) in May 2009
- Goal:
 - To identify how much wetlands have been lost
 - To identify where wetlands were lost
 - To identify what wetland functions we have lost
 - Flood water storage
 - Stream flow maintenance
 - Nutrient transformation
 - Sediment retention
 - Shoreline stabilization
 - Groundwater influence
 - To identify where wetlands can be restored

Macatawa River Watershed

Wetland Resources Status and Trends

Pre-settlement Wetland conditions

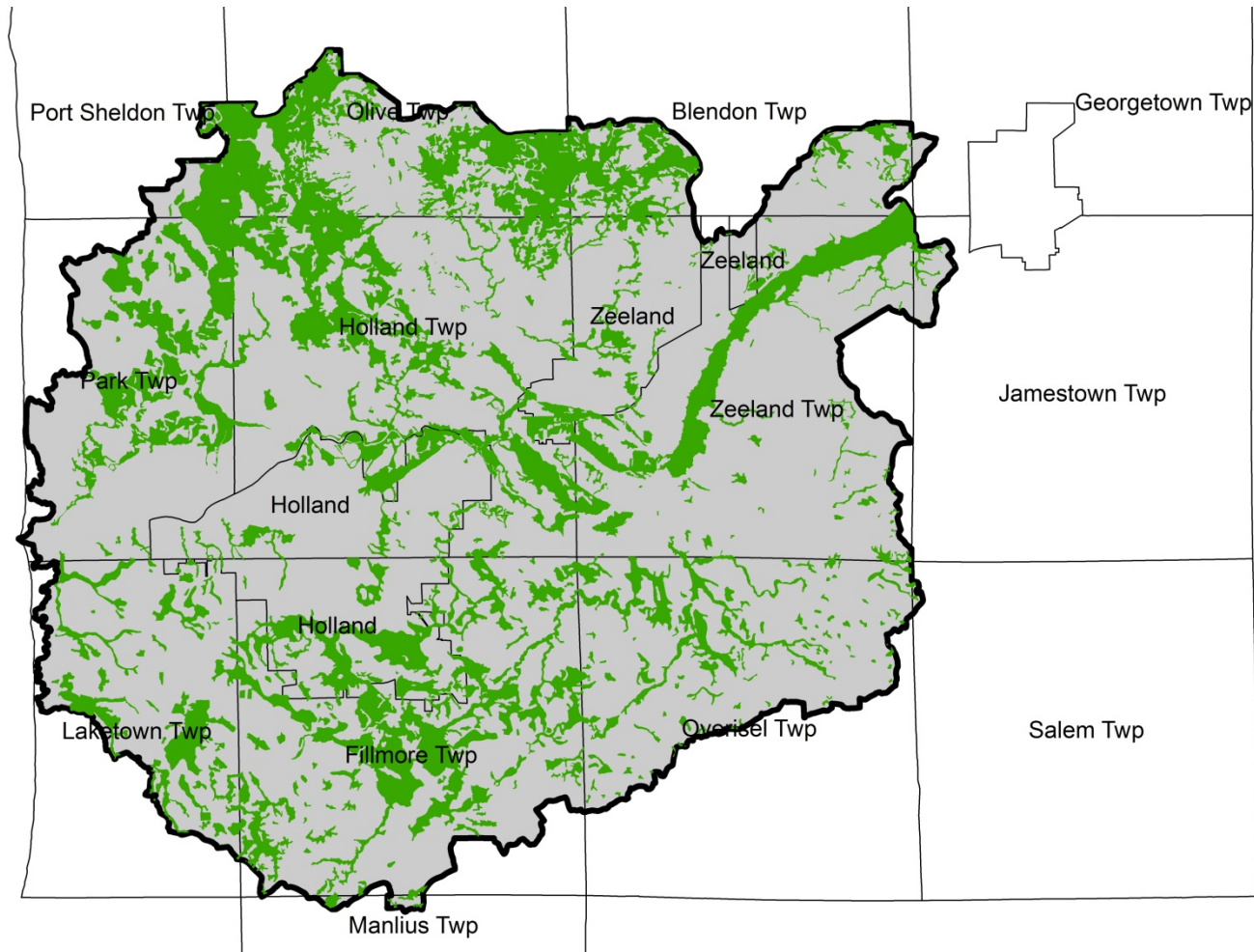
- 38,390 Acres of Wetlands
- 864 Polygons
- Average Size – 44 Acres

2005 Wetland Condition

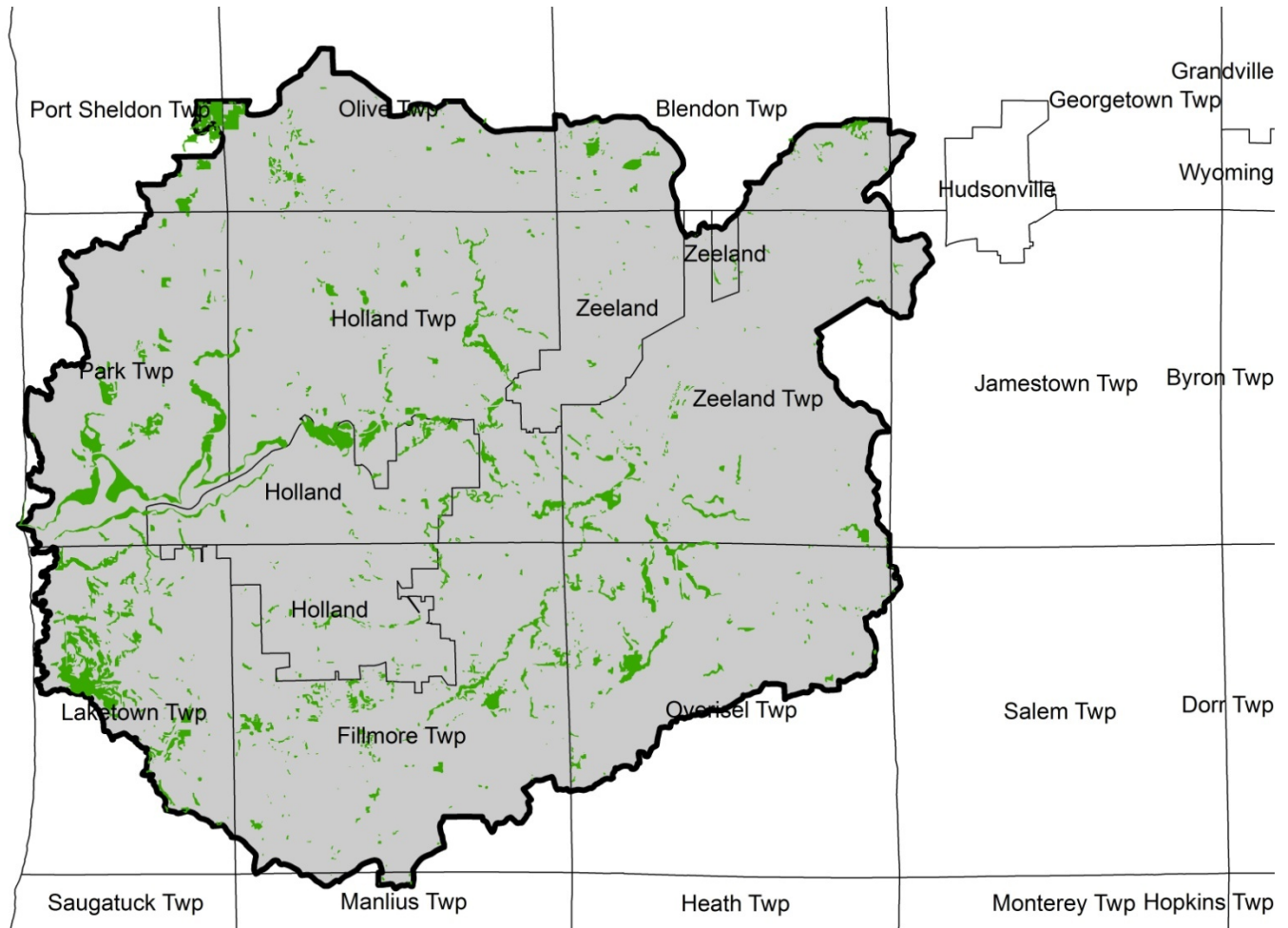
- 5,657 Acres of Wetlands
- 1,264 Polygons
- Average Size – 4.5 Acres

14% OF ORIGINAL WETLAND ACREAGE REMAINS
86% LOSS OF TOTAL WETLAND RESOURCE

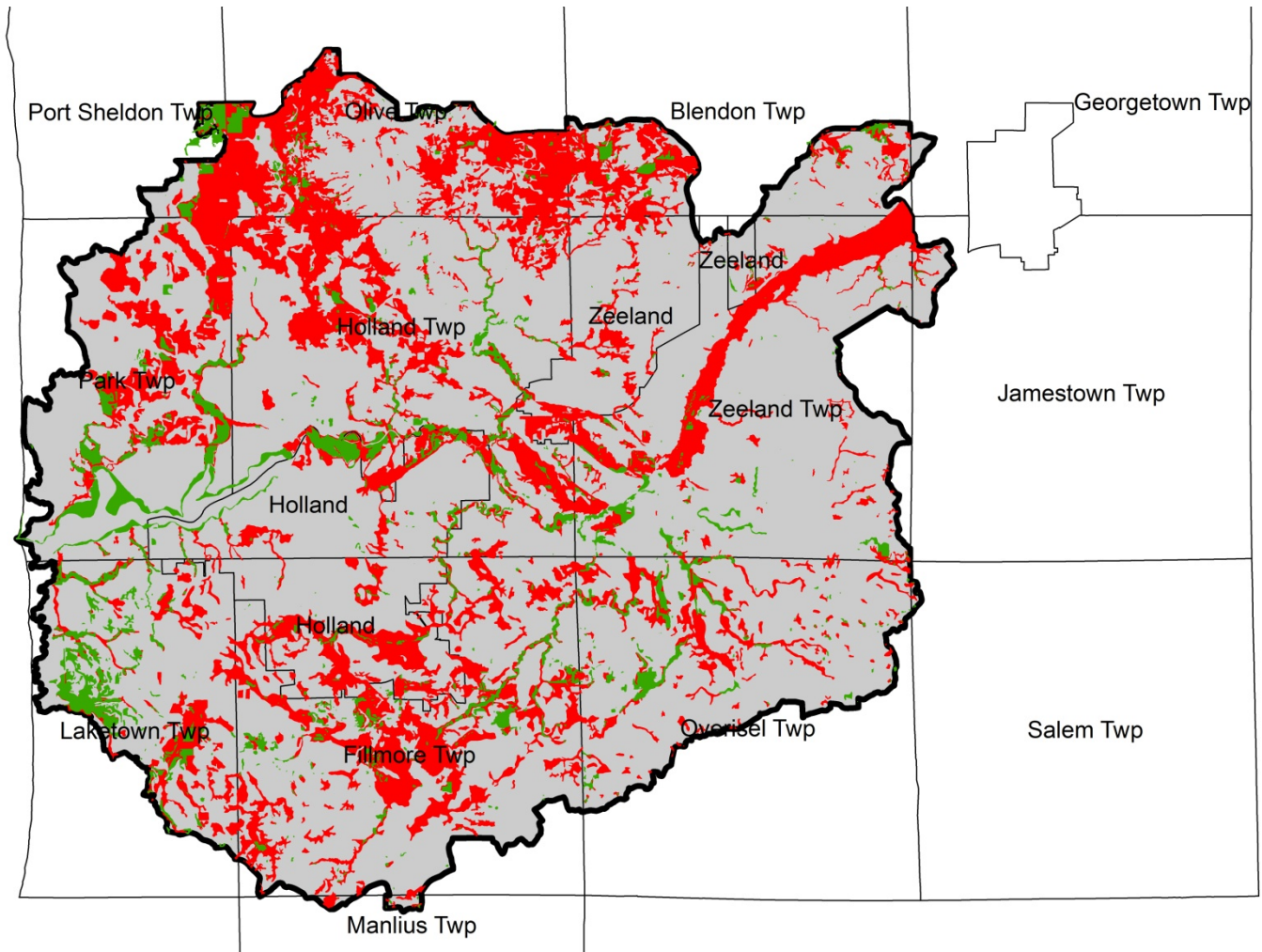
PRE-EUROPEAN SETTLEMENT WETLAND COVERAGE



2005 WETLAND COVERAGE



APPROXIMATE WETLAND LOSS PRE-EUROPEAN SETTLEMENT TO 2005

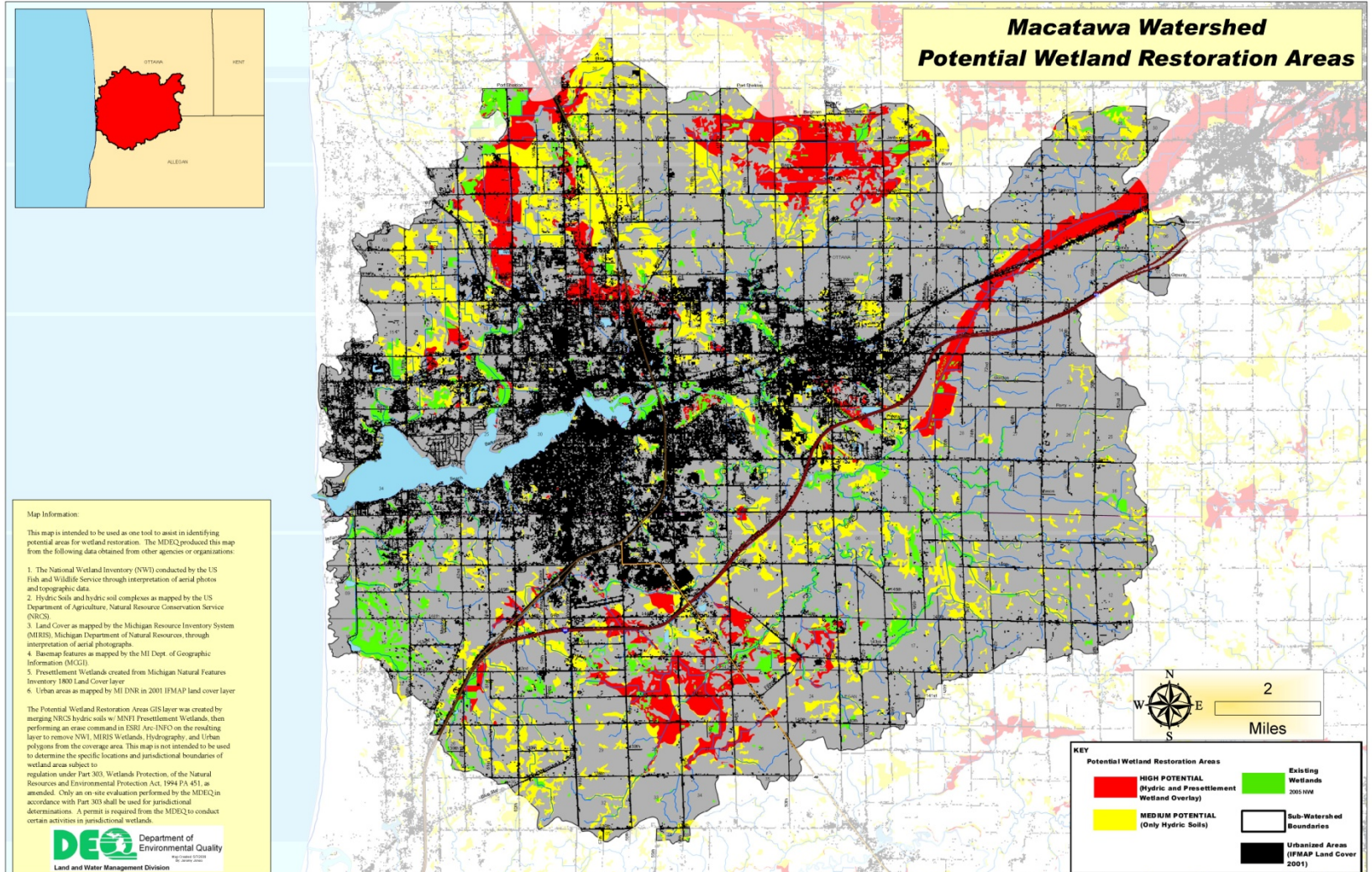


FUNCTIONAL UNIT COMPARISON

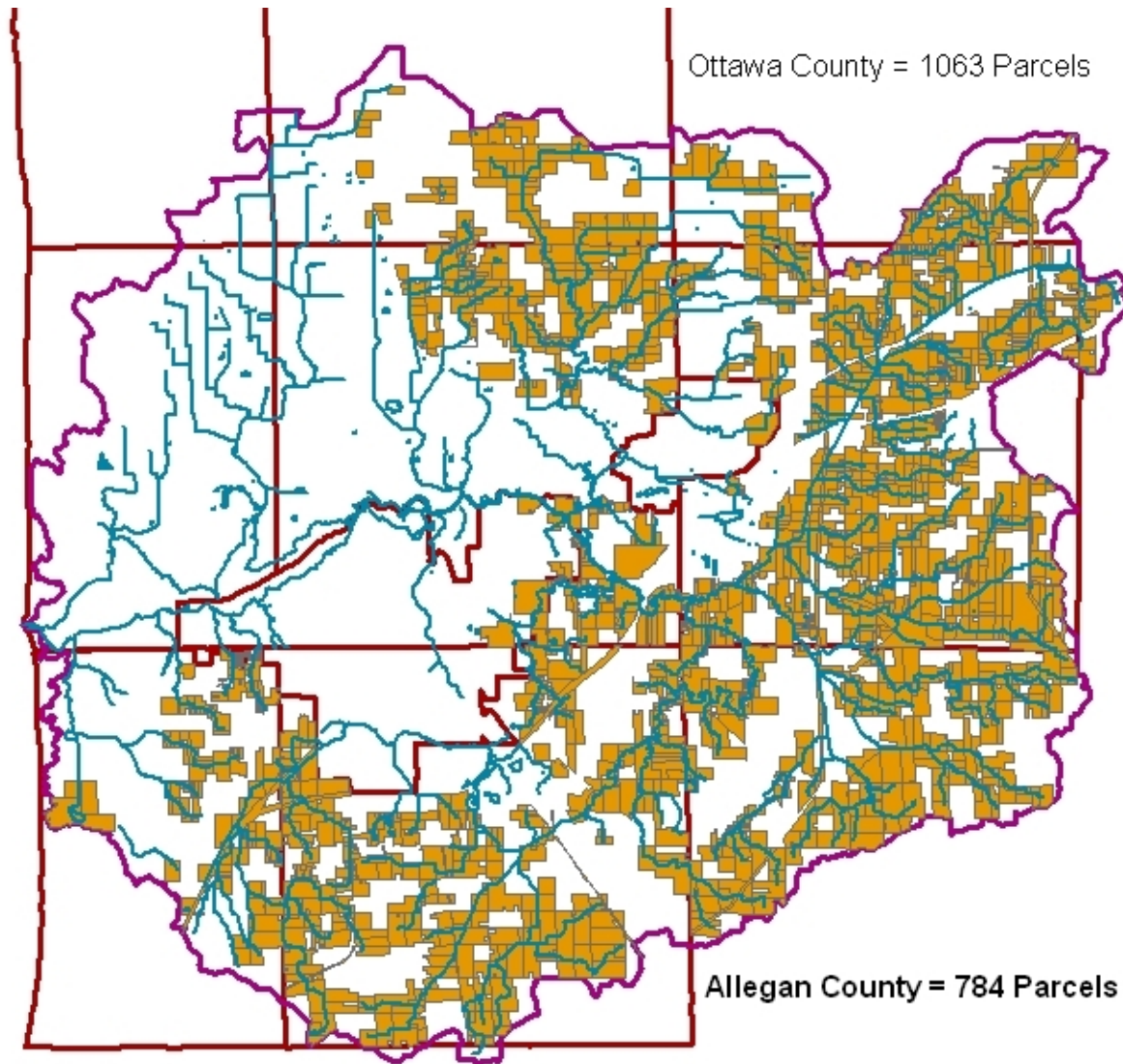
Table 4: Functional Unit comparison

Function	Pre-European Functional Units	2005 Functional Units	Predicted % of Original Capacity Left	Predicted % Change in Functional Capacity
Flood Water Storage	34,493.31	4,087.06	12	-88
Streamflow Maintenance	42,556.00	7,421.31	17	-83
Nutrient Transformation	36,387.95	8,358.15	23	-77
Sediment and Other Particulate Retention	45,028.64	6,780.58	15	-85
Shoreline Stabilization	33,316.13	7,207.62	22	-78
Ground Water Influence	29,148.21	7,042.10	24	-76

MACATAWA RIVER WATERSHED



High Risk Areas for Septic System Failure





Healthy Waters Rural Pride Initiative

- ❑ Farmland preservation tied to water quality protection
- ❑ Encourages enrollment in PDR programs with the added requirement that all land enrolled have permanent filter strips in place
- ❑ **Message**: we value farmland, but we put more value on farmland that is protecting water quality
- ❑ **Innovative**: first time that filter strips can be required in perpetuity

What is on the horizon?

- Currently operating under a DEQ grant
 - Update watershed management plan
 - Working with farmers – December survey
 - Hydrology Report, Pollutant Loadings Report
 - Conservation Priority Mapping



What You Can Do!

- Stay Informed!
 - Sign up to get on our mailing list
 - Follow us on Facebook
 - Visit our website
- Inform Others!
 - Do anything you can to reduce storm water runoff on your property!
 - Install rain barrels to capture roof runoff
 - Plant a rain garden to infiltrate water
- Watershed Friendly Lawn Care!
 - NO phosphorus fertilizer