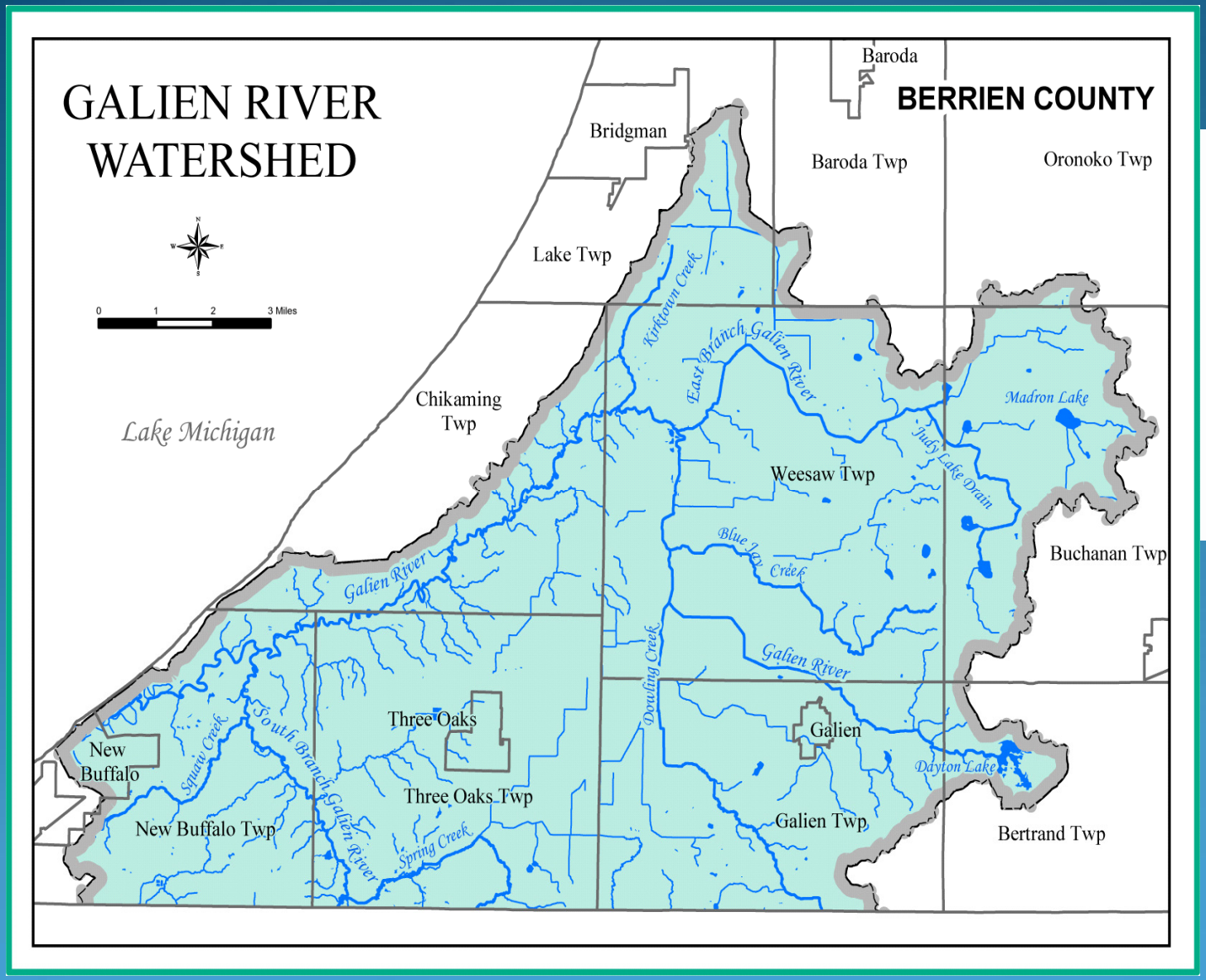
Welcome!



GALIEN RIVER WATERSHED

SWMPC Southwest Michigan Planning Commission

Workshop Overview

- 6:00 – **Welcome/Introductions** – Marcy Colclough, *Southwest Michigan Planning Commission*
- 6:15 - **The Glorious Galien** – Peg Kohring, *The Conservation Fund*
- 6:30 - **Overview of Mapping Exercise and Concepts** – Marcy Colclough
- 6:45 - **Mapping Exercise** – All
- 7:15 - **Report/Discuss** – All
- 7:30 - **Prioritize Areas**– All
- 7:45 - **Land Protection/Management Options** – Peg Kohring
- 8:00 - **Rain Garden Tour** – Kris Martin, *Southwest Michigan Planning Commission*

Infrastructure?

"***the substructure or underlying foundation on which the continuance and growth of a community depends***"

- ✓**Connectivity required**
- ✓**Management and Funding needed**
- ✓**Infrastructure is a necessity not an amenity**

Key to Healthy People, Watershed and Economy

ECOSYSTEM SERVICES

Water Related

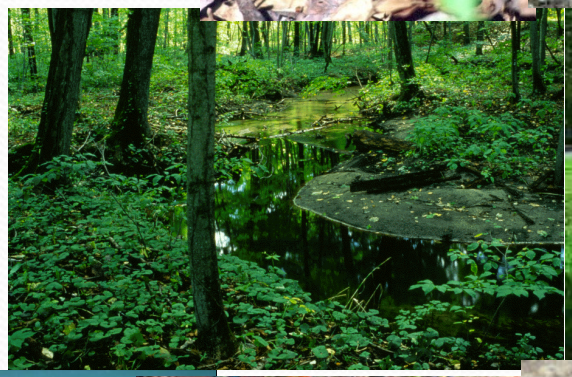
- Flood control
- Water cleansing
- Groundwater recharge (Drinking water)
- Erosion control

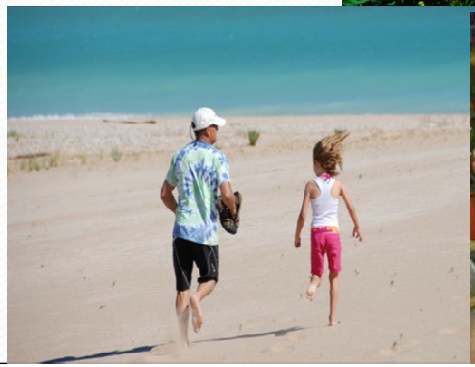
Air Related

- Temperature moderation
- Air cleansing

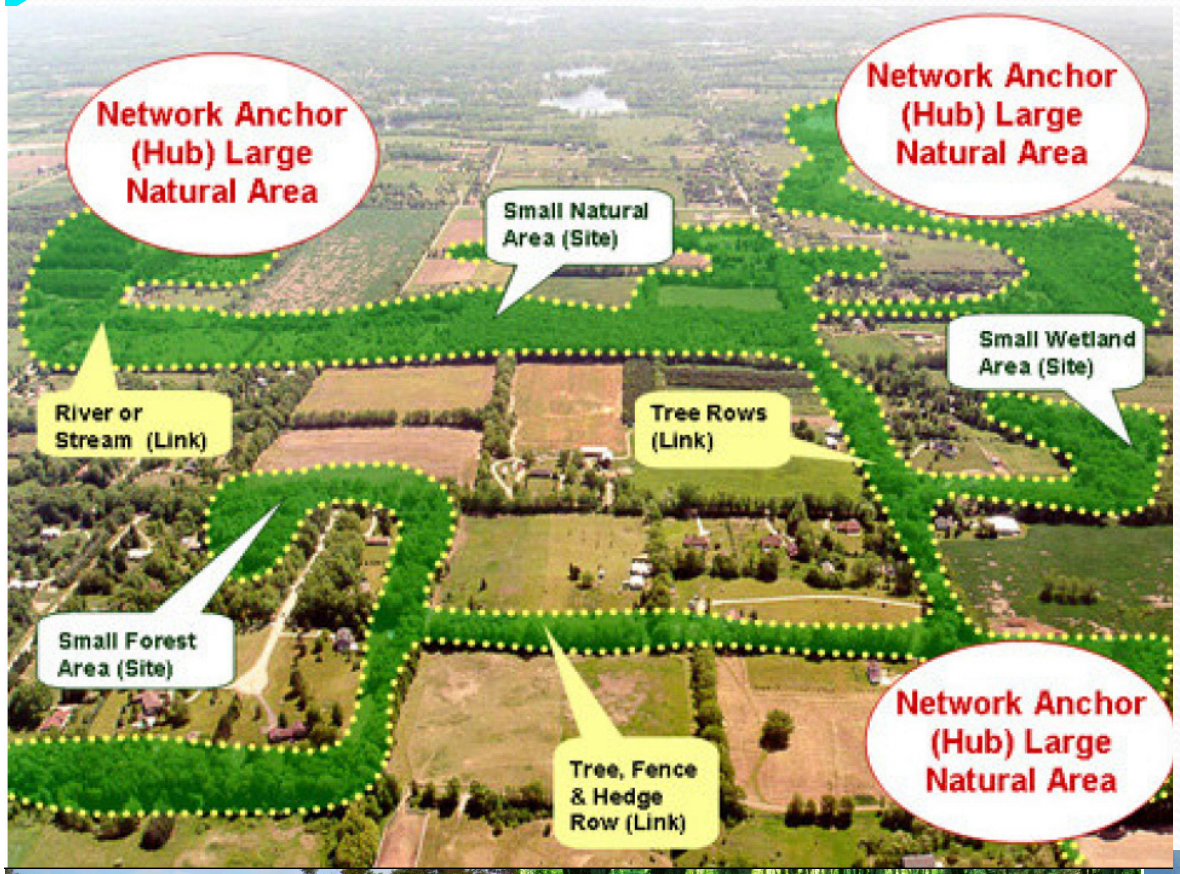
Other

- Nutrient cycling
- Wildlife habitat
- Pollination
- Food Production

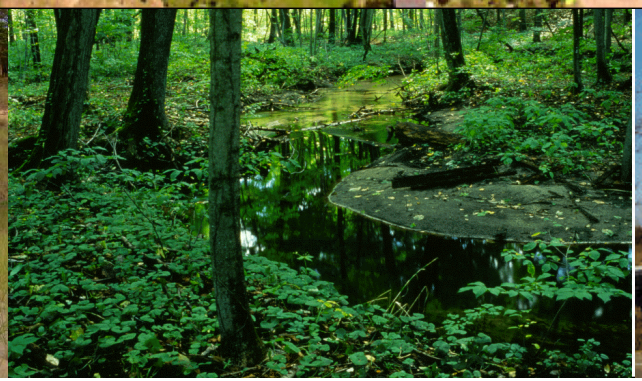




Green Infrastructure

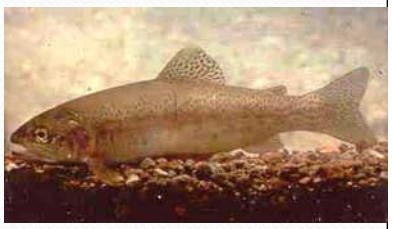


An **interconnected network** of **green space and farmland** that **conserves natural ecosystems** and **functions** and **provides** associated **benefits** to **humans.**

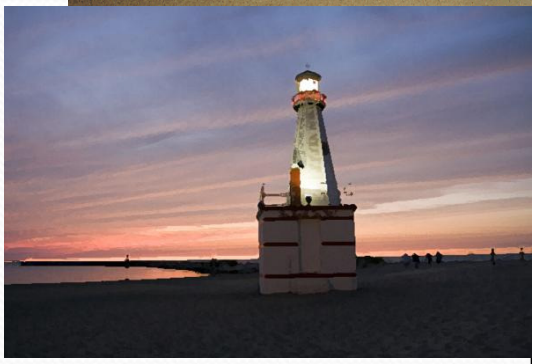


Elements of Green Infrastructure

Water related features - rivers, lakes, wetlands, riparian areas, floodplains, groundwater recharge areas



Land features - forests, prairies, sand dunes, prime farmland

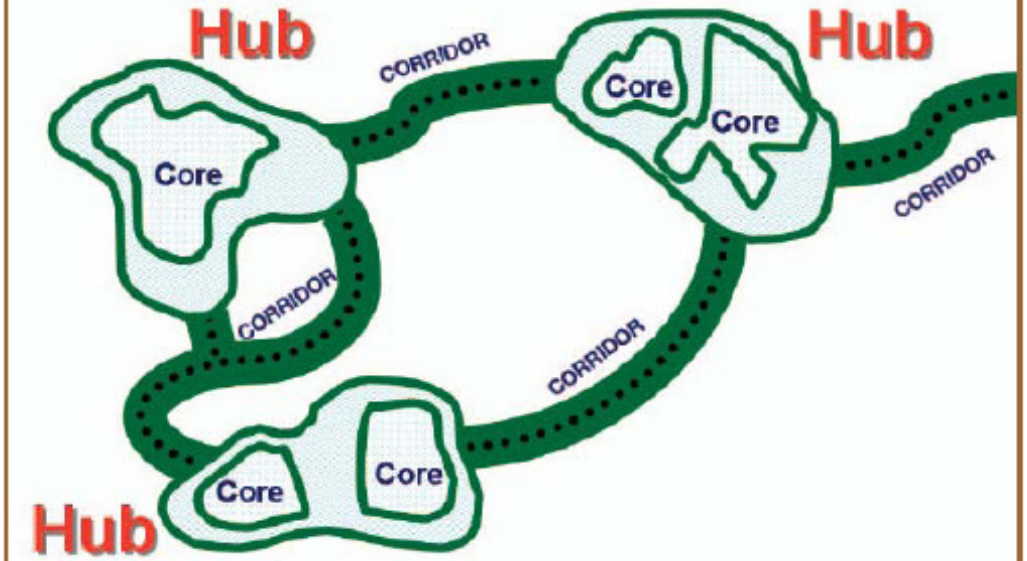


Recreation & Protected lands – parks, beaches, trails

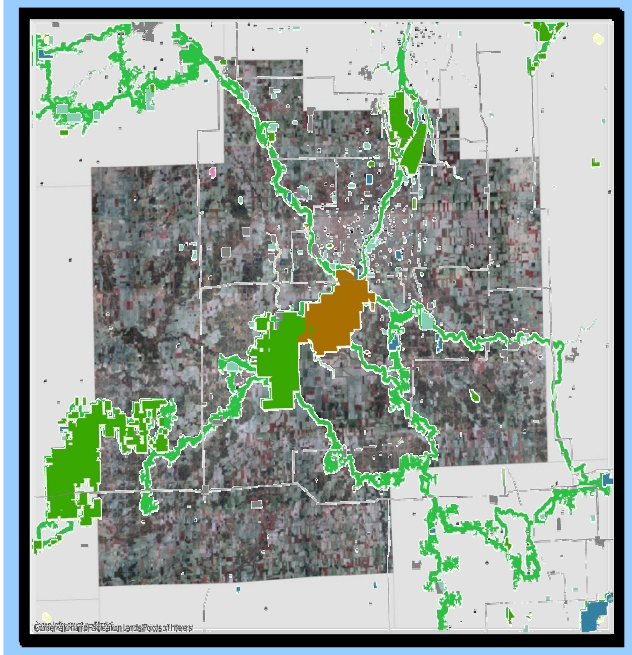
Green Infrastructure

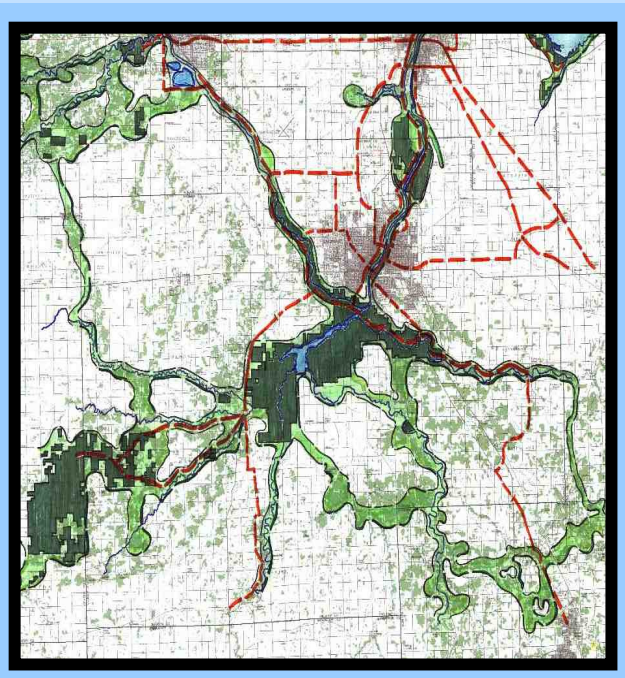
- ✓**Connectivity required**
- ✓**Management and Funding needed**
- ✓**Infrastructure is a necessity not an amenity**

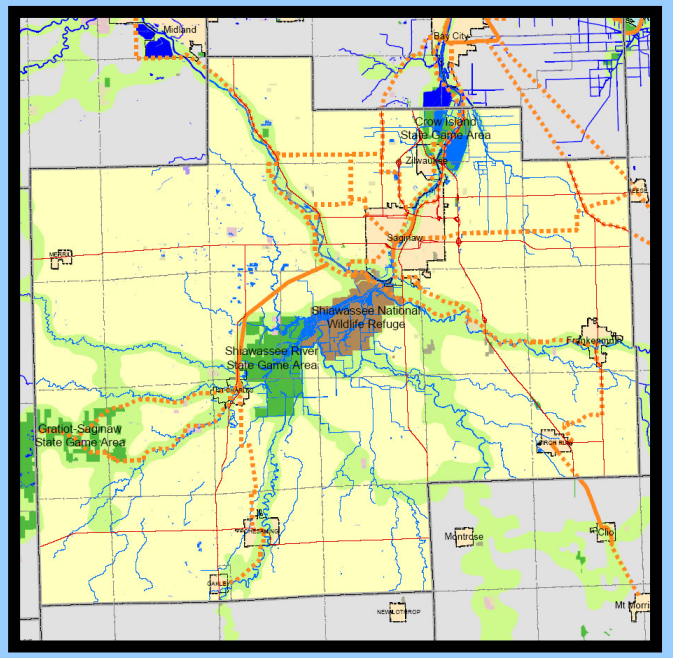
Figure 3: Hubs, cores, and corridors together form the green infrastructure network of ecologically important lands.



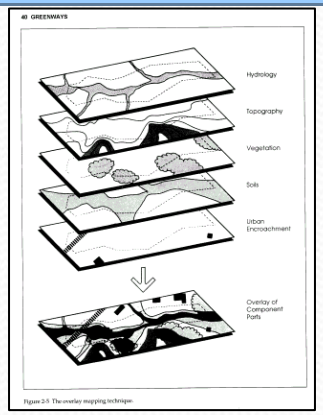
Critical Area Map







Inventory



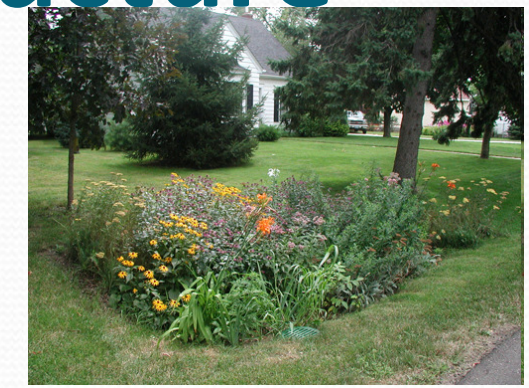
Public Input

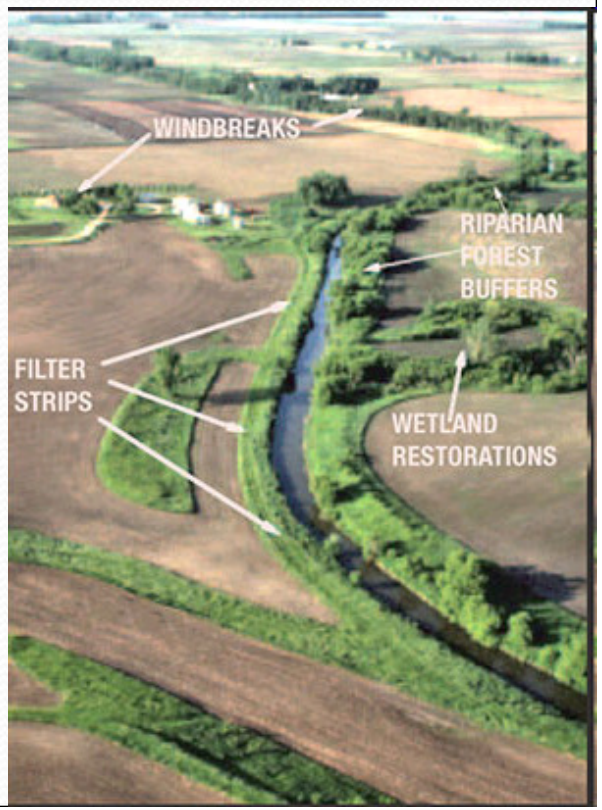
Final Map

You and Green Infrastructure

Voluntary Actions of Landowners

- Protect or restore forested or grassed **buffers** along rivers, creeks, drains
- Develop and implement management plans for **forestry and agricultural activities**
- Plant **native species** and **rain gardens**
- Maintain or restore **wetland** areas
- Implement **Agricultural Best Management Practices** (no till, cover crops, nutrient management, etc)
- Consider **land protection** options (conservation easements, purchase of development rights, etc.)



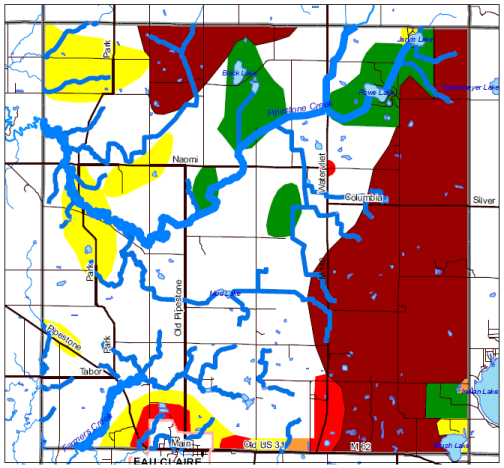


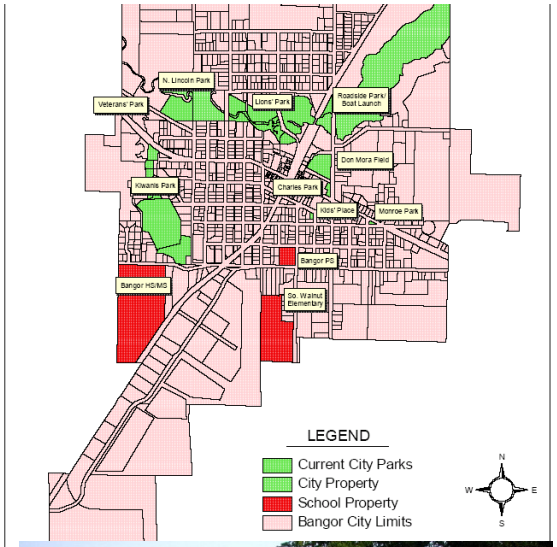
Your Community and Green Infrastructure

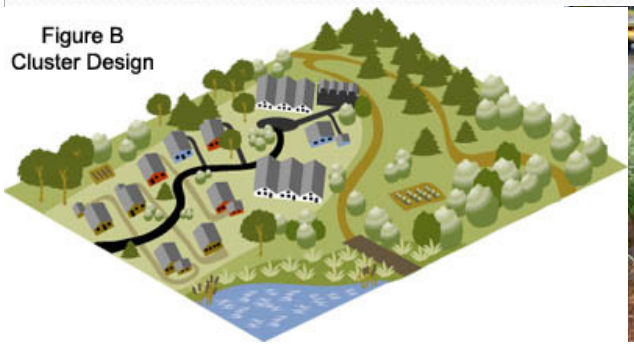
Where & How Land Is Developed

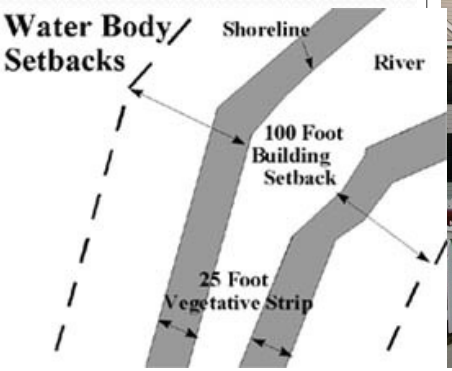
- ✓Preserve open space, farmland and critical environmental areas
- ✓Strengthen and direct development towards existing
- ✓Take advantage of compact building design

Pipestone Township Future Land Use Map 2006 - 2021









Review Maps

1. **Base map** - Major roads, municipal boundaries, streams, watershed boundary, recreation and protected areas (may not be complete), parcels

2. **Aerial photo** with **Potential Conservation Areas**

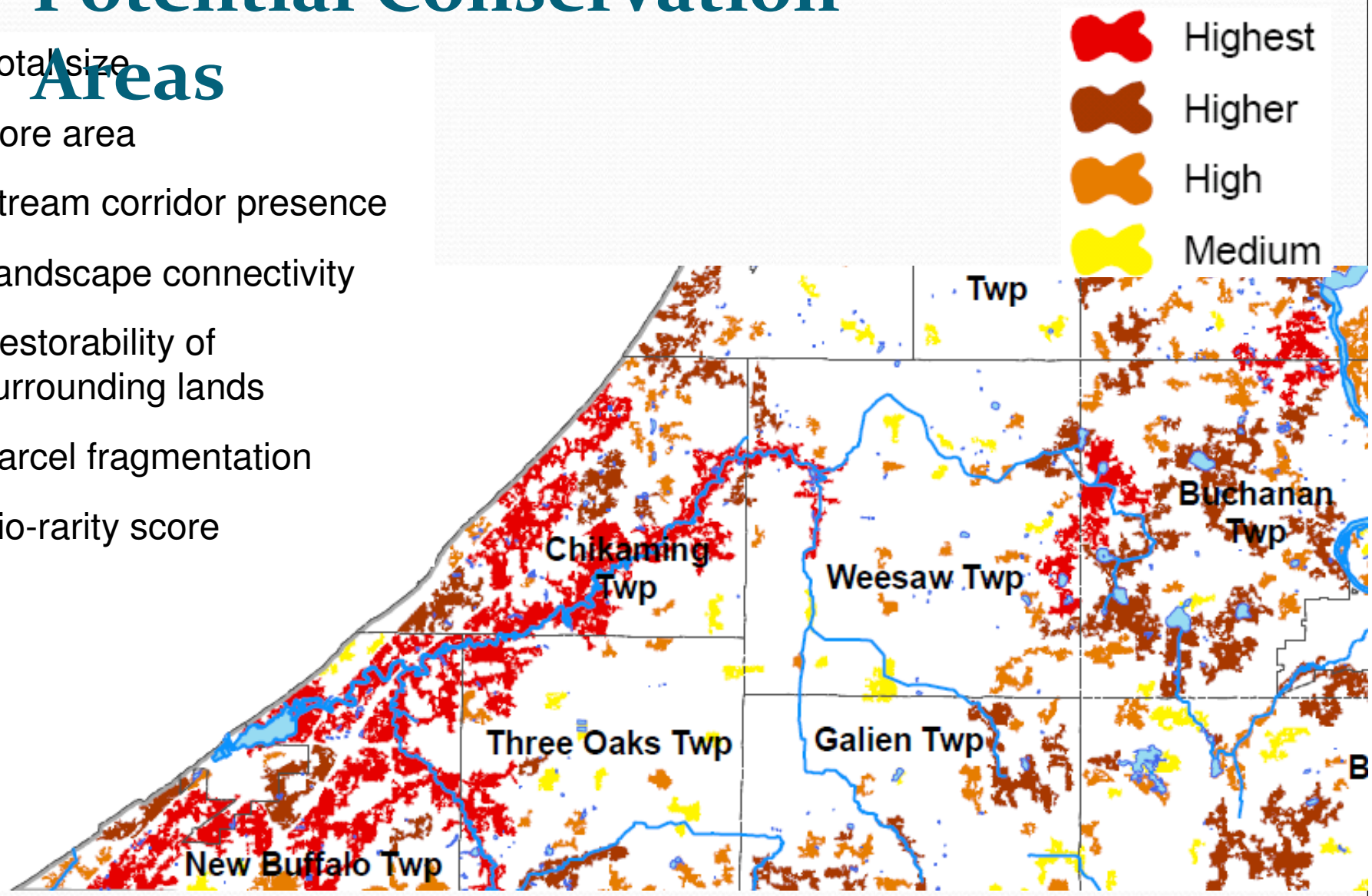
3. **2000 Land Use/Cover** and **Lost Wetlands** (forested areas, built up areas, orchards/vineyards)

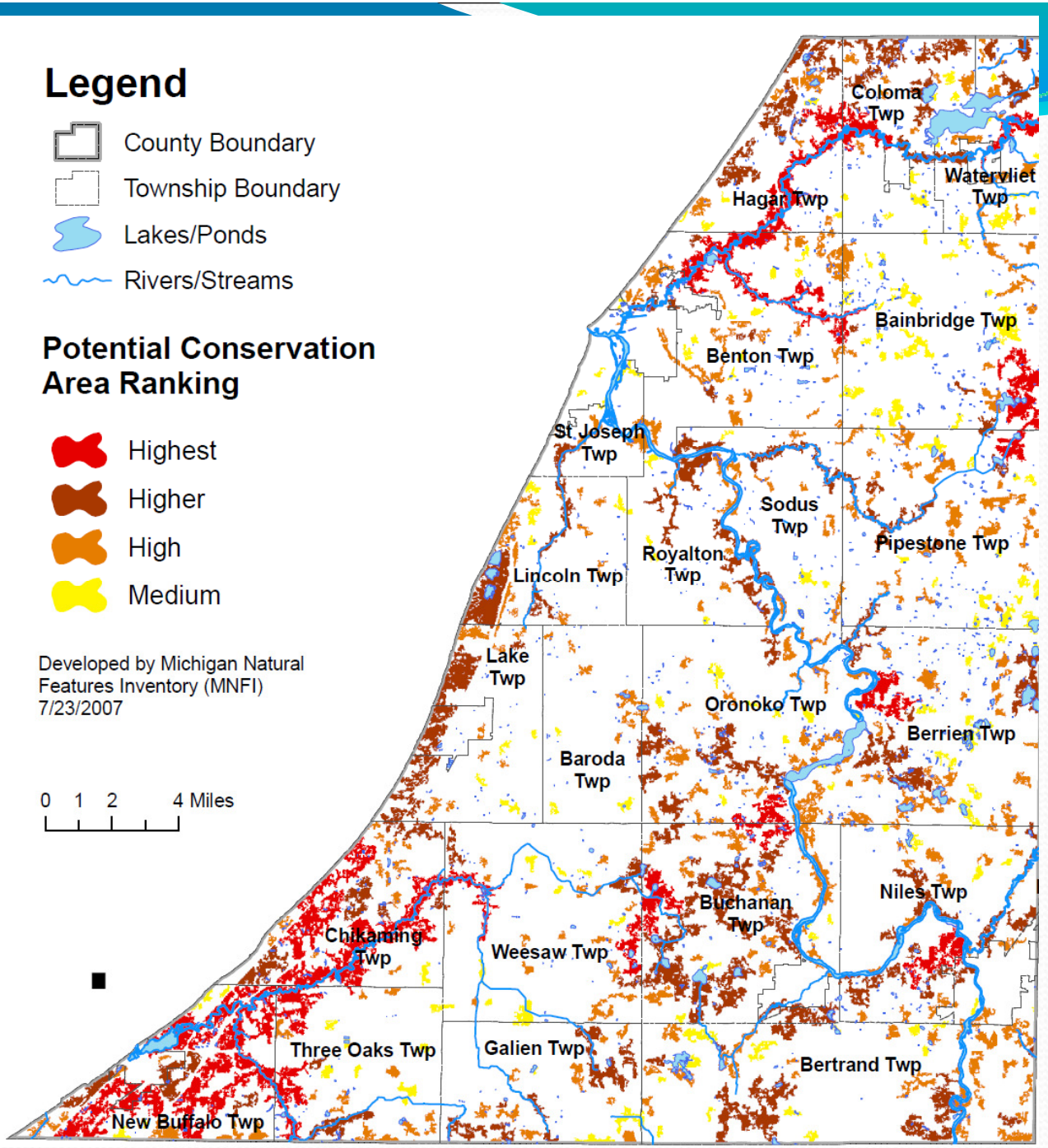
4. **Prime Farmland**

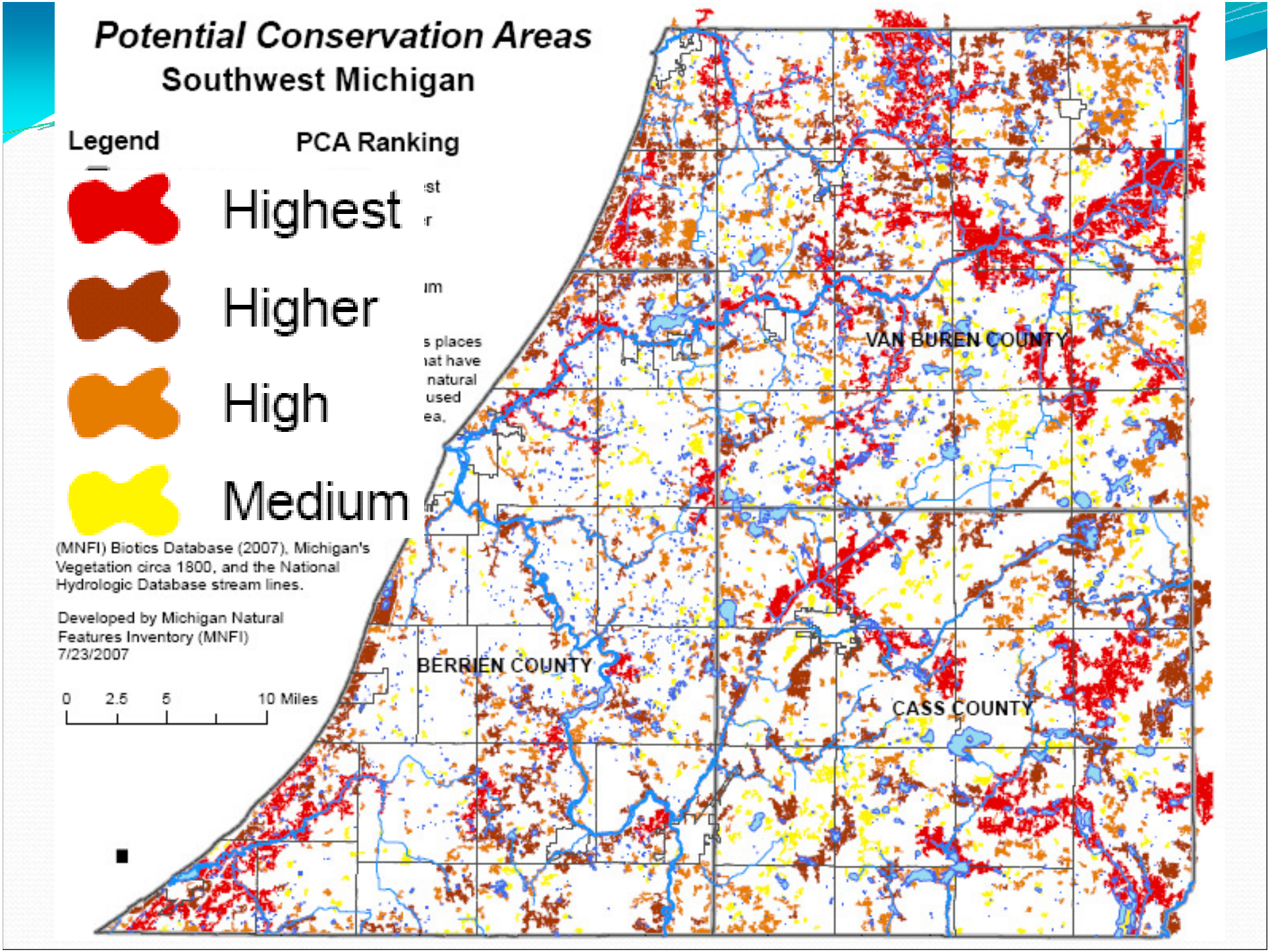
5. 6. 7. - **Wetland Functions** (surface water detention, sediment retention, nutrient transformation)

Potential Conservation Areas

- Total size
- Core area
- Stream corridor presence
- Landscape connectivity
- Restorability of surrounding lands
- Parcel fragmentation
- Bio-rarity score




Legend
County Boundary
Township Boundary
Lakes/Ponds
Rivers/Streams
Potential Conservation Area Ranking
Highest
Higher
High
Medium
Developed by Michigan Natural Features Inventory (MNFI)
7/23/2007
0 1 2 4 Miles
Coloma Twp
Watervliet Twp
Hagar Twp
Bainbridge Twp
Benton Twp
St Joseph Twp
Sodus Twp
Pipestone Twp
Royalton Twp
Lincoln Twp
Lake Twp
Oronoko Twp
Berrien Twp
Baroda Twp
Niles Twp
Buchanan Twp
Chikaming Twp
Weesaw Twp
Three Oaks Twp
Galien Twp
Bertrand Twp
New Buffalo Twp

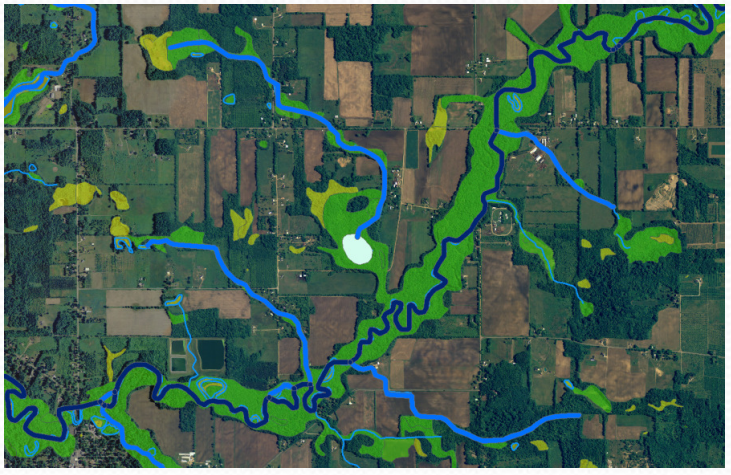

Potential Conservation Areas
Southwest Michigan
Legend
PCA Ranking
Highest
Higher
High
Medium
(MNFI) Biotics Database (2007), Michigan's Vegetation circa 1800, and the National Hydrologic Database stream lines.
Developed by Michigan Natural Features Inventory (MNFI)
7/23/2007
0 2.5 5 10 Miles
VAN BUREN COUNTY
BERRIEN COUNTY
CASS COUNTY

Wetlands…

- Reduce soil erosion on lake and stream banks
- Filter water (sediment, nutrients, etc)
- Absorb water (reduce flooding)
- Recharge groundwater (provide drinking water)
- Provide habitat (fish, birds, amphibians, etc)
- Provide recreation opportunities (hunting, fishing, bird watching, etc)

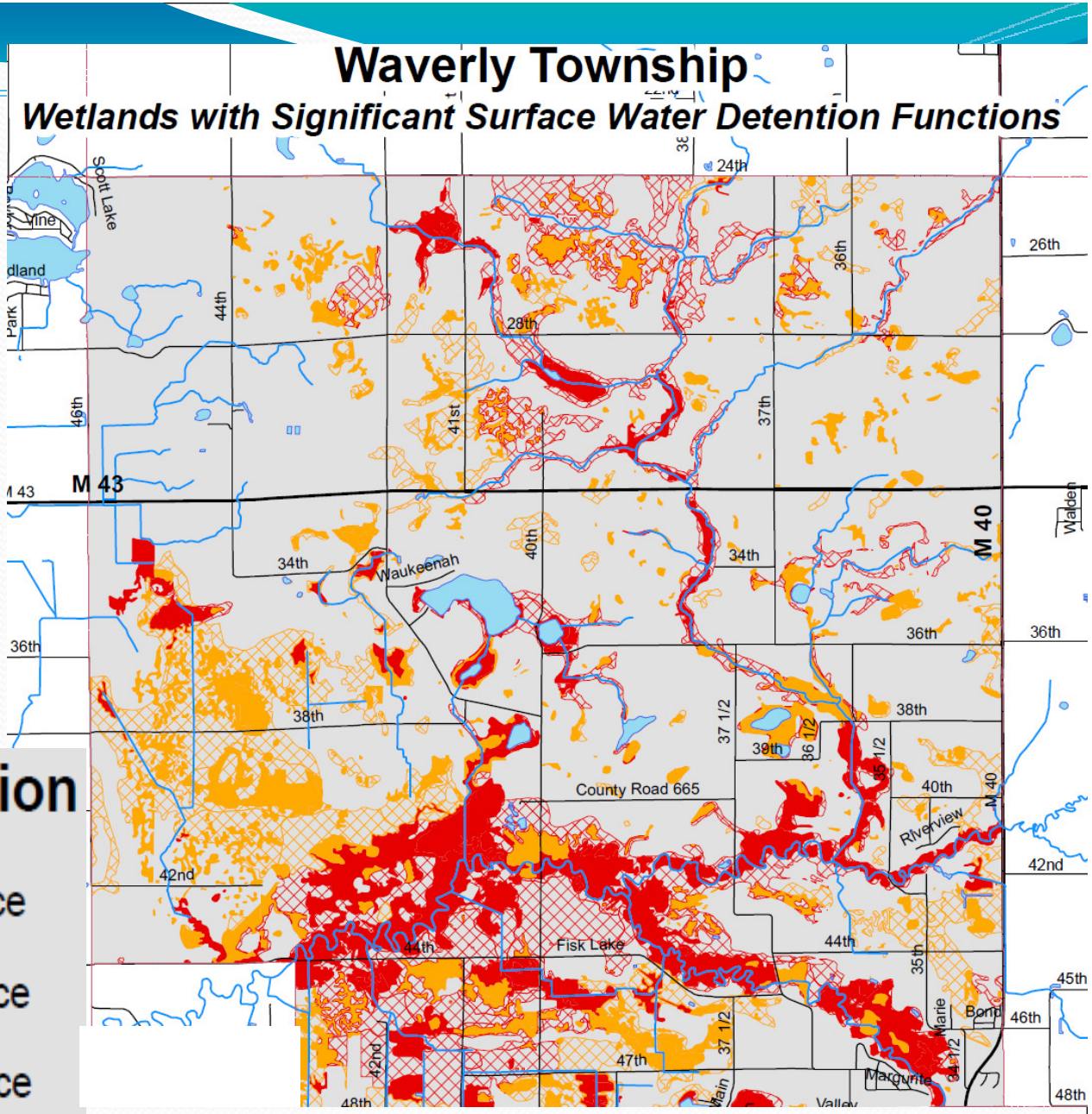
Wetland Functions Evaluated

- **Flood water storage** – Reduce Flooding
- **Streamflow maintenance** – Stable Flows
- **Nutrient transformation** – Less Vegetation
- **Sediment retention** – Cleaner Water
- **Shoreline stabilization** – Less Erosion
- **Groundwater recharge** – Drinking Water
- **Fish and Wildlife Habitat** – Fishing, Hunting



Flood Water Storage

56% loss of function

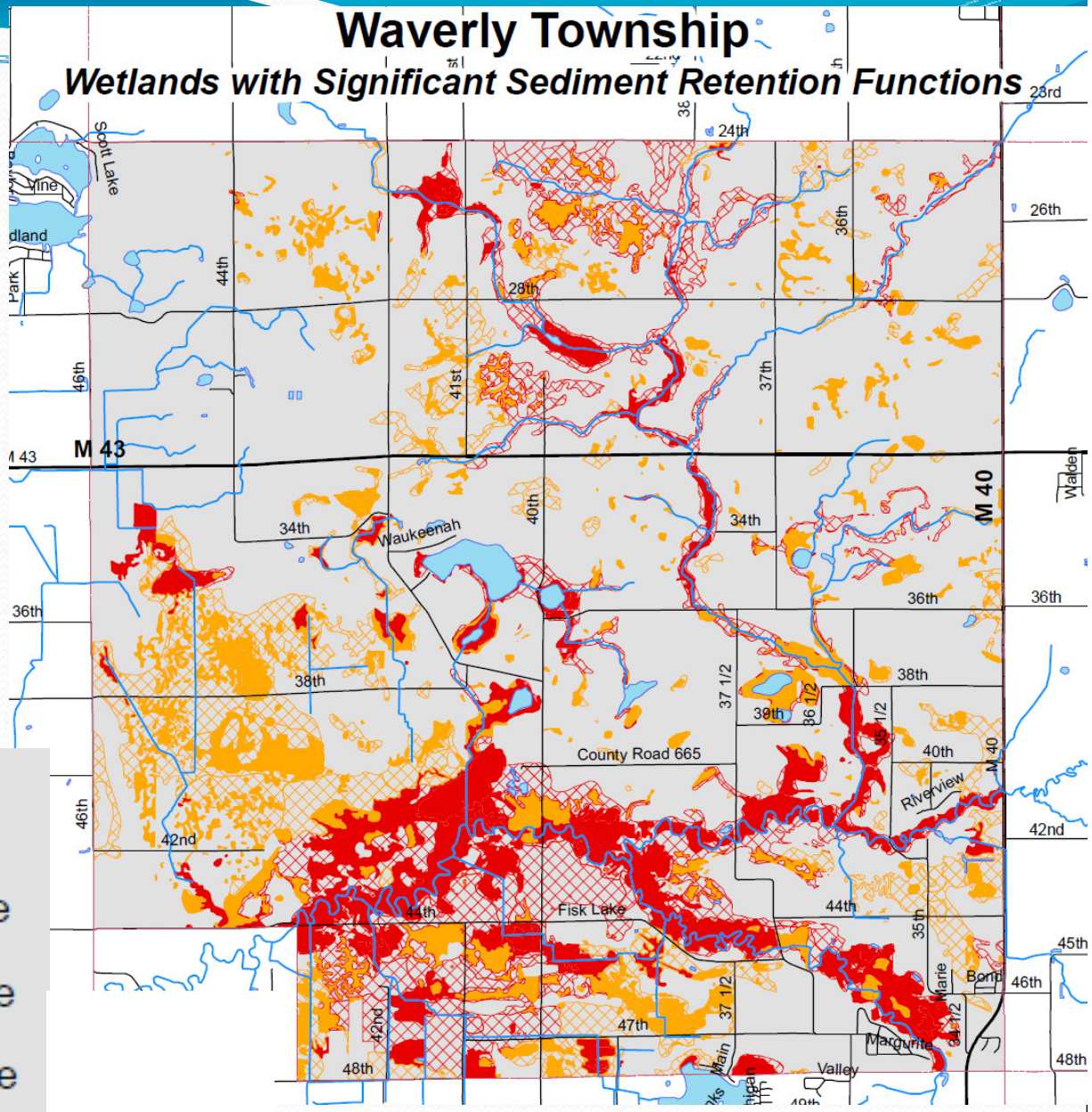


Surface Water Detention

- Historic Med Significance
- Historic High Significance
- Existing Med Significance
- Existing High Significance

Sediment Retention

55% loss of function

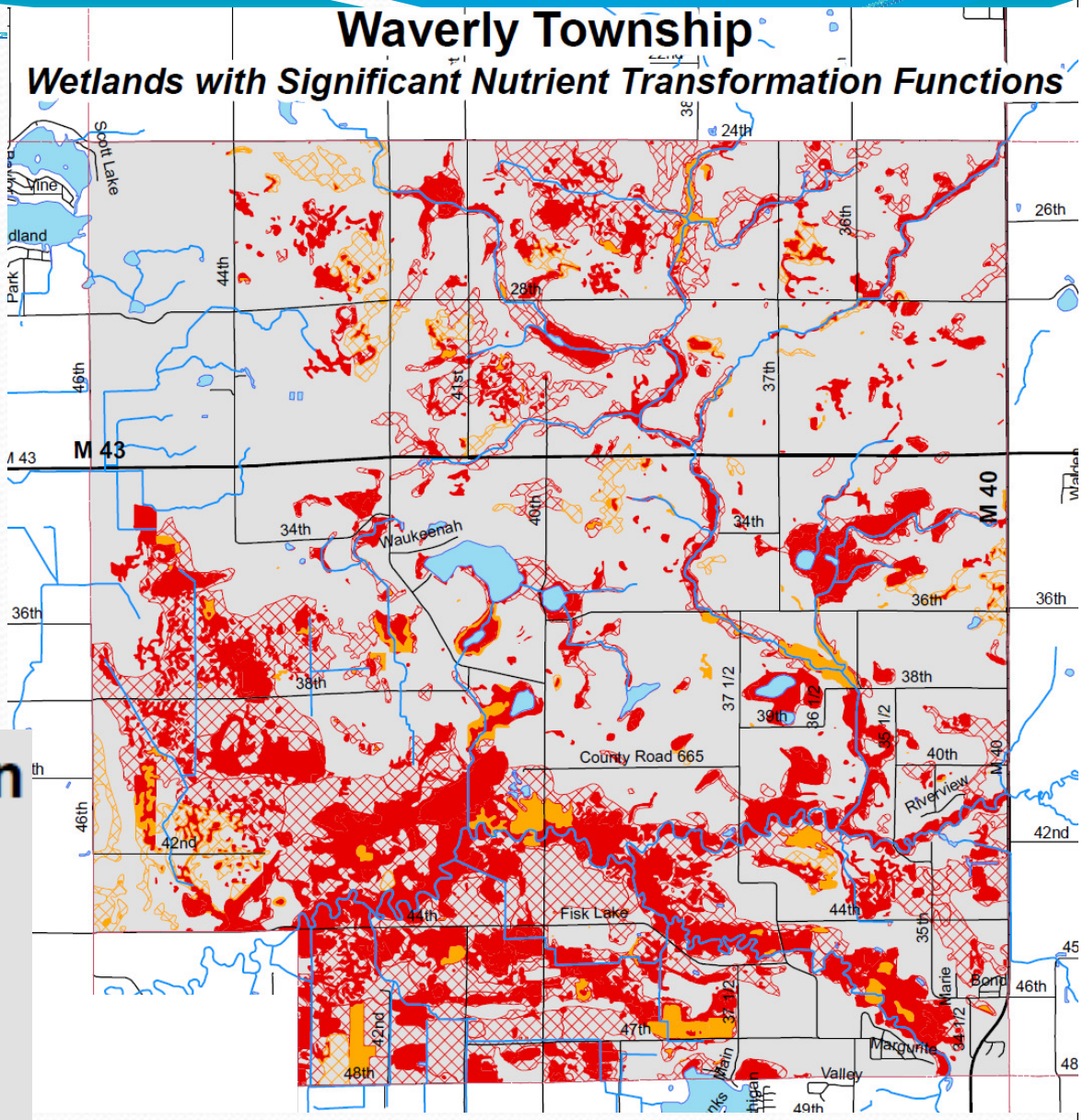


Sediment Retention

- Historic Med Significance
- Historic High Significance
- Existing Med Significance
- Existing High Significance

Nutrient Transformation

50% loss of function



Nutrient Transformation

- Historic Med Significance
- Historic High Significance
- Existing Med Significance
- Existing High Significance

MAPPING

- **REVIEW**
- **COLOR ON THE CLEAR BASE MAP**
  - **GREEN** – existing park/protected area
  - **BLUE** – important natural areas
  - **PURPLE** – important farmland
- **REPORT Results to Group**
- **PRIORITIZE**