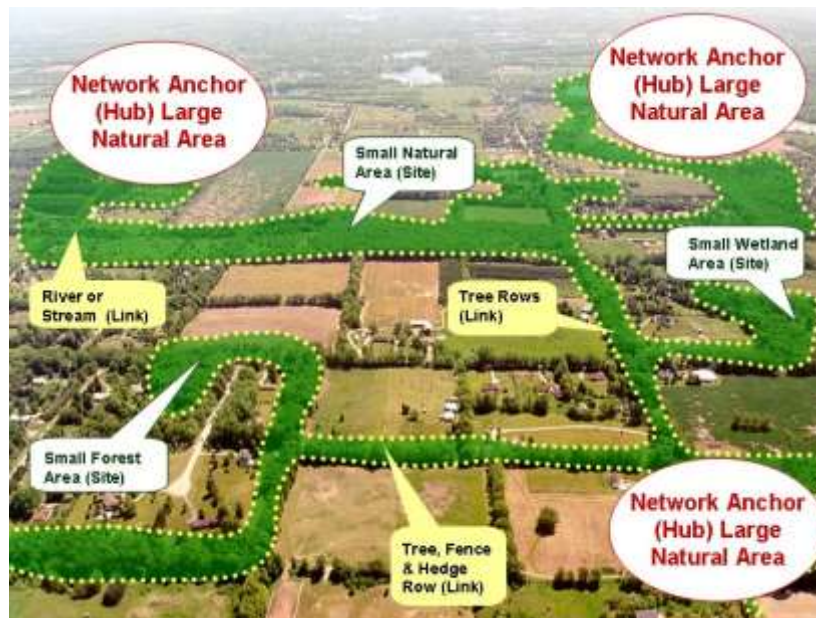


Unadilla Township Green Infrastructure Planning

Vision

September 24,
2013



Unadilla
Township



Design Session Participants

Matt Bolang, Livingston County Department Environmental Health
Diane Constable – Unadilla Township Planning Commission
Lori Cowan – Unadilla Township Board
Lindy Delaney, Unadilla Township Planning Commissioner
Mike Delaney, Unadilla Township resident
Kris Olsson – Huron River Watershed Council
David Peck, Unadilla Township Zoning Administrator
Bryan Spadafore – Unadilla Township Planning Commission
Linda Topping – Unadilla Township Clerk

- Introduction
- Background Resource Maps
- Process for Hands-on Assessment
- Draft Design Session Green Infrastructure Map
- Next Steps – Community Planning for Green Infrastructure
- References



INTRODUCTION

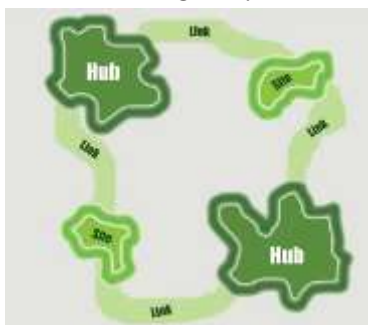
Project Description

The Huron River Watershed Council (HRWC) and Unadilla Township have partnered to create this document as part of the Portage Creek Implementation Project. The goals of the project

are to increase awareness about the importance of protecting Portage Creek's ecology and to improve local policies to ensure it remains a high quality creek. In order to provide a context for those goals, the township and HRWC decided to embark on this visioning process, based on Oakland County's Green Infrastructure program.

Green infrastructure networks consist of the following components:

Hubs: Hubs anchor the network and provide an origin or destination for wildlife. Hubs range in size from large conservation areas to smaller parks and preserves. Hubs provide habitat for native wildlife and help maintain natural ecological processes.



Sites: Smaller ecological landscape features that can serve as a point of origin or destination or incorporate less extensive ecological important areas.

Links: The connections that hold the network together and enable it to function. Links facilitate movement from one hub to another.

What is Green Infrastructure?

Green infrastructure is the interconnected network of large natural areas, wildlife habitats, riparian corridors and areas that reflect key elements of our biological diversity. This network supports native species, maintains natural ecological processes, sustains air and water resources, and contributes to our health and quality of life. The Green Infrastructure outlined in this document is a proposed network to link the Huron River watershed's remaining ecologically valuable lands. The goal is to maximize the effectiveness of public and private land conservation efforts, and to ensure land development occurs in concert with Green Infrastructure.

What are the benefits of Green Infrastructure?

Green infrastructure provides a mechanism to identify and blend environmental and economic factors to create a multitude of social, economic, cultural and environmental benefits. It

- Provides a sense of place and a unique identity

- decreases cost of public infrastructure (e.g. stormwater management & water treatment systems)
- provides active and passive recreational opportunities
- Increases property values
- Helps preserve our unique quality of life
- Maintains naturally functioning ecosystems
- Helps to attract new businesses and well-qualified workers

What is in this document?

This document is a result of the Green Infrastructure Planning Vision Session, September 26, 2013, at the Unadilla Township Hall. At that session, township officials, residents, and other stakeholders studied the maps shown on pages 8 - 14 and then created Hubs, Sites, and Links, drawing onto transparent mylar sheets laid over those maps (pages 15 – 17). HRWC took those sheets and created the Green Infrastructure Map (page 18).



Next steps

Page 19 lists next steps Unadilla Township and its partners can undertake to ensure that the township's Green Infrastructure continues to provide habitat, recreation, water quality, clean air, and other benefits.



Unadilla Township's Green Infrastructure

Mostly undeveloped

34% intact natural areas ("bioreserve" sites)

About 40% of natural area is publicly owned

Low impervious surface (about 4%) (creeks and wetlands begin to become degraded in areas where impervious surfaces make up more than 10% of their watersheds)

49 species of threatened, endangered or special concern animals and plants

8 ecosystems of special concern

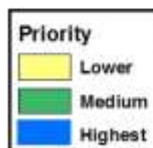
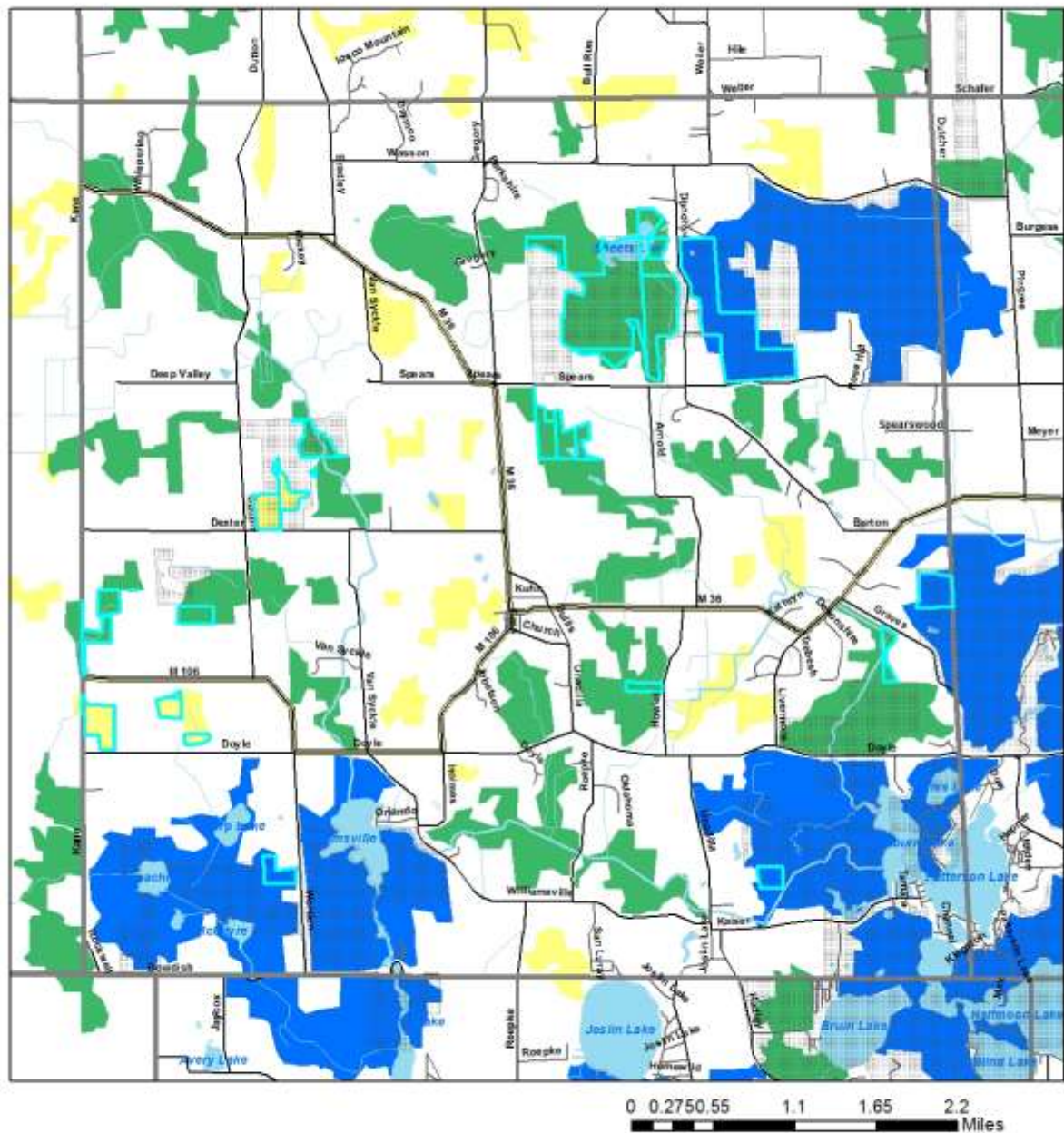


Background Resource Maps

- HRWC Bioreserve Map
- Environmentally Sensitive Areas
- Master Plan
- 2000 Land Use
- Topography
- Green Infrastructure Planning Map



Unadilla's Township's Remaining Natural Areas

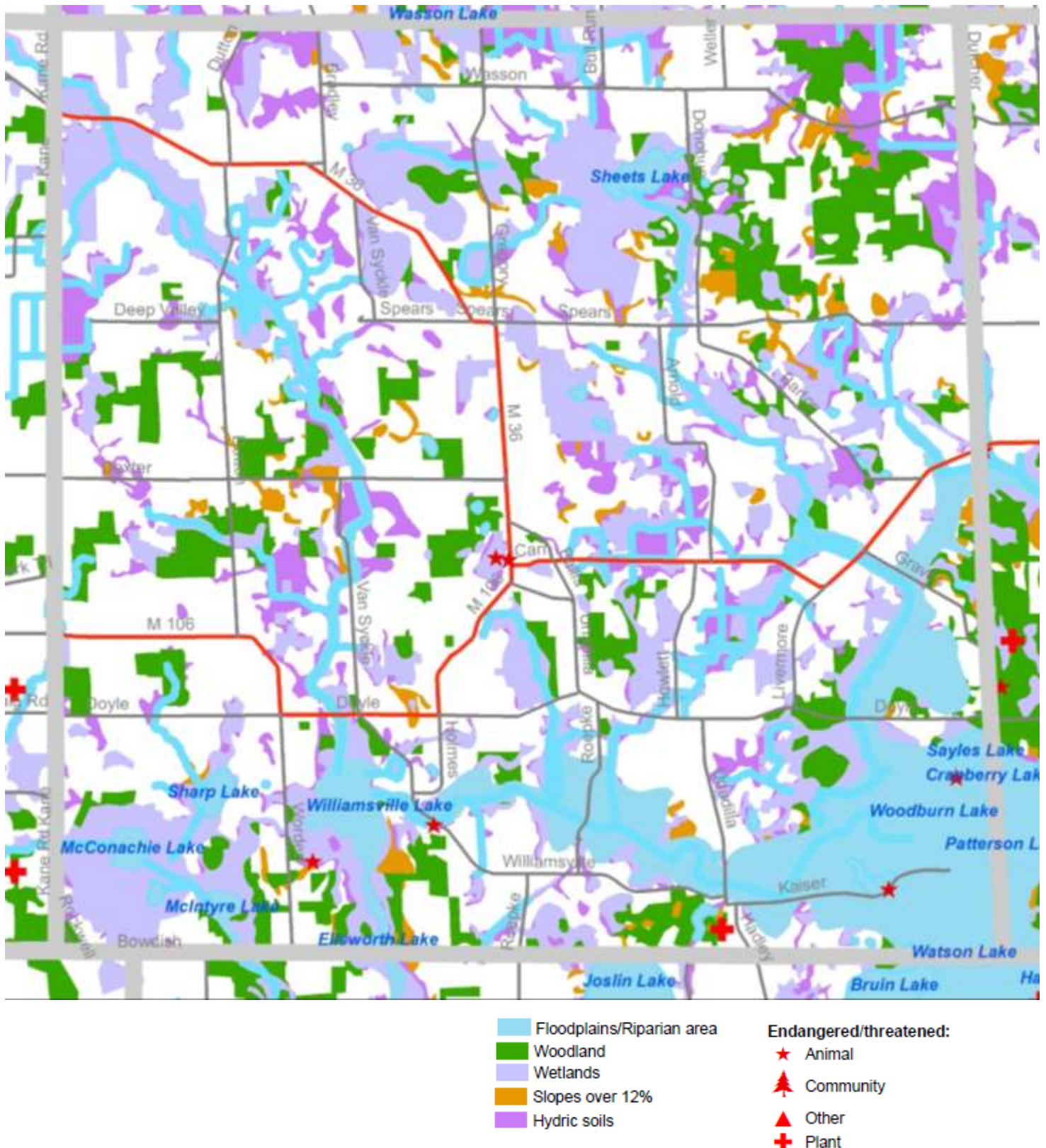


Conservation and Recreation Lands

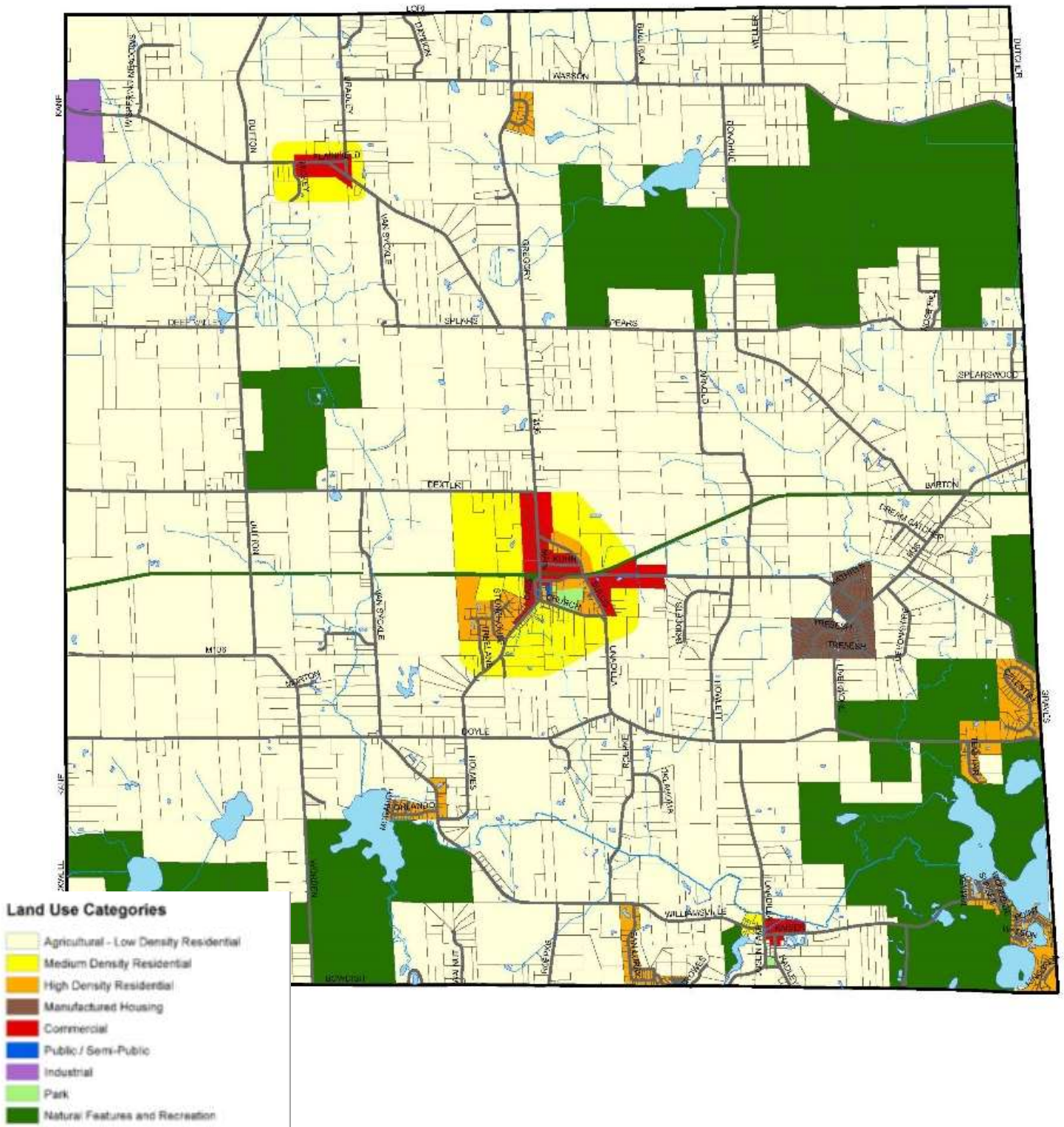
Sites delineated from digital orthophotos circa 2000, ranked based on 15 ecological factors, including: size, presence of water, presence of wetlands, groundwater recharge potential, potential for rare remnant plant community, topographical diversity, glacial diversity, connectivity to other natural areas, restorability potential, and quality of vegetation.

For more information, contact Kris Olsson, Huron River Watershed Council
734-769-5123, kolsson@hrwc.org

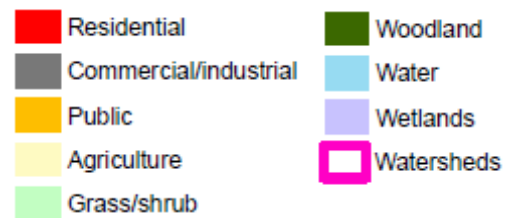
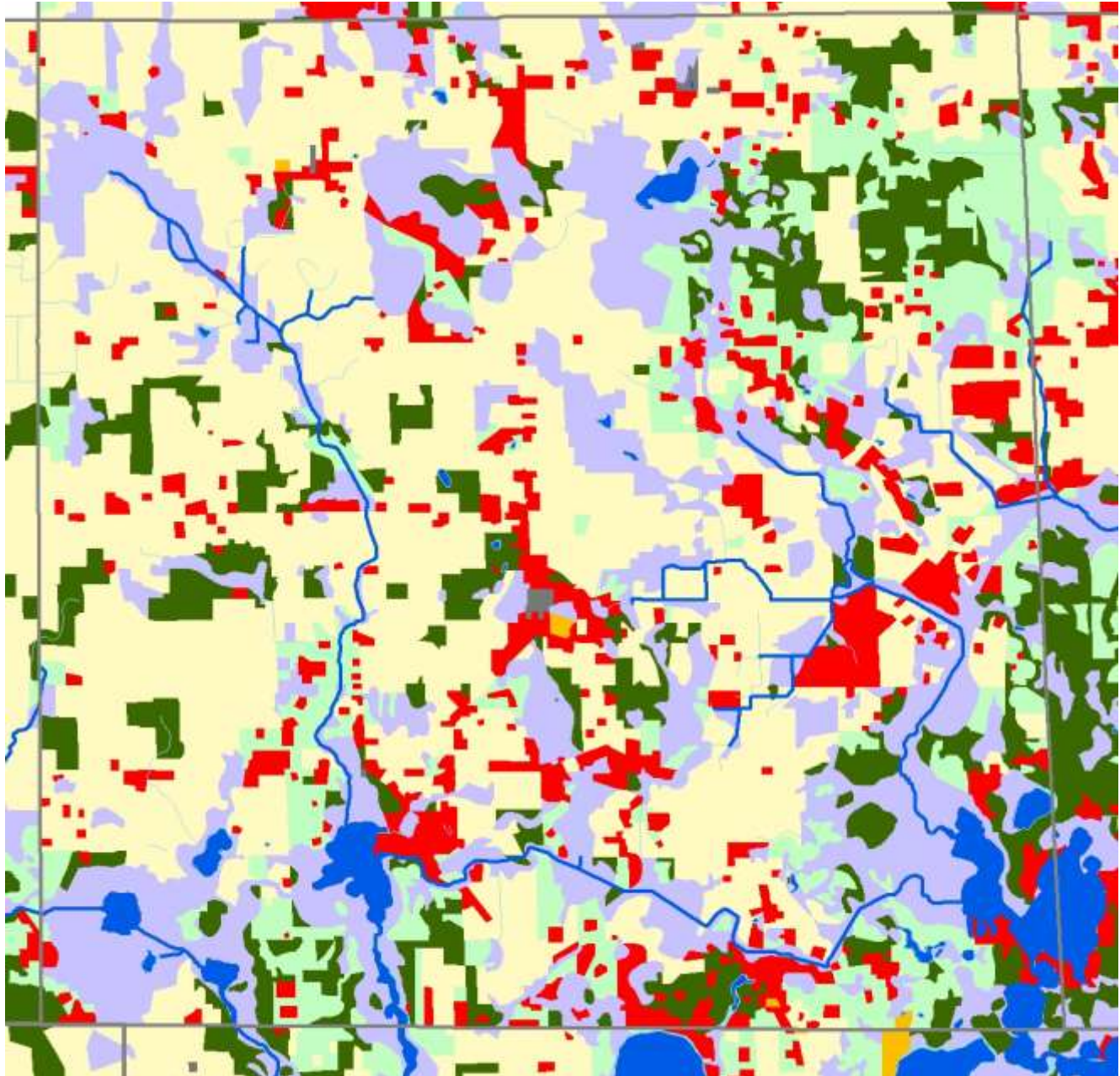
Environmentally Sensitive Areas



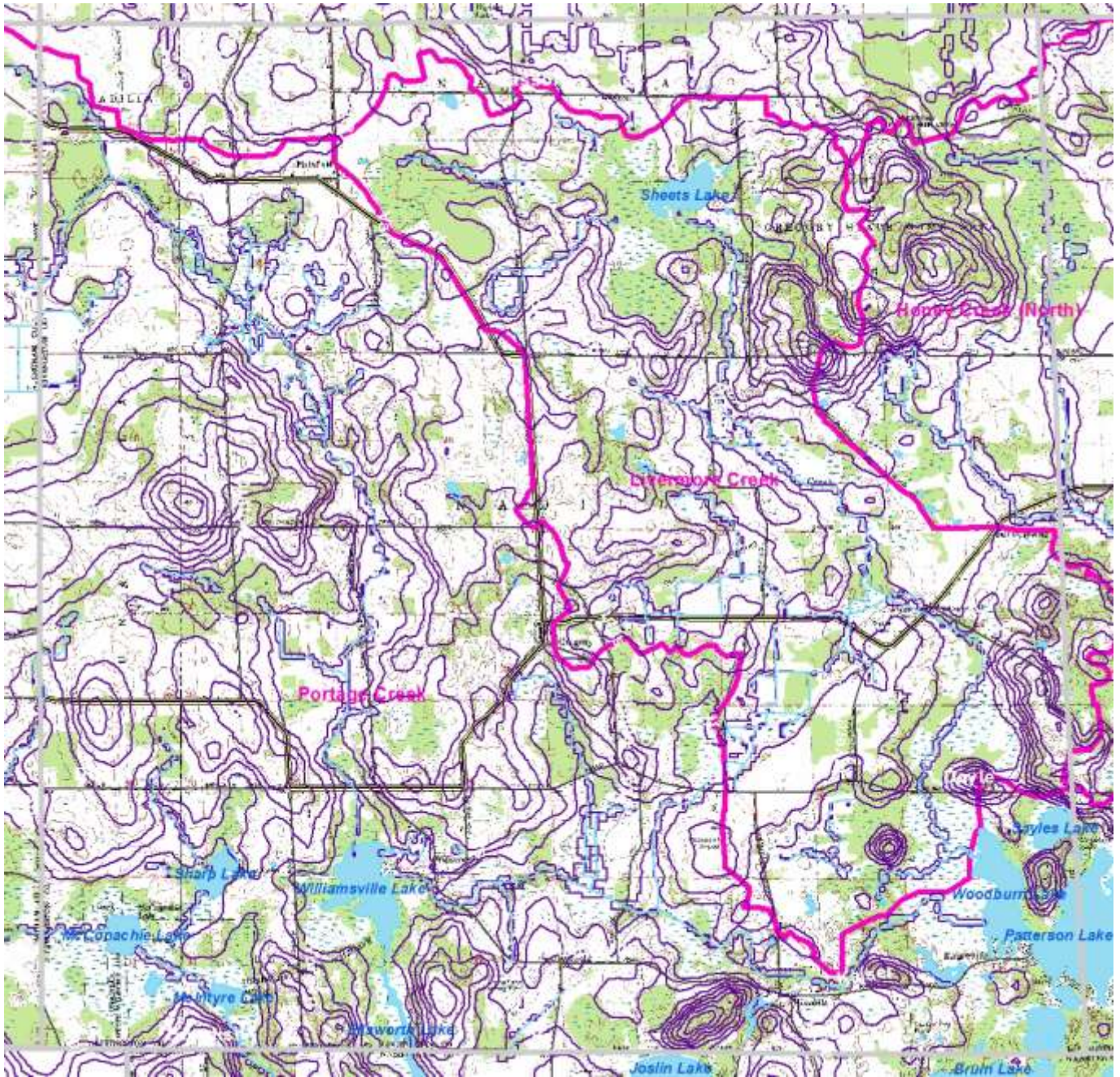
Master Plan



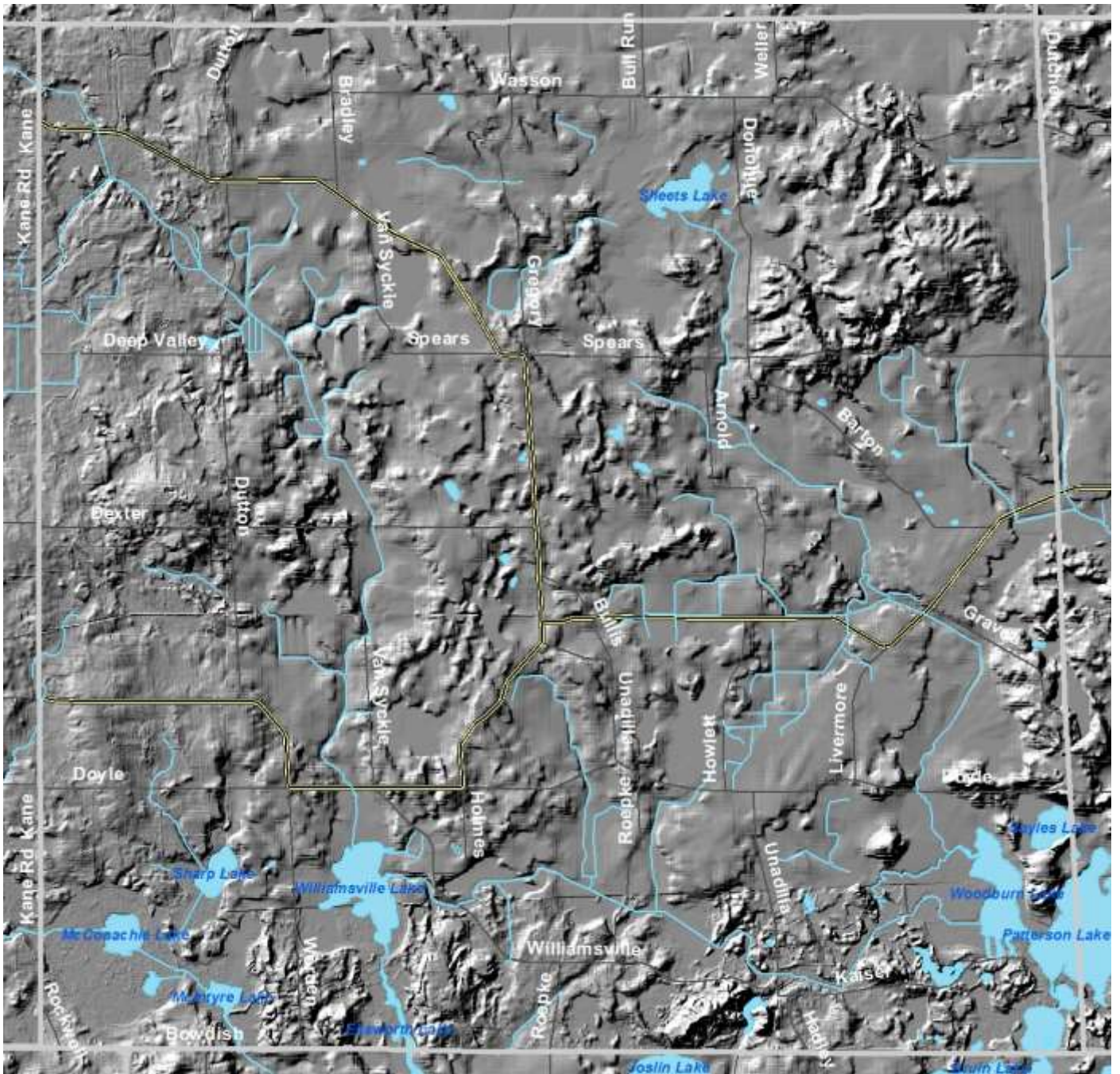
2000 Land Cover



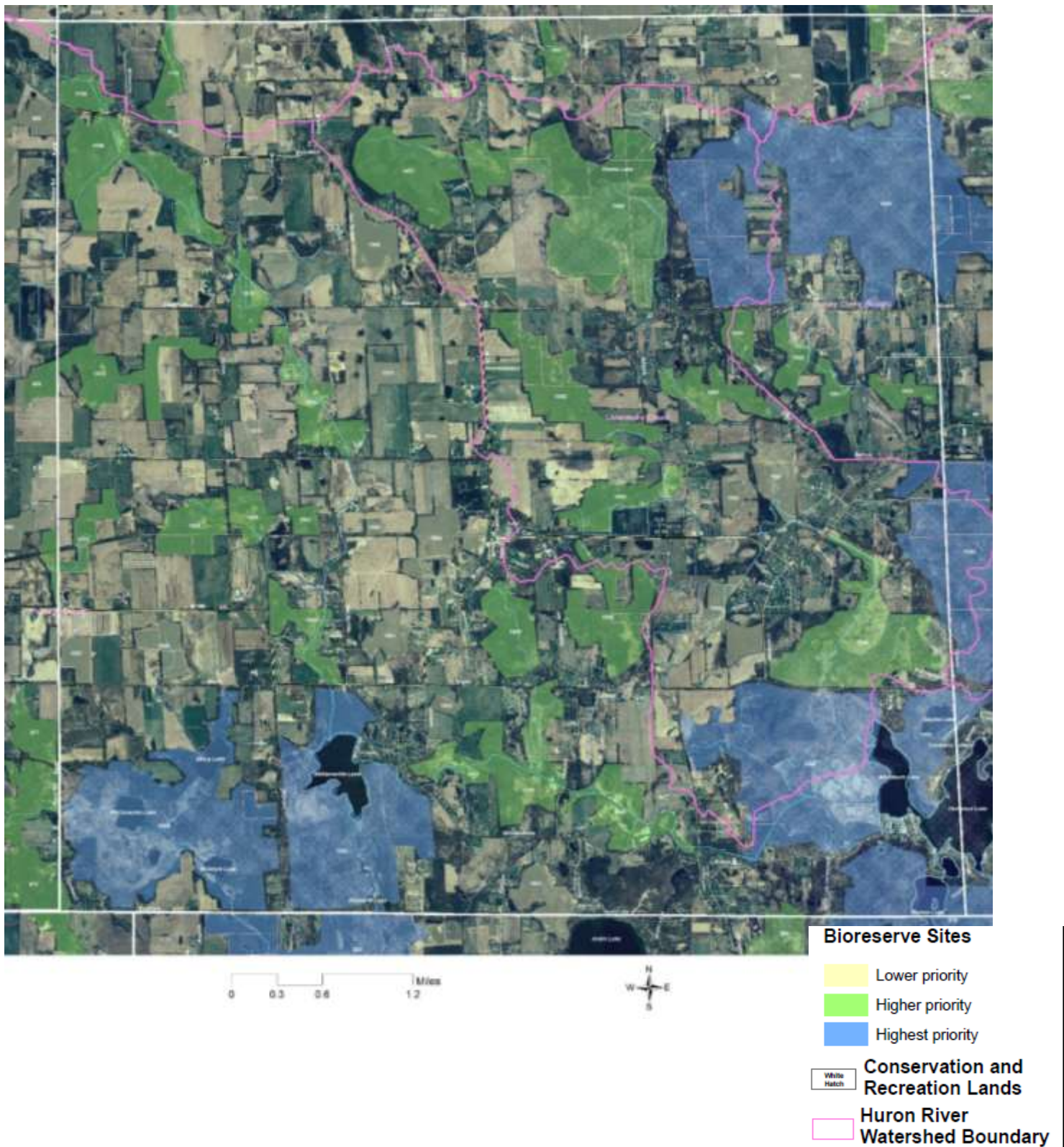
U.S.G.S. Topography



Topography: Shaded



Green Infrastructure Planning Map



Process for Hands On Assessment

1. Examine Maps
2. Determine habitat hubs, and outline on map with red ink.

Hint

Hubs anchor the network and provide an origin or designation for wildlife. The Bioreserve Map provides a good place to start

Outline your hubs with



3. Identify smaller ecological landscape features (sites) that can serve as a point of origin or detination or incorporate less extensive ecologically important areas.

~Hint~

Look for lower ranked Natural Areas (Priority Two or Priority Three) along with smaller woodlots and wetlands.

Outline your sites with



4. Create the best possible connections between hubs using the smaller ecological landscape features (sites) as stepping stones. Use riparian linkages whenever possible.

~Hint~

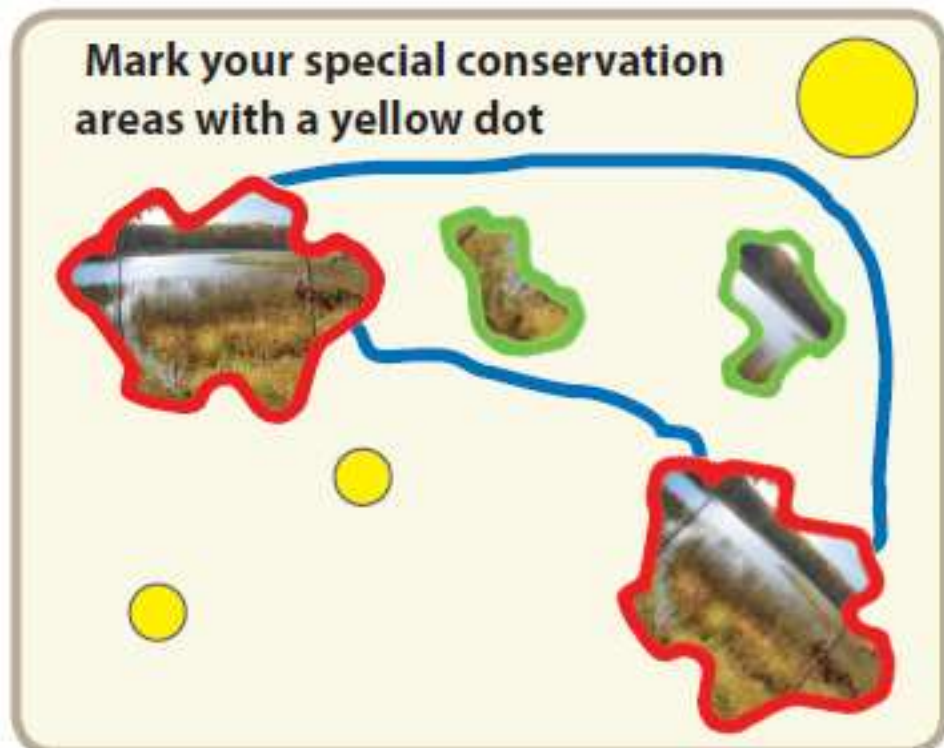
In general, the wider the corridor the better and the longer the corridor the wider it should be.



5. Identify Special Features that fall outside the system or have unique connection or importance within the community.

~Hint~

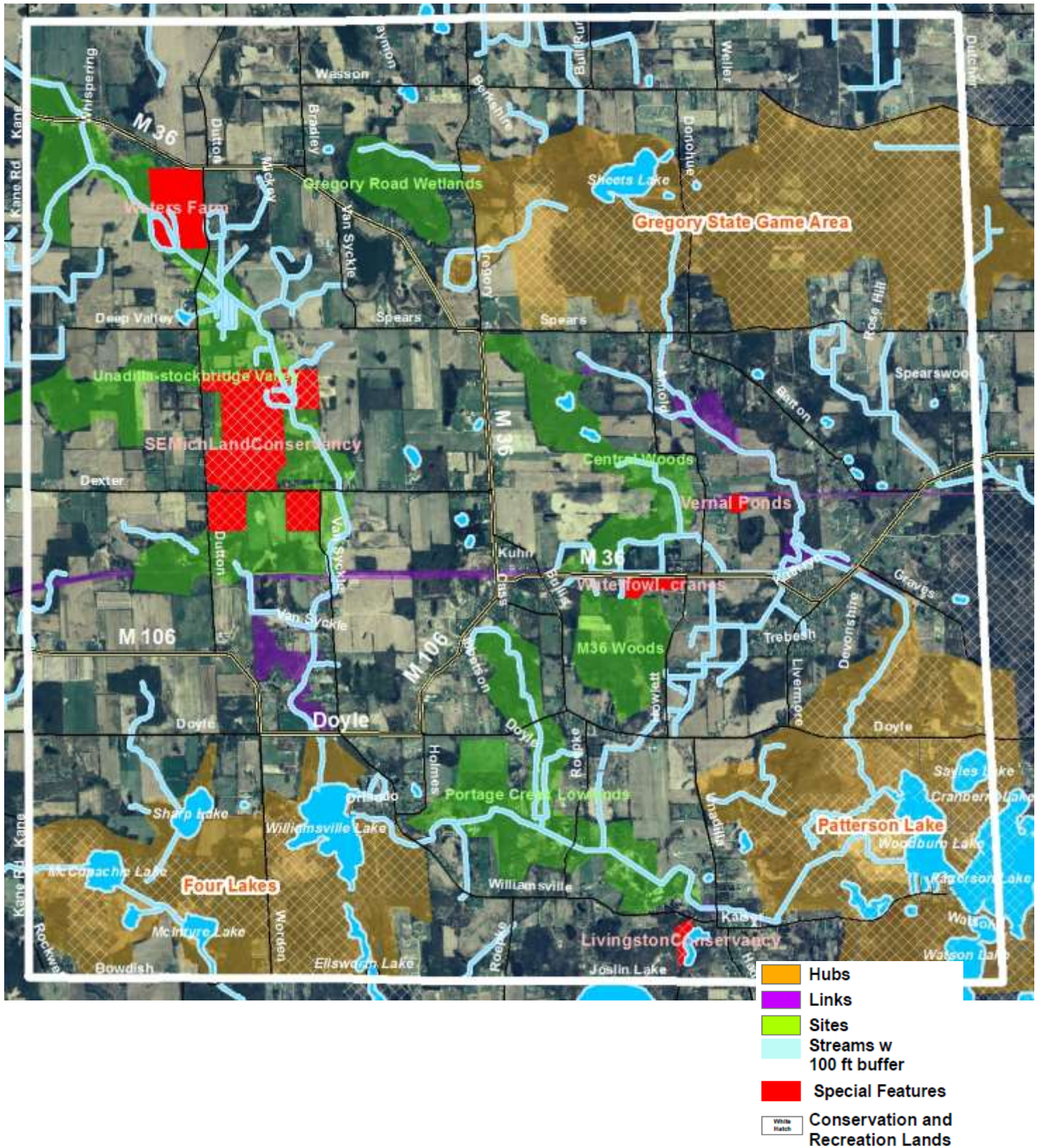
Appropriate areas may be a wetland, pond, woodlot stream or wildflower patch known only to local residents.



6. Label your system (hubs and links) and add names that help identify the site locally.



Draft Green Infrastructure Map





Next Steps – Community Planning for Green Infrastructure

- Verify the draft Green Infrastructure Vision Map
- Determine best land management tools
- Review master plans, ordinances, and related planning documents
- Establish conservation goals, funding options, and tracking mechanisms
- Amend master plans to favor preservation of green infrastructure, and encourage green development proposals and better site design
- Adopt local ordinances for resource protection: woodland, wetland, riparian, stream, and floodplain ordinances
- Revisit community regulations and development standards for lot sizes, setbacks, parking and street standards, drainage regulations
- Offer incentives to developers to integrate green development: design density compensation, buffer averaging, stormwater credits, transferable development rights, etc.
- Adopt regulations and policies that guide development within a framework of ecological structure and function.
- Educate home buyers & community residents about the open space conservation concept

References

The Conservation Fund. Green Infrastructure: A Strategic Approach to Green Space Planning and Conservation Train-the-Trainer. 2002.

Livingston County Department of Planning. Livingston County's High-Quality Natural Areas. 2003.

The Conservation Fund website. www.greeninfrastructure.net

Oakland County Planning & Economic Development Services. 2002 Oakland County Potential Conservation/Natural Areas Report. Jul. 2002

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