

# New Designs for Growth Green Infrastructure

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Patty O'Donnell  
Northwest Michigan Council of Governments

# **Green Infrastructure**

**Adaptable term used to describe an array of products, technologies, and practices that use natural systems – or engineered systems that mimic natural processes – to enhance overall environmental quality and provide utility services.**

# Green Infrastructure Details

Natural Life Support System -  
Interconnected Network of:

1. Waterways
2. Wetlands
3. Woodlands/Forests
4. Wildlife Habitats
5. Greenways, Parks, Trails
6. Agricultural Lands
7. Conservation Lands

# ***Natural Life Support System***

- Maintain natural ecological processes—
- Sustain air and water resources
- Contribute to the health and quality of life for communities and people



# Some Principles

- Functions as the framework for conservation and development
- Design and plan green infrastructure before development
- Linkage is key
- Functions across jurisdictions

# Principles

- Grounded in sound science and land use planning theories and practices
- A critical public investment
- Engages key partners and involves diverse stakeholders

# Benefits

- Cleaner Water
- Enhanced Groundwater Recharge and Source Water Protection
- Cleaner Air
- Reduced Developed Land Temperatures
- Increased Energy Efficiency

# Benefits Continued

- Additional Wildlife Habitat and Recreational Space
- Cost Savings
- Moderate the Impacts of Climate Change
- Increased Land Values
- Improved Human Health



# Benefits Continued

- Reduced and Delayed Stormwater Runoff Volumes
- Mobility Planning: Green Roads/ Highways/ Expressways and Non-Motorized Transportation Facilities
- Local Food Systems
- Maintain Native Plant Gene Pool
- Disaster Proofing – hazard mitigation

# Techniques

- Low Impact Development
- Leadership in Energy and Environmental Design (LEED) Buildings/Neighborhoods
- Smart Growth
- Sustainable Infrastructure (water, sewer, roads)

# More Techniques

- Protection of Green Infrastructure:
  1. Transfer of Development Rights
  2. Purchase of Development Rights
  3. Utility Service Districts
  4. Purchase of property for preserves
  5. Conservation easements
  6. Zoning/Site Plan Review

# Funding Ideas

- Millages
- Designated local sales tax
- County Drain Commissions
- Countywide tax increment financing plan
- State issued bonds
- Federal Highway Administration Programs

# Funding Ideas

- Other Federal (US Environmental Protection Agency/ US Fish and Wildlife Service/ US Department of Agriculture)
- State of Michigan (DEQ/DNR)
- License Plates Revenue
- Foundations
- Private/Membership Donations

# **Lake Michigan Watershed Academy III Project**

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- The beginning of a Regional Green Infrastructure Program
- Funded by the U.S. Environmental Protection Agency Lake Michigan Lakewide Management Plan Program

# Lakewide Management Plan

Lake Michigan LAMP subgoals and  
relation to green infrastructure

1. Can we all eat any fish?
2. Can we drink the water?
3. Can we swim in the water?
4. Are all habitats healthy, naturally diverse, and sufficient
5. Does the public have access to abundant open space, shoreline, and natural areas, and interaction with Lake Michigan?

6. Are land use, recreation, and economic activities sustainable and supportive?
7. Are sediments, air, land, and water sources or pathways of contamination?
9. Are ecosystem stewardship activities common and undertaken by public and private organizations?
10. Is collaborative ecosystem management the basis for decision-making in the Lake Michigan basin?



# Project Implementation

- Project of New Designs for Growth
- Bring together interested stakeholders
- Watersheds and regional areas
- Inventory and mapping of natural assets and identify gaps
- Continue to increase awareness for protection of the identified lands/systems
- Work with the local governments for implementation

# **NDFG Guidebook**

- **Section 1: Critical Design Practices**

Trails, Forestry, Alleys, Cluster Developments, Conservation Easements, Conservation Planning, Habitat Protection, Hillside Development, Landscaping, Natural Features, Nonpoint Source Pollution Open Space, Alternative Pavement Surfaces, Purchase of Development Rights, Sand Dune Protection, Scenic Views, Preserving Sensitive Areas, Stream Protection, Streetscape, Topography, Transfer of Development Rights, Water Resource Protection, Wetlands, Woodland Protection



**Patty O'Donnell**  
**Northwest Michigan Council of Governments**  
**231-929-5039**  
**[pattyodonnell@nwm.cog.mi.us](mailto:pattyodonnell@nwm.cog.mi.us)**