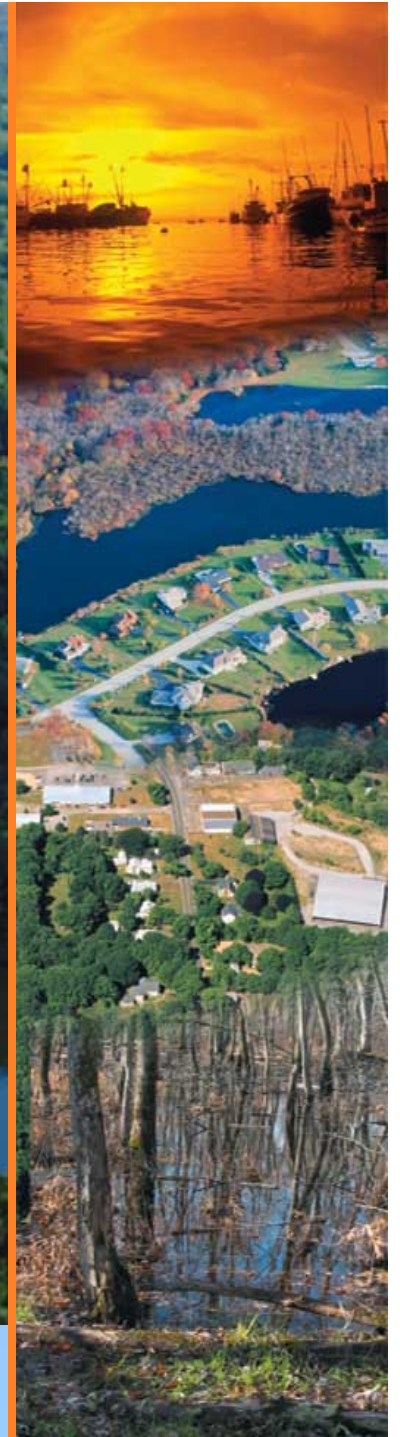




NEMO & The National *NEMO Network*

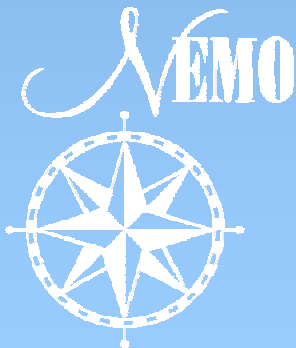
Nonpoint Education for Municipal Officials

An Overview



Nonpoint Education for Municipal Officials

NEMO is an educational program for **land** use decision makers addressing the relationship between land use and water resource protection.

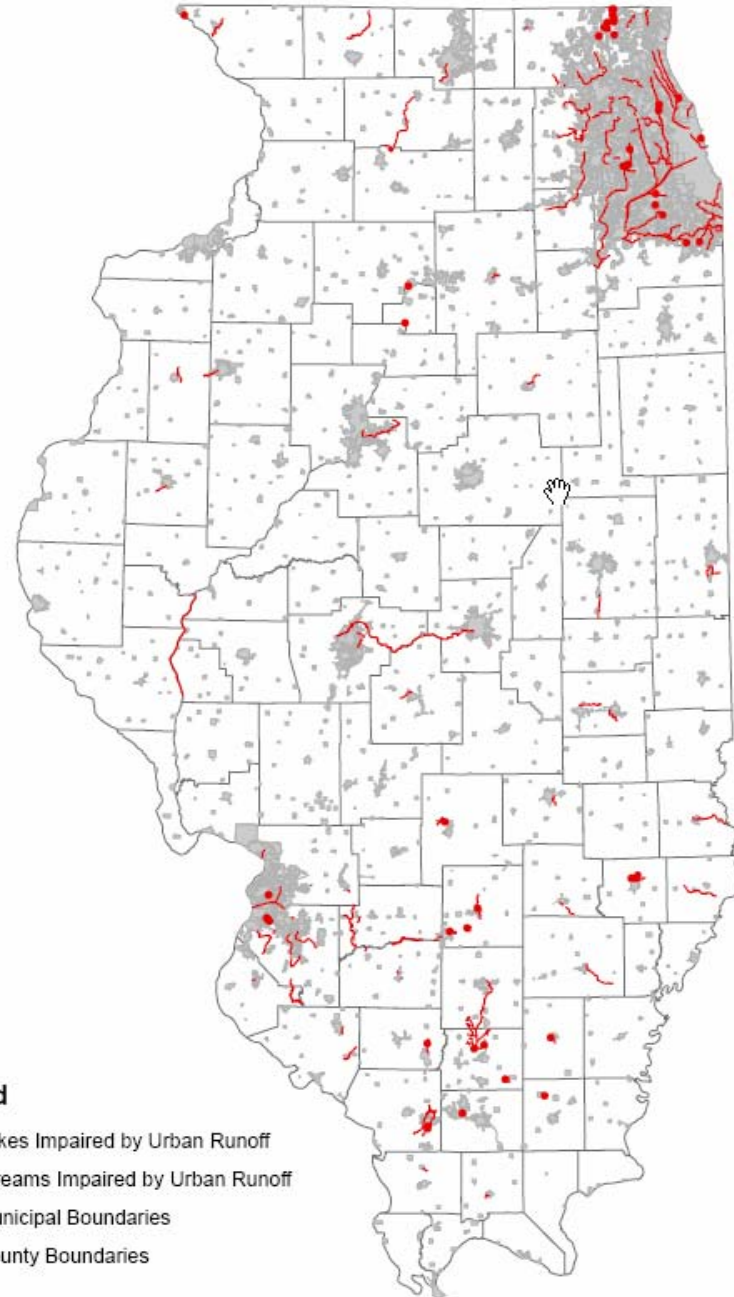


Polluted Runoff is the #1 Water Quality Problem in the U.S.*



* USEPA

Waters Impaired by Urban Runoff*



*These waters are listed on the 2006 303(d) List as Impaired with Urban Runoff as a Source



Sources of Impairment

	<u>Stream Miles</u>
Crop Production	3,040
Channelization	1,821
Municipal Point Sources	1,519
Urban Runoff/Storm Sewers	1,145
Animal Feeding Operations	690
Combined Sewer Overflows	327
Livestock Grazing	238
Industrial	191

All communities struggle
with the need to balance...



and

Resource Conservation

Economic Development



NEMO's Goal:

Assist Local Officials to



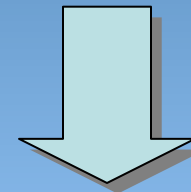
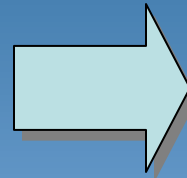
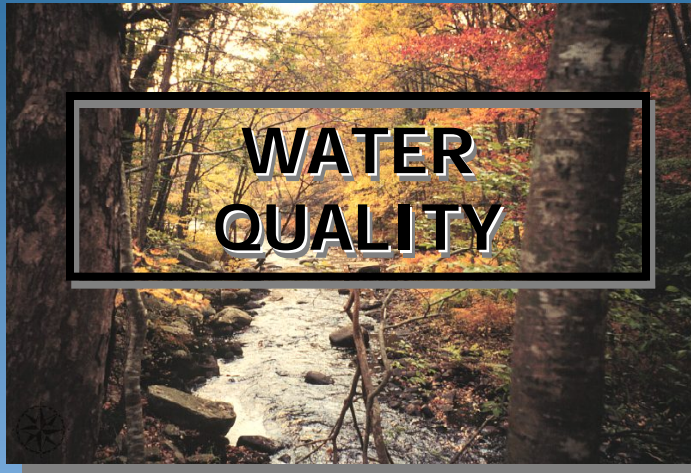
Ask the right questions.

Put development in greater context.

Get started on natural resource-based planning.

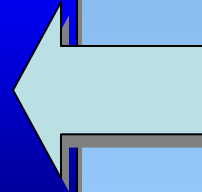


The NEMO Equation



PICK YOUR BUZZWORD!

- liveable communities
- sustainable development
- sprawl



“Basic” NEMO:

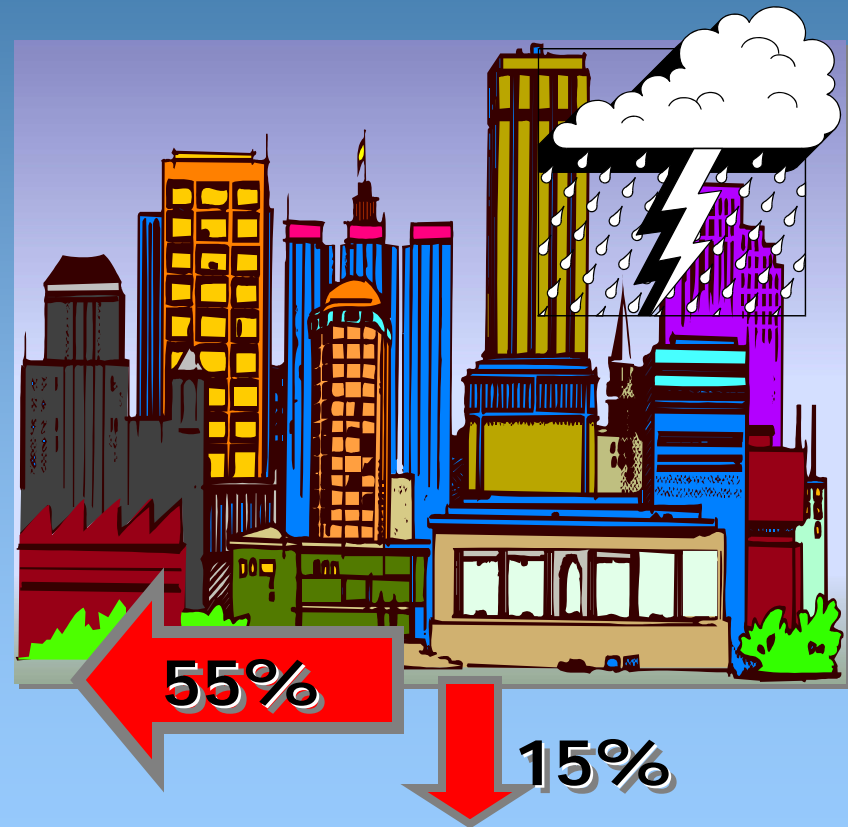
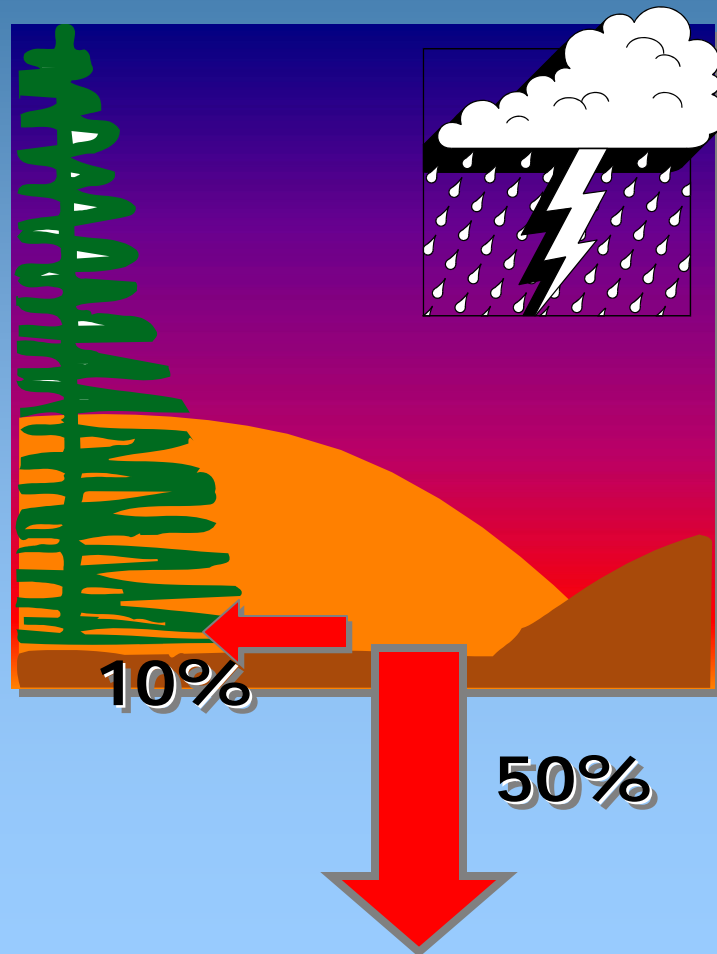
Linking Land Use to Water Quality

- Impact of development on waterways
- The pollutants in polluted runoff
- Using watersheds as a framework
- Land use impacts on water quality
- Impervious surfaces as an indicator



What you can do!

Development Impacts on the Water Cycle



The Pollutants in Polluted Runoff

U Nutrients

Pathogens
Sediment
Toxic Contaminants
Debris
Thermal Stress



Nutrients such as nitrogen and phosphorus are substances needed for growth, but elevated levels can cause a health hazard in drinking water *and* stimulate excessive aquatic plant growth, which can ultimately lower dissolved oxygen levels.

Sources: animal waste, fertilizers, septic systems, auto emissions

What to Look

Polluted runoff from Agriculture & Open Space areas



Nutrients: fertilizer from farms, parks, golf courses

Pathogens: domestic animal & wildlife waste

Sediment: erosion from agricultural fields

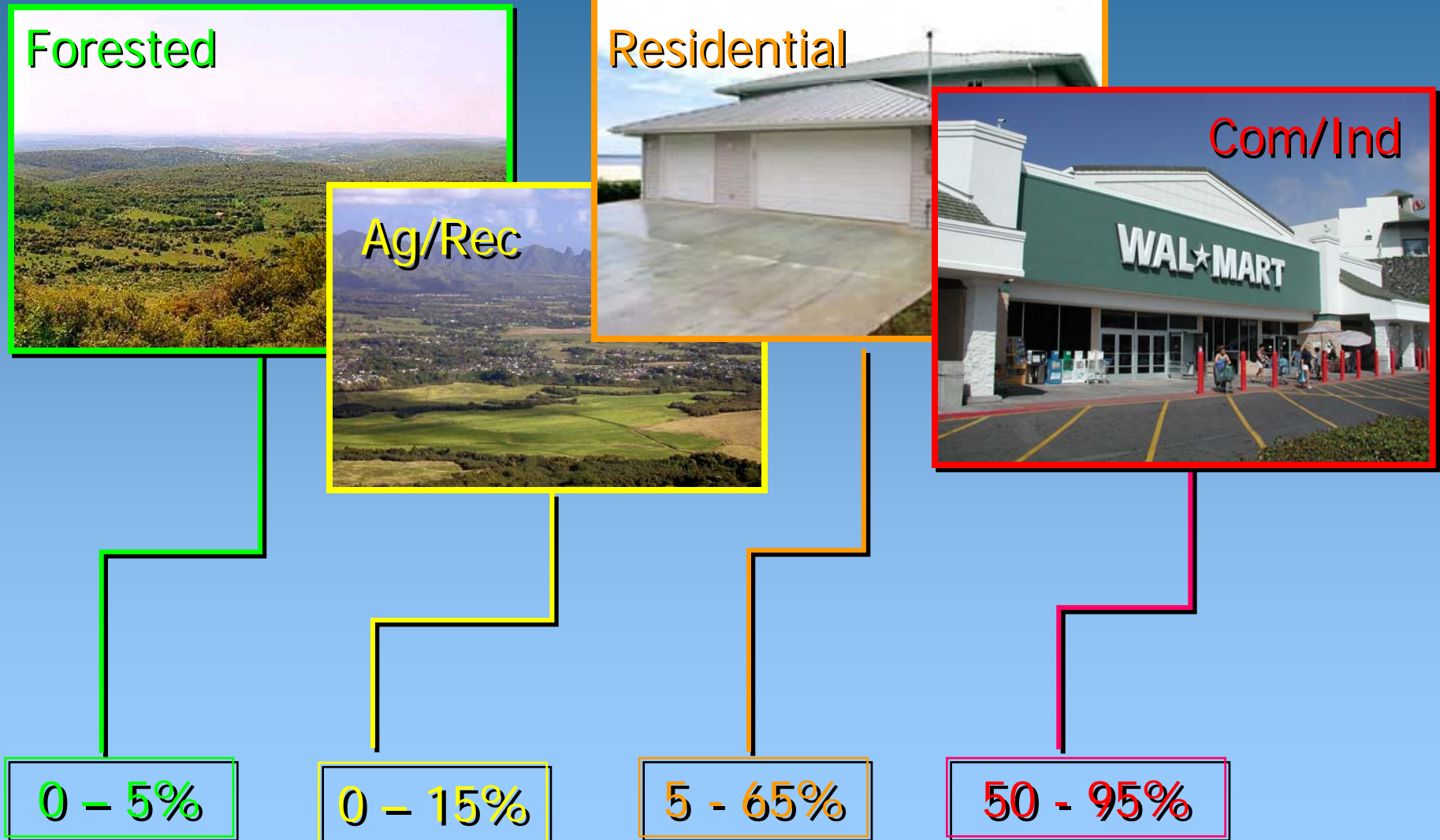
Toxic: pesticides from ag. lands & golf courses

Debris: litter & illegal dumping

Thermal: removal of streamside vegetation,
shallow water impoundments



Imperviousness Varies by Use



Natural Resource Based Planning

NEMO's 3-tiered approach to NPS:

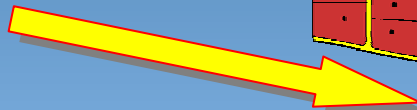
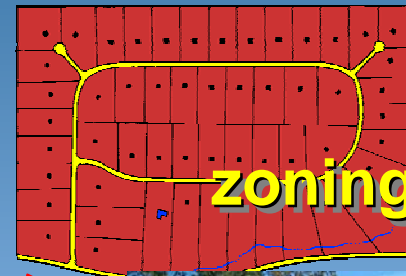
1. Planning

2. Site Design

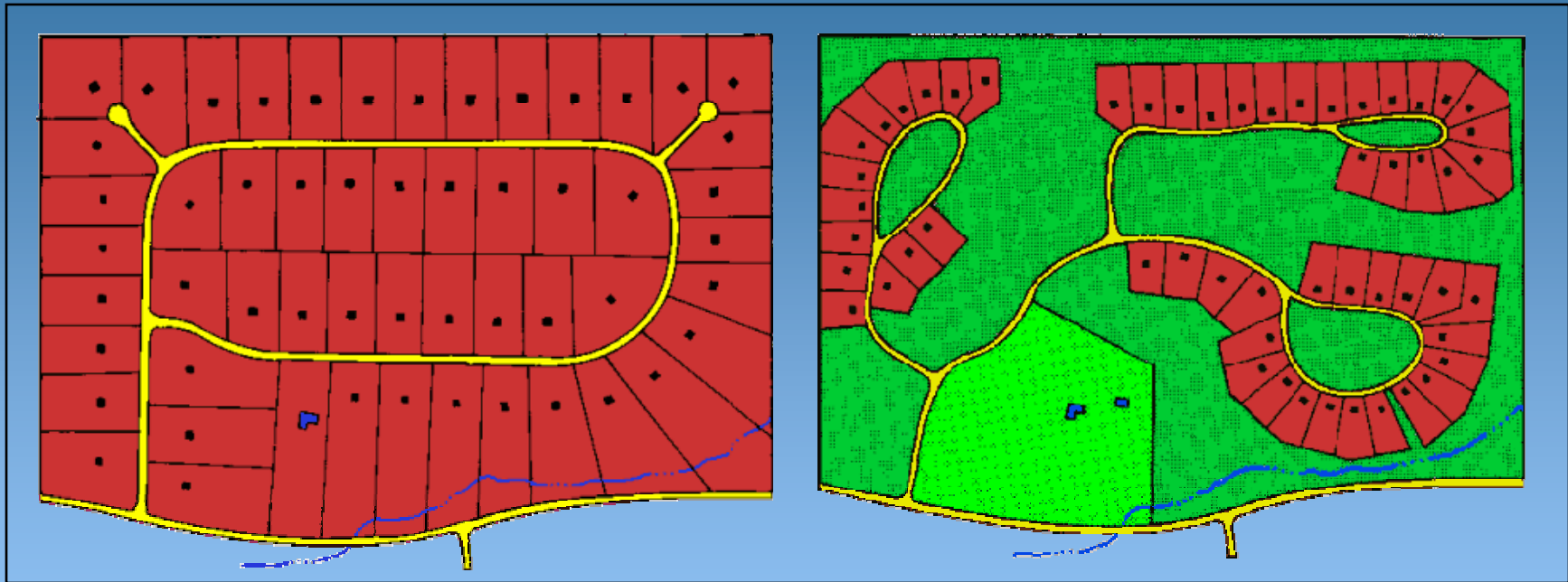
3. (Mechanical) Best Management Practices



Land Use Plans are blueprints for regulations & policies



Open Space Developments



- same number of housing units
- 10-50% less impervious surface
- up to 50% open space
- water resources protected

From Randall Arendt

Zoning



LOCAL



18-24 ft



22-30 ft.

COLLECTOR



ARTERIAL

24-32 ft



Not less engineering...

Overflow Parking

Conventional Parking

...*different*
engineering!



Driveway Tips



design shorter and narrower drives

design wide turnaround areas only where needed

design drives to follow contours & drain to pervious areas

use pervious alternatives

Residential Roofs

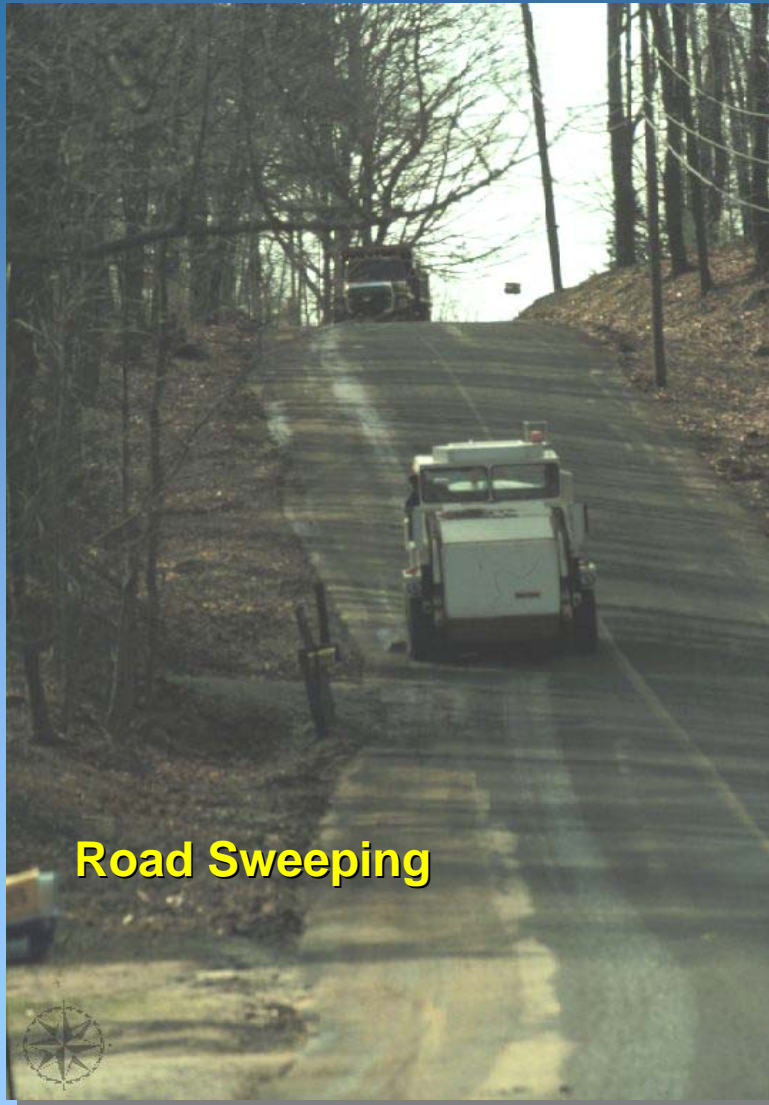
Residential Roof water is relatively clean, and can be easily taken out of the stormwater loop.



- Redirect down spouts to pervious areas
- Rain gardens
- Rain Barrels



Encourage Maintenance of BMPs

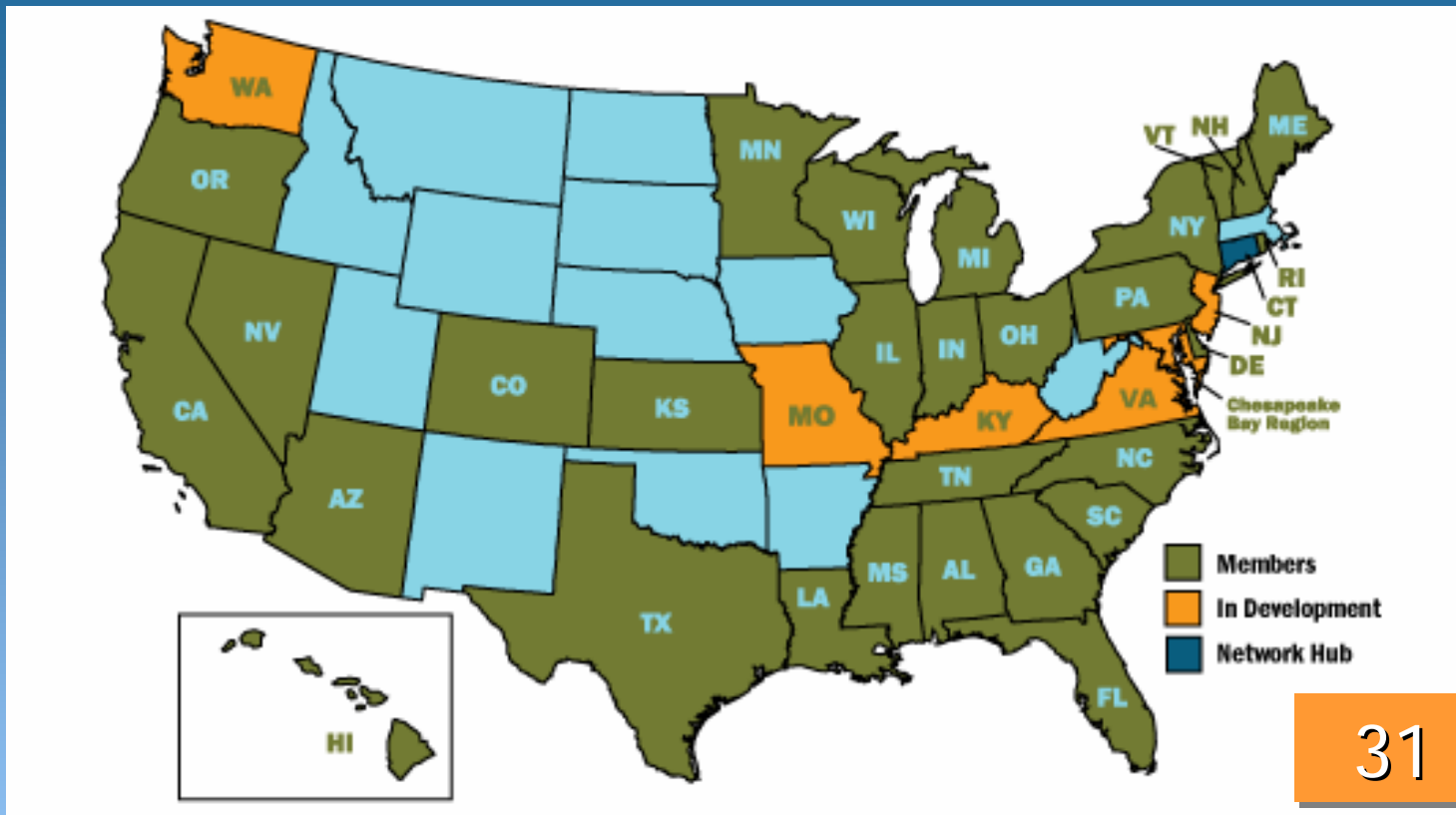


Road Sweeping



Cleaning Catch Basins

National NEMO Network

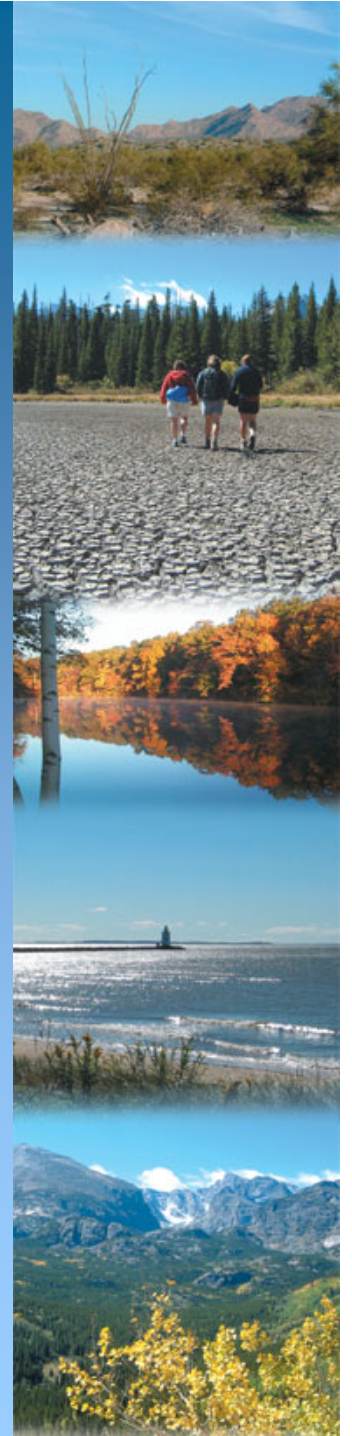
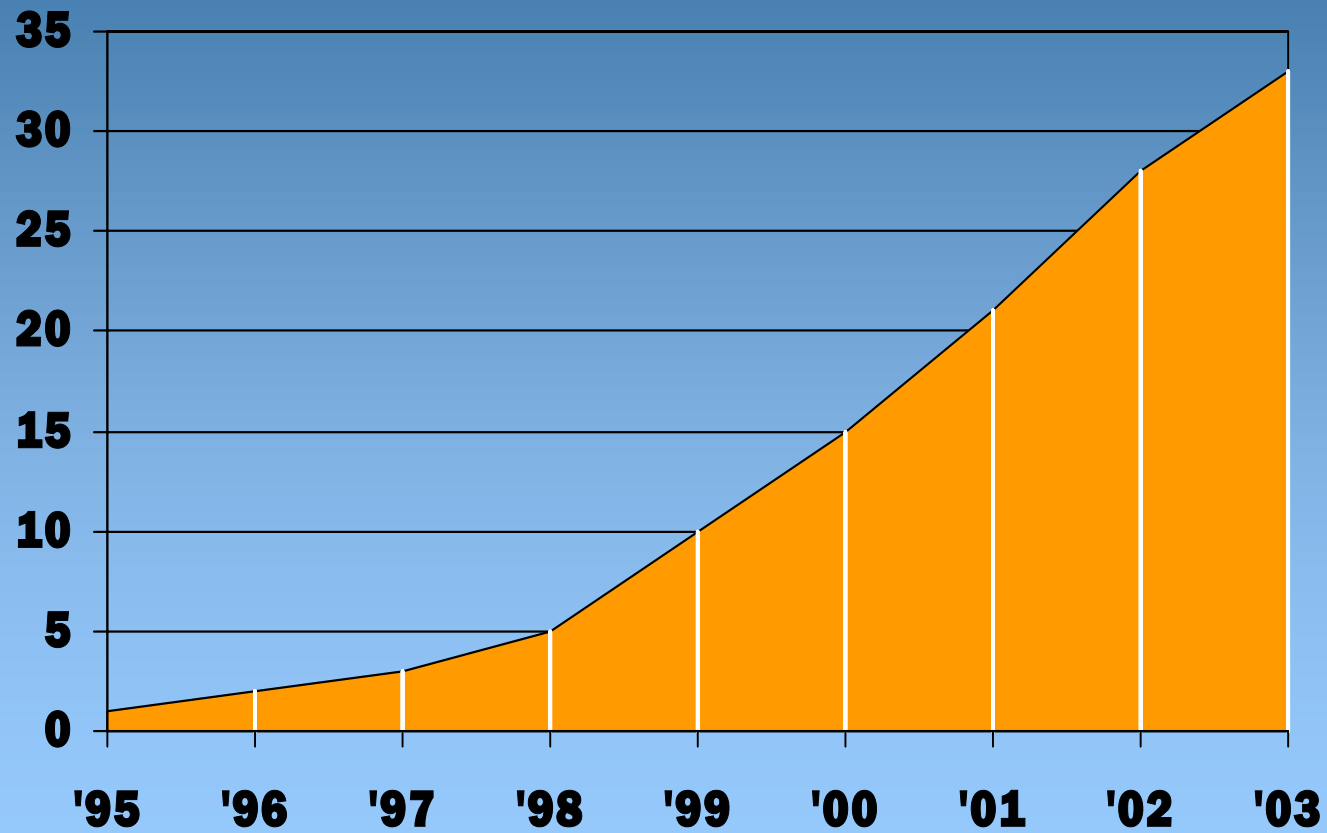


31 states

Network focuses on the relationship of land use to natural resource protection, sharing information, materials and educational models.



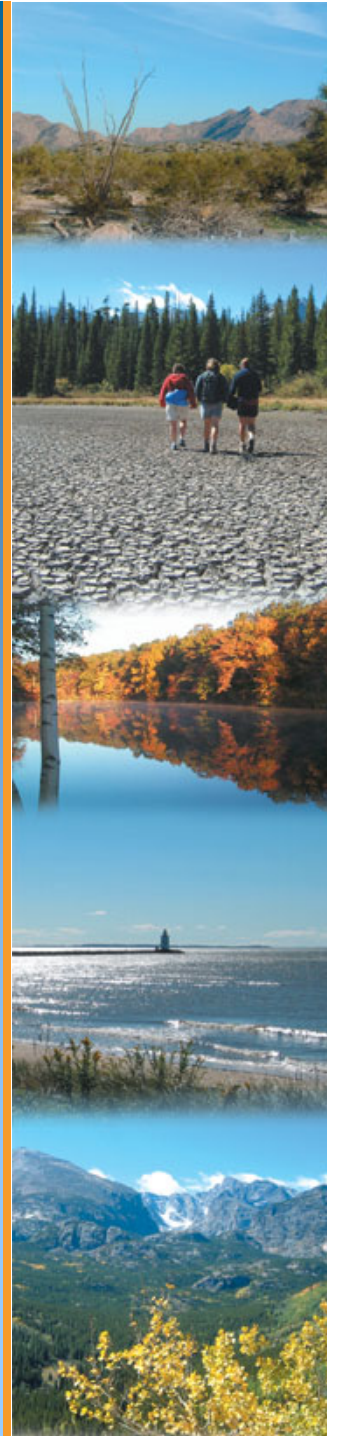
Network Growth





Local programs for local issues

- Changes to Regulations
 - Changes to Plans
 - Changes to the Decision Making Process
 - Research and Information Gathering
 - On the Ground Changes
-



Illinois NEMO

- **Conferences**
 - American Public Works Association Illinois Chapter annual meeting
 - American Planning Association Illinois State Section meeting
 - Annual Conference of the Illinois Association for the Floodplain and Stormwater Management
- **Educational materials**
 - Fact sheets
 - Website
 - News releases
- **Reviewed and offered comments on ordinances**
- **Workshops**
 - Cities
 - Regional Area
 - State Wide Telenets

It's Not Just About Water...



So Why Do This?

It's More Than Quantity of Pavement...



....it's Quality of Life!

**Water Quality is directly
dependent upon Land use and
Land use is decided
at the local level.**

Illinois Watershed Management Clearinghouse

protecting our greatest economic and social resource



GETTING INVOLVED IN WATERSHED MANAGEMENT

- [Why Watershed Management Matters](#)
- [Roles in Watershed Planning](#)
- [Building Watershed Committees](#)
- [Developing Watershed Plans](#)
- [Locating Resource Data](#)
- [Completed Watershed Plans](#)
- [Find Your Local Watershed Group](#)
- [Nonpoint Education for Municipal Officials \(NEMO\)](#)
- [Illinois Watershed Association](#)

HELP FOR EXISTING WATERSHED GROUPS

- [Mapping Tools](#)
(Links will launch in a new window)
- [Resource Management Mapping Service](#)
 - [IEPA Mapping Engine](#)
- [Funding for Watershed Groups](#)
- [Funding Sources](#)
 - [Grant Writing Help](#)

REFERENCES & RESOURCES

- [Related Websites and Tools](#)
- [Educational Materials](#)
- [Conservation Connections](#)

FEATURED CONTENT

Check out the new Guidance for Developing Watershed Action Plans in Illinois.

[Learn more](#)

CALENDAR

- [Stormwater and MS4s Strategies for Permit Compliance](#)
Sept 25
East Peoria
- [What It Means to Be GREEN](#)
Sept 27
Peoria

All Events

ASK THE EXPERT

- [Frequently Asked Questions](#)
- [Send us your questions](#)



Illinois Watershed Association Mission

The mission of the Illinois Watershed Association is to improve information sharing and technical support among watershed organization, advocate sound watershed management practices and programs, and amplify local watershed group's public outreach and educational efforts.

Goals

- **Identify funding & resources to support watershed programs**
- **Foster working relationships with agencies & organizations having watershed-related interests**
- **Gather & distribute information on financial & technical assistance for watershed groups**
- **Develop website with current information on Illinois watershed groups**
- **Provide outreach at watershed conferences & workshops**
- **Host a watershed list serve for information sharing**
- **Be a source of information on education & training opportunities**
- **Provide information & resources on how to form a local watershed group**
- **Provide direction for watershed resource planning**
- **Offer guidelines & examples on Best Management Practices**
- **Provide information on searching for & writing grants**

Members

- **Open membership:**
 - **Primary interest in the improvement & sustainability of Illinois watershed**
 - **Support Association mission**
- **Members :**
 - **Watershed groups**
 - **Individuals**
 - **Conservation and Wildlife Organization**
 - **Business Companies**
 - **Corporation**
 - **Education Institutions**
 - **Government entities**

Dues and Support Level

- **Dues**
 - **\$10 Individual Membership**
 - **\$25 Not-for-Profit Membership**
 - **\$50 Commercial Membership**
- **Annual Support Level**
 - **\$100 + Bronze**
 - **\$250 + Silver**
 - **\$500 + Gold**
 - **\$1000 + Platinum**