Watershed - Based Management of Water Resources

Deborah Grantham  Dept. of Crop and Soil Sciences

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(and formerly Dan Olmstead, CCE of Niagara County)
Watershed - Based Management of Water Resources

1. Watershed focus encompasses the underlying hydrological processes as well as the communities and audiences.

2. Umbrella for addressing statewide issues:
   1. nonpoint source (NPS) pollution,
   2. drinking water and health,
   3. risks associated with floods and droughts,
   and
   4. protection of fisheries and aquatic habitats.
Four primary projects

Developing programs:

1. **LEAPE: Locally-led Education and Action for Protecting the Environment**; Deb Grantham, Department of Crop and Soil Sciences and collaborators

2. **Small Water Systems Operators**
   Ann Lemley, Dept. Textiles & Apparel, Deb Grantham, Department of Crop and Soil Sciences, Katrie DiTella, Dept. Textiles & Apparel, Amy Samuels, CCE of Onondaga County, Linda Wagenet, CfE

New initiatives:

3. **Banking On The Rain – Outreach for Floods and Droughts**; Rebecca Schneider, Dept. Natural Resources and Deb Grantham, Dept. Crop & Soil Sciences

4. **In-stream Habitat Program**; Cliff Kraft and Piotr Parasiewicz, Dept. Natural Resources
LEAPE: Locally-led Education and Action for Protecting the Environment

- Computer-based educational program on water resources protection for local government;
- Successfully piloted in 3 towns in 2001;
- Funded in 2002 for 4 train-the-trainer sessions around NYS;
- Local educators in Essex & Tompkins independently funded to deliver LEAPE county-wide;
- Will integrate the other projects in one program.
LEAPE and IPM

- Components of LEAPE:
  1. turf
  2. streamsides
  3. roads
  4. on-site wastewater treatment systems
  5. marinas

- Turf:
  1. Frank Rossi;
  2. addresses complete process of choosing appropriate grasses, establishing turf, and maintaining turf;
  3. including soil quality, appropriate grass, and maintenance for healthy turf to increase pest resistance
Small Water Systems Operators

- Educational program on source water protection and NPS pollution control for small water system operators
- Site and operations assessment approach
- Pilot workshop and assessments in 2001
- Evaluation of content/techniques on-going
- Train-the-trainer broadcast planned for March, 2003
1. Assessments address:
   1. hazardous chemicals
   2. grounds maintenance
   3. pesticides
   4. on-site wastewater treatment systems
   5. fuel storage
   6. drinking water wells

2. Grounds maintenance and pesticides:
   1. recommends IPM methods;
   2. discusses identifying needs and purchasing appropriate types and quantities
Banking On The Rain

A Proactive, Watershed-based Approach to Mitigating Floods and Droughts

Rebecca Schneider and Deborah Grantham
Cornell University
Ithaca, New York, USA
Hydrologic goal: maximize retention of water within the watershed

Banking On The Rain

decrease runoff and reduce flooding

increase storage and infiltration >> maintain baseflow and groundwater
Societal Goal: reduce vulnerability of humans to floods and droughts

100 yr flood zone
Banking on the Rain

- Draft white paper of scientific recommendations;
- Identified the Seeley Creek Watershed for the pilot system;
  Collaborator: R. Kantus
- Partnering agencies identified
- Submitted proposal April, 2002 to National Commission for Science in Sustainable Forestry
In-stream Habitat Program

- Evaluates suitability of stream habitat;
- Easily implemented – field data and GIS product;
- Provides local officials, managers, NGOs with guide to rehabilitation.

Beaverkill / Willowemoc watershed completed in New York.
Total 44km (27 miles)