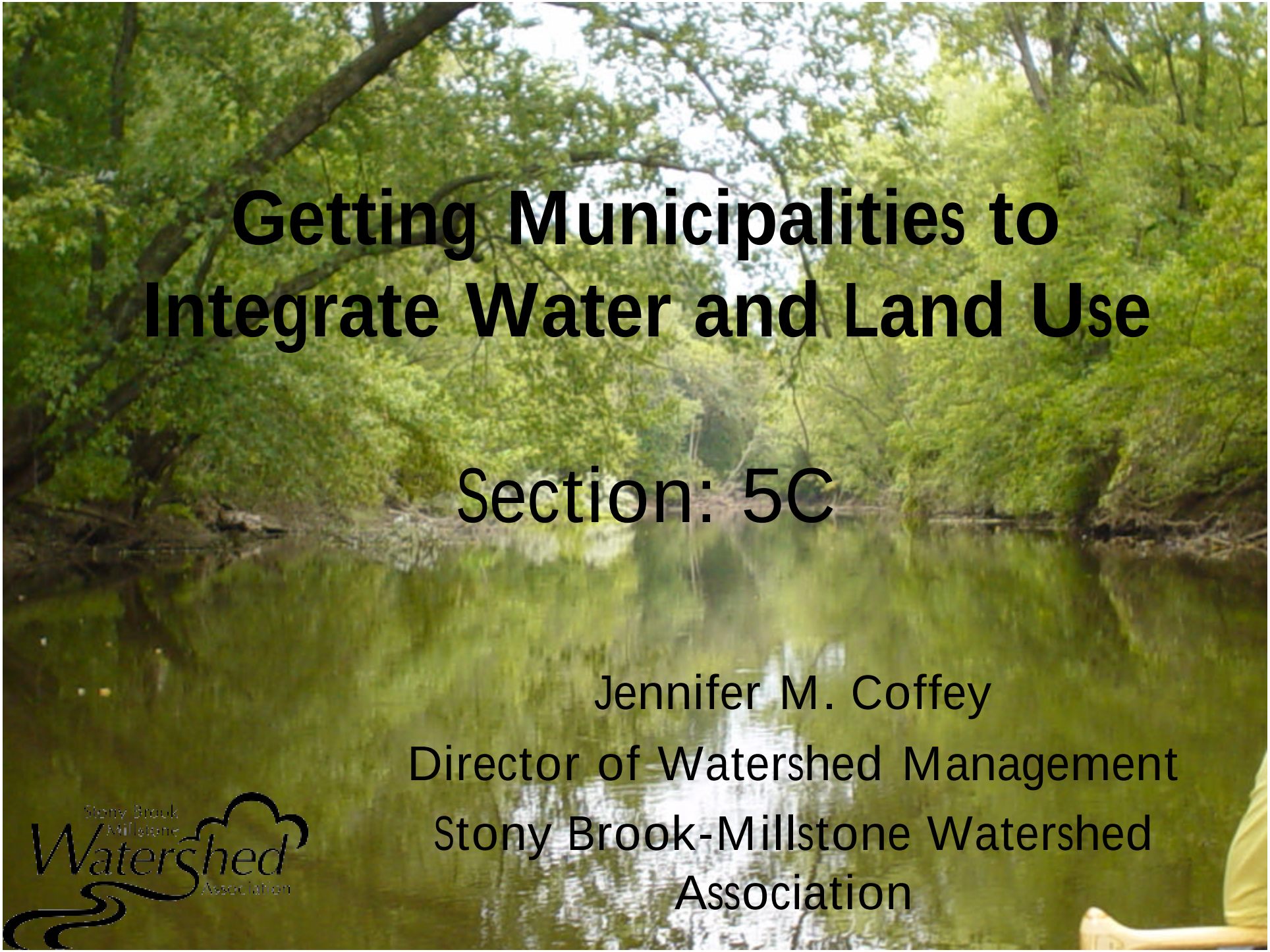


Getting Municipalities to Integrate Water and Land Use

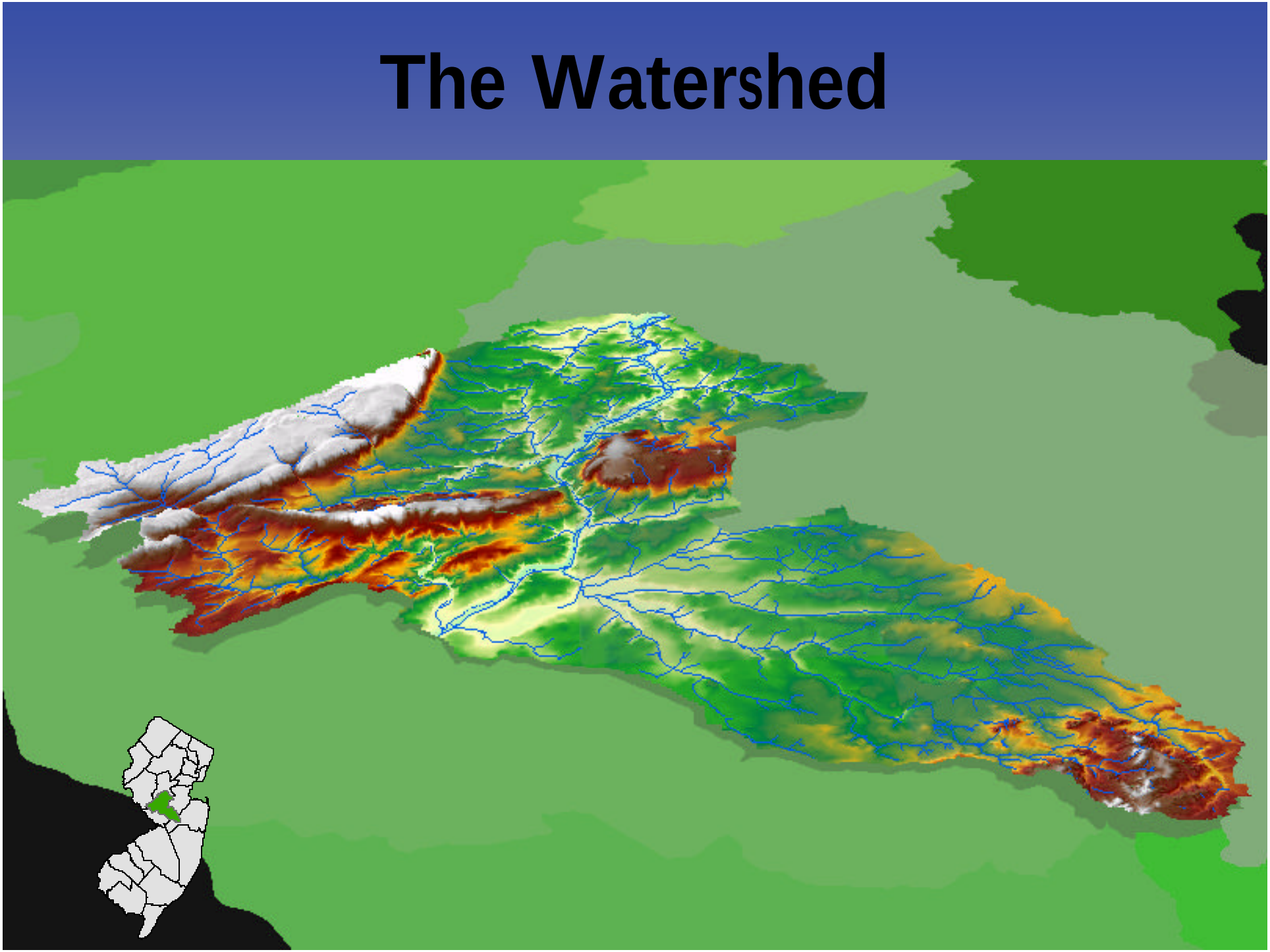
Section: 5C

Jennifer M. Coffey
Director of Watershed Management
Stony Brook-Millstone Watershed Association

Today

- The Stony Brook-Millstone Watershed
- Water, Water, Everywhere
- Watershed Management
- Working with Municipalities

The Watershed



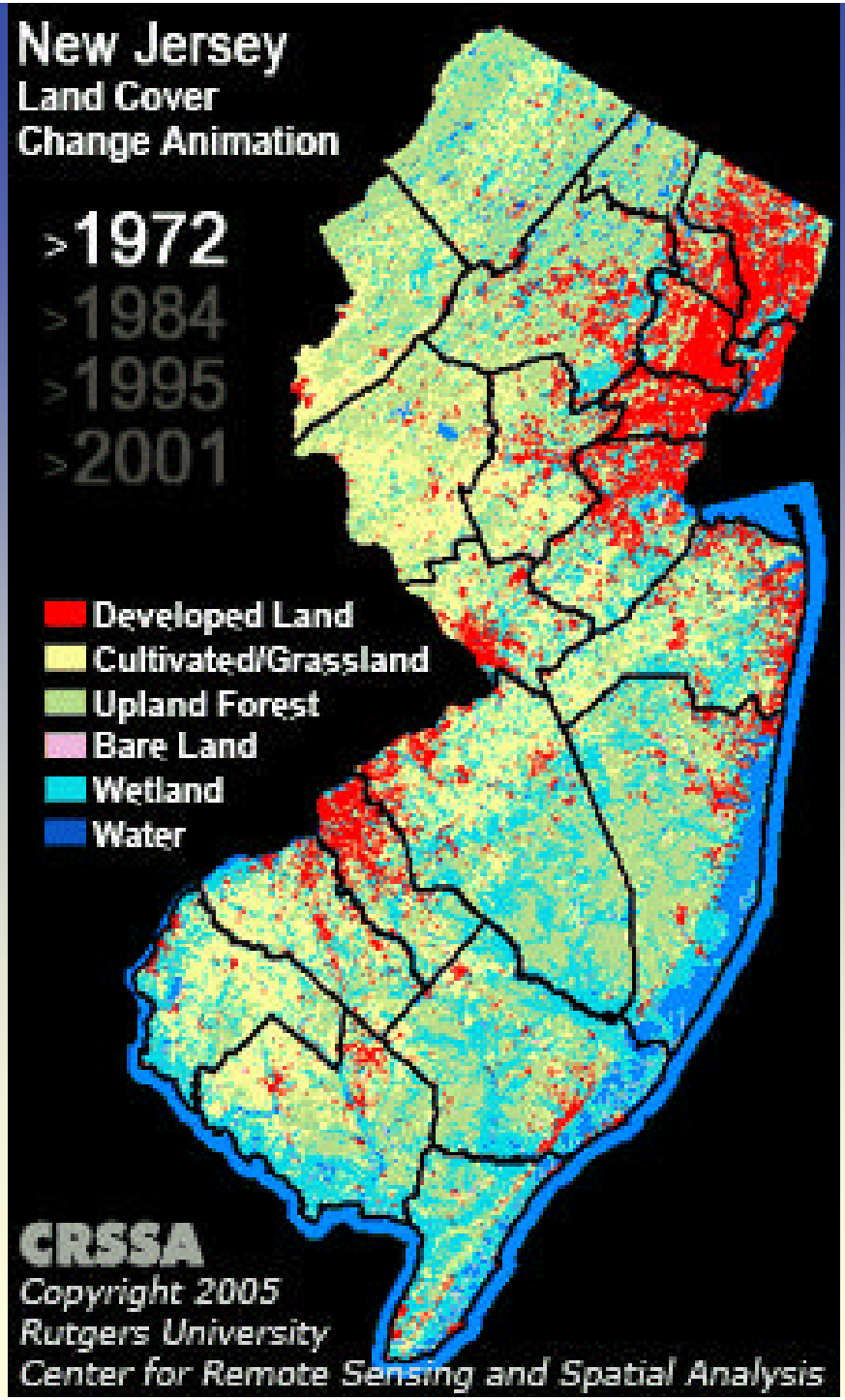
The Watershed Association

- **Preservation**
- **Education**
- **Research**
- **Advocacy**

Water, Water Everywhere…

- “The source and sustainer of life”
- Drinking water source (both ground and surface water)
- Recreational uses (fishing, swimming, canoeing…)
- Farmers, business and golf courses need water for their business
- Biological diversity (lots of interesting creatures in our local water bodies)

Just in case there was any doubt in your minds about development in New Jersey…



What is the Problem?

- NJ is the most densely populated state in the nation
- Projections estimate another 1 million people by 2012
- 47% of native flora and 20% of animal species listed as threatened or endangered
- 57.2% of biologically monitored streams are impaired and 8.6% are severely impaired

Eutrophication

Loss of Riparian Areas

Stream Impairment

Ground Water Losses

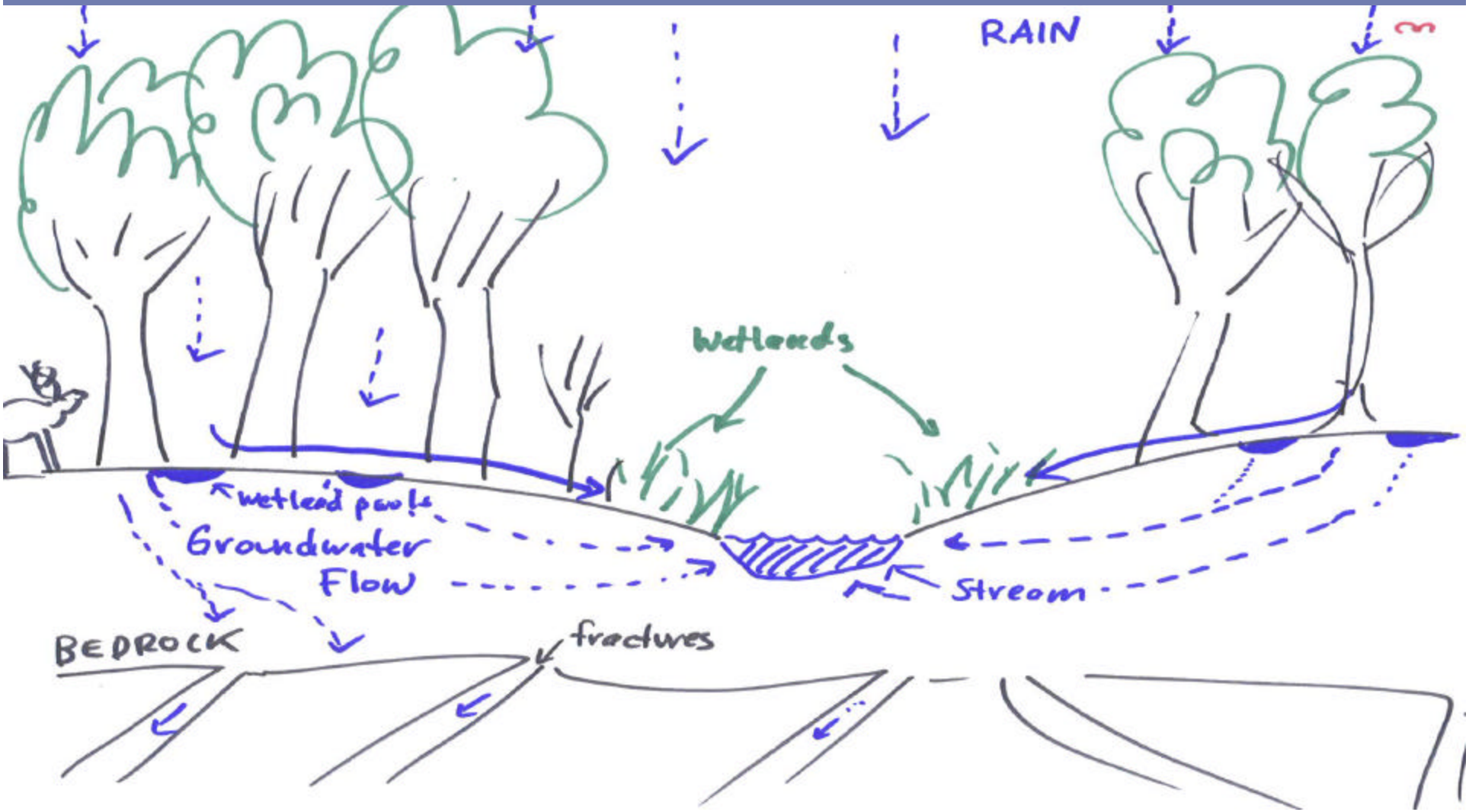

Water Supply
Limitations

Stormwater Impacts

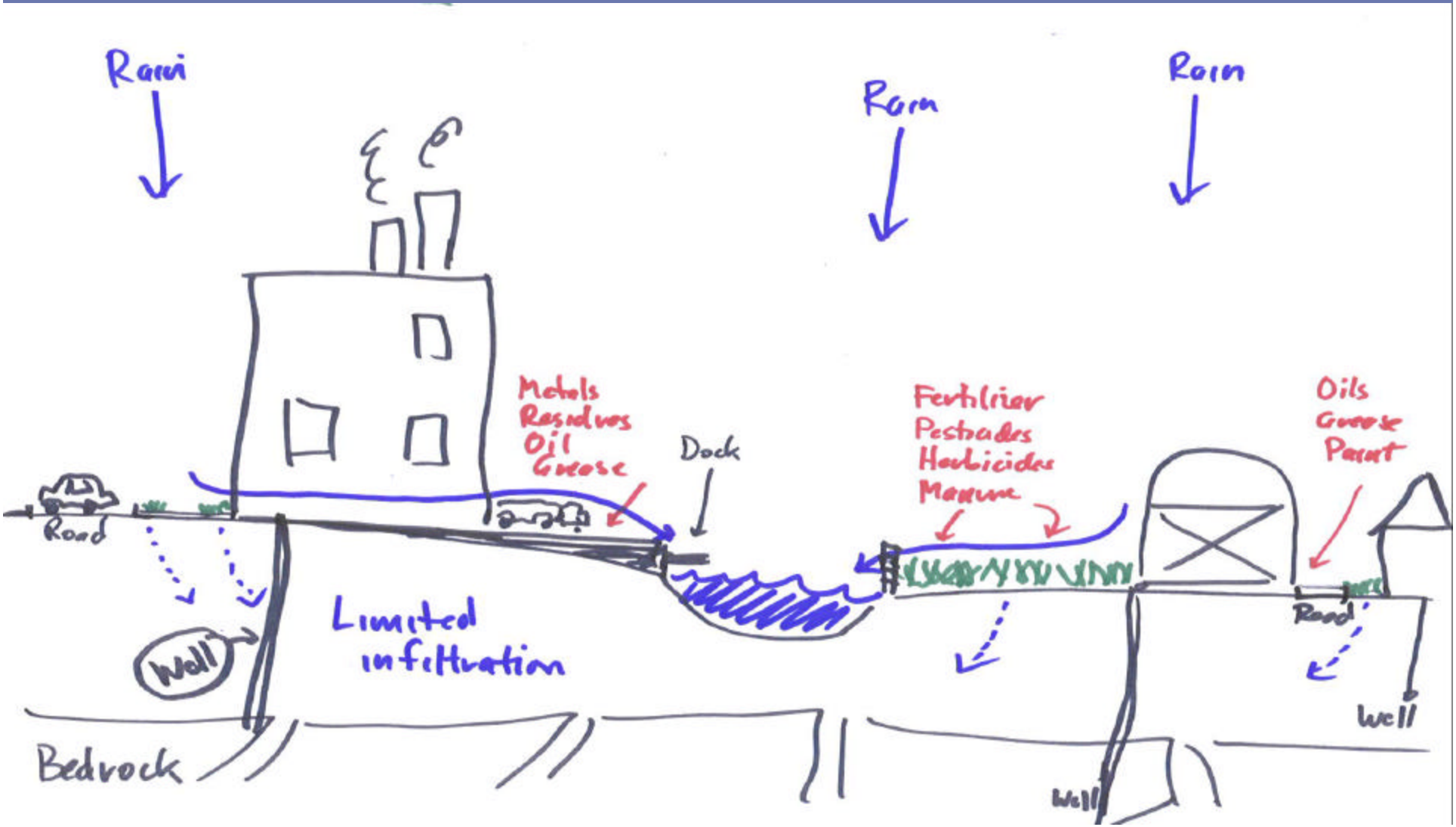
- Older developments -- stormwater discharges with few or no controls
- Recent development -- better controls but less than current standards
- Maintenance is always an issue

What is Causing the Problem?

WATER CYCLE - BEFORE



WATER CYCLE - AFTER



Solving the Problems

- **Historically, point source pollution**
  - Us vs. Them
  - Significant reductions since 1970's

- **Currently, non-point source pollution**
  - "People" or "pointless" pollution
  - No Longer Us vs. Them
  - We are all "Them"
  - We are all part of the solution

Practical Steps: Watershed and Municipal Planning

- Build trust and credibility
- Understand the natural environment and its limitations – characterization and assessments
- Understand the land use regulations – municipal assessments
- Develop recommendations
- Help implement these recommendations

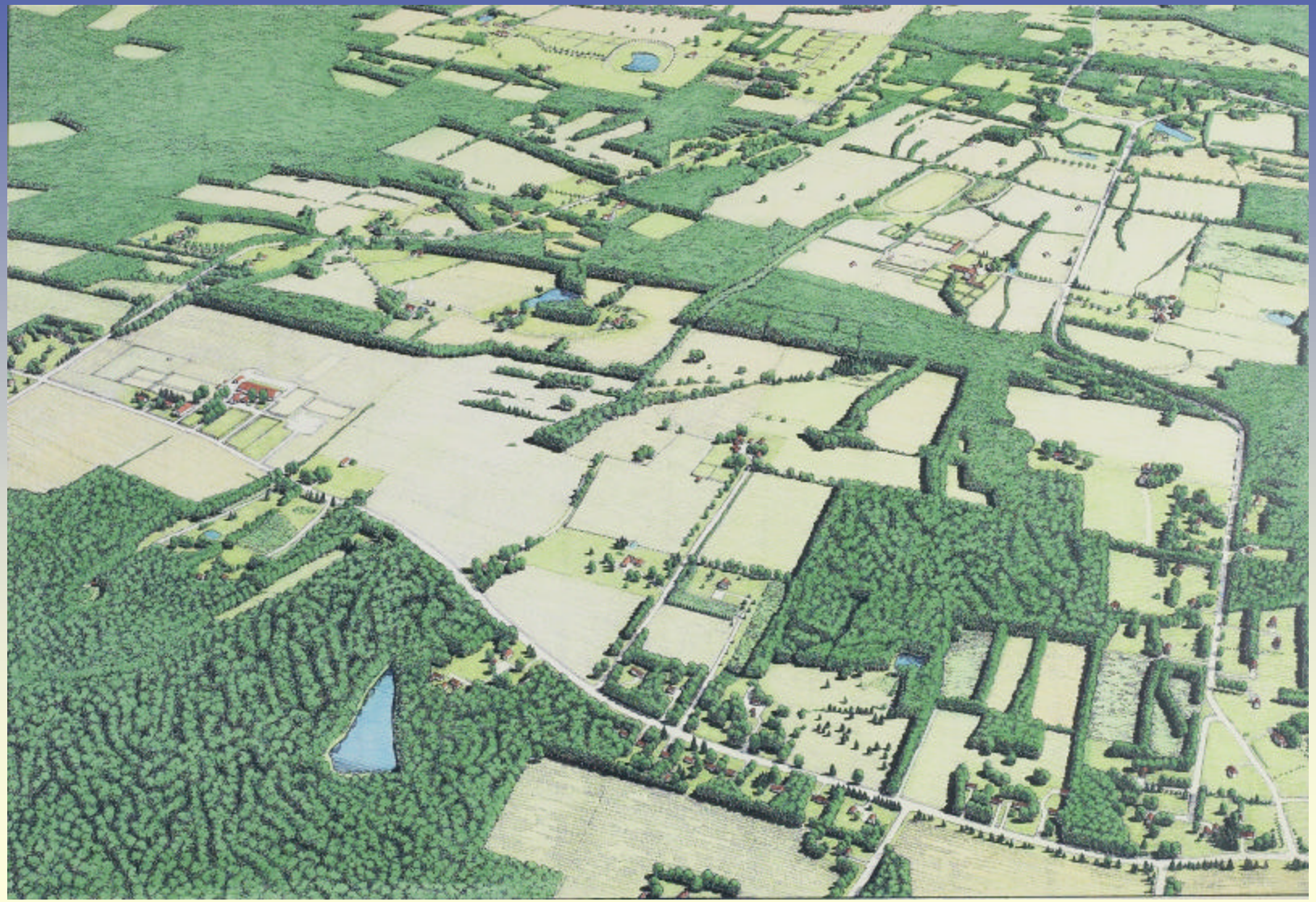
Why Municipalities?

- Protection and health of a watershed relies a great deal on the land use laws and policies made at the local
- Overwhelming response from municipalities asking for assistance
- We wanted to provide a more holistic & systematic approach
- The findings of our assessments needed implementation at a local level

Goals

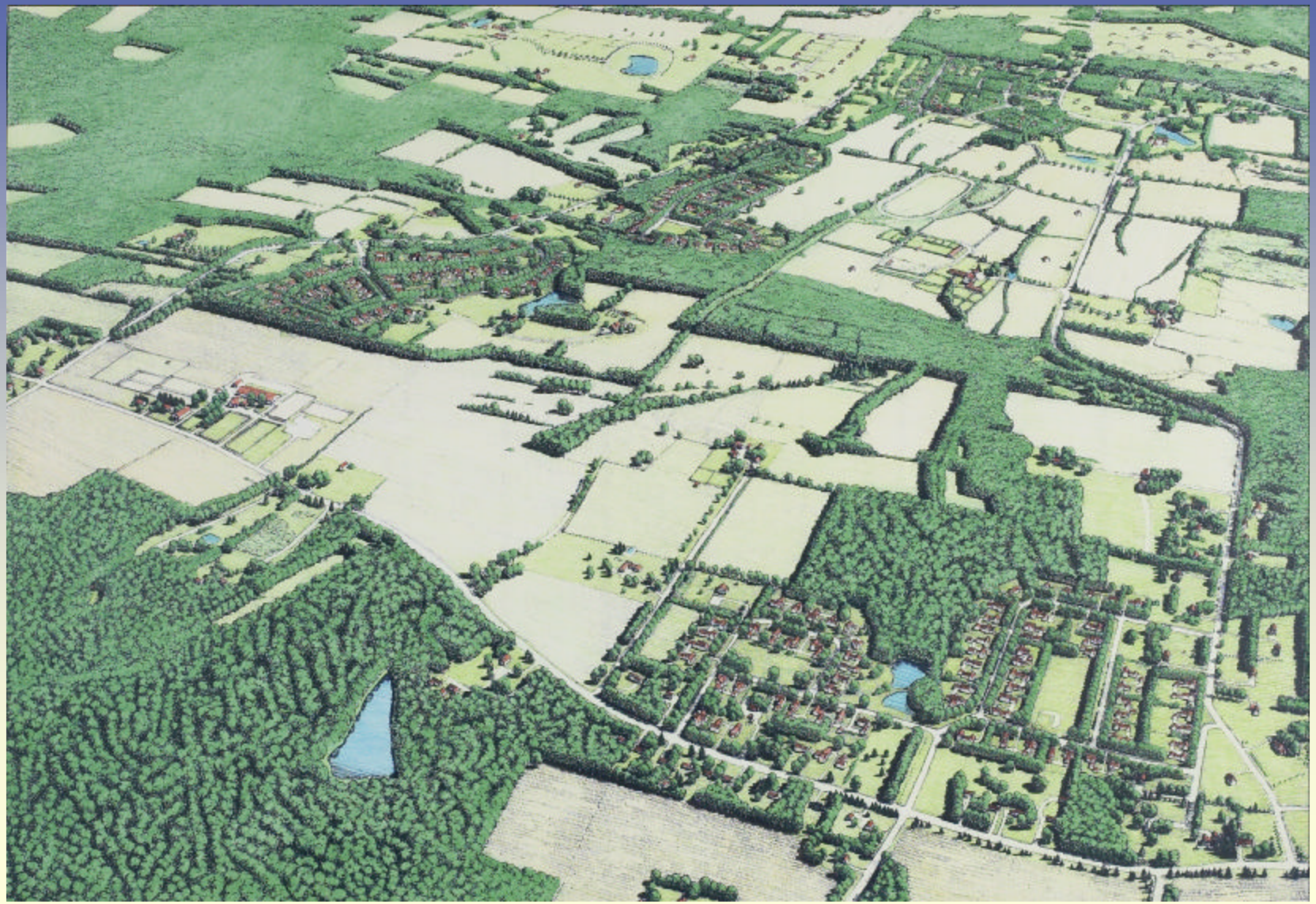
- To help municipalities identify areas where they can protect the environment through local regulations.
- To implement proactive, sound planning strategies
- Understand that what they plan for will be their reality
- Educate them that there are various ways to develop in a more environmentally sound manner that meets *their vision for their town*

Current



Conventional

Cluster



Village

Program Benefits

- An independent review of a municipality's vision, policies, and plans
- Provide a regional perspective of watershed management and planning
- Share ideas between municipalities
- "Taking the Next Step" report is a guide for implementing projects

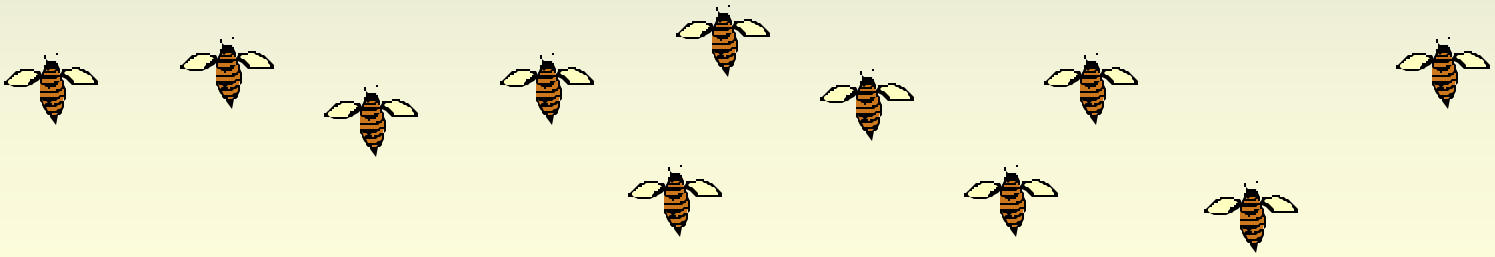
Resources Needed

- Staff or Volunteer Skills and Abilities
  - Planning
  - Science/GIS
  - Policy
  - Law
  - Oral and Written Communication
  - Diplomacy
- Time & Patience
- Funding
  - Internal Budget
  - Grants
  - Fee For Service

Building Bridges:
A Cooperative Approach

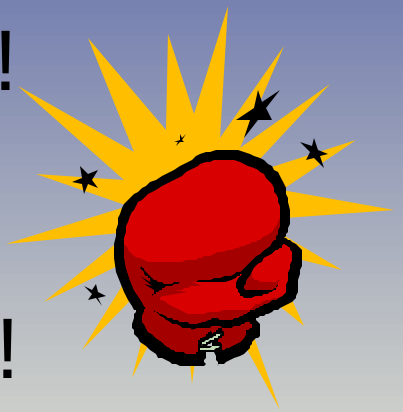
- Target Candidates & Build Personal Relationships

"You get more with honey than with vinegar"



In the Beginning…

- Identify a champion for the cause!
- Provide Information
- Be Proud – Present your program!
- Obtain a formal resolution of agreement
- Organize a point committee



The Program: How-To Steps

- Data Collection
  - Municipal Official Surveys
  - Plans and Ordinances
    - Master Plan
    - Ordinances
    - Practices & Policies
    - Accomplishments
  - Conduct Tour of Municipality

The Program: How-To Steps

- Analysis
  - Review Materials
  - Complete Background Study

"The ultimate test of man's conscience may be his willingness to sacrifice something today for future generations whose words of thanks will not be heard."

- Gaylord Nelson, former governor of Wisconsin, founder of Earth Day

The Program: How-To Steps

- Synthesis
  - Articulate Municipality's Vision and Goals Using Master Plan and Surveys
  - Articulate Accomplishments and Current Protections
  - Develop "Steps"

The Report

- Draft
  - Distribute to Point Committee
  - Revise
  - Send memo or hold meeting
- Final
  - Publish
  - Publicize
  - Present
  - Distribute

STEP 3 Stream Corridor Protection

GOAL: As stated in the 2002 Master Plan Update, objectives for natural resources include protecting "the environmental and environmentally sensitive areas of the Township from destruction or degradation, including…stream corridors…watersheds, aquifers, rivers, viewsheds…and other vegetation."

Respondents felt that water quality is somewhat protected by the rezoning of critical areas and that stream corridor protection is progressing.

CURRENT PROTECTION: Currently, Hillsborough Township does not have a Stream Corridor Ordinance (SCO). There is language for stream protection throughout the Land Development Ordinance (LDO) mostly in the Purpose sections. There is no one specific section for protection of stream corridors or water quality.

The LDO also has language regarding flood prevention, but again, there it does not prevent stream degradation in terms of water quality or to prevent loss of habitat. It is mostly protection from structural damage of buildings.

before **after**

Restored stream corridor on the Royce Brook

OPTION: ADOPT A STREAM CORRIDOR ORDINANCE AND ENSURE AN EXPLICIT DESCRIPTION IN THE MASTER PLAN AND CONSERVATION ELEMENT

The stream corridor ordinance should include:

- Protection of the stream corridor that includes protection of the flood plain, plus 100 feet.
- Clear definitions for "flood plain", "stream" and "impaired".
- Minimum acreage measurements for the stream's watershed.
- Language to assign monitoring and enforcement to a township official or an outside person. Volunteers are a useful and inexpensive way to ensure protection strategies are working and not violated.
- Consideration of the prohibition of parking areas, loading areas and golf courses in the stream corridor.
- Maintenance of the streambank vegetation with native species trees, shrubs and grasses and a policy of not mowing healthy streambank flora.
- Extension of the stream corridor if wetlands, flood plains, steep slopes or critical habitats are adjacent.
- Best Management Practices for streambank restoration in impaired areas.
- Apply for NJ DEP "319" grants to financially support water quality monitoring projects.

Did You Know?

- A stream corridor, or stream valley, is a complex and valuable ecosystem which includes the land, plants, animals, and network of streams within it. Recognition of the value of stream corridors has come with the understanding of what has been lost through uninformed or misguided actions on many streams and the watersheds that nourish them.

- It is easier and less expensive to protect these areas now rather than trying to restore them in the future. If stream corridors are maintained in their natural condition, with minimum disturbance, then they are instrumental in performing the following functions:
  - Removing sediment, nutrients, and pollutants by providing opportunities for filtration, absorption and decomposition;
  - Reducing stream bank erosion by slowing stormwater velocity, which aids in allowing stormwater to be absorbed in the soil and taken up by vegetation;
  - Preventing flood related damage to surrounding communities;
  - Displacing potential sources of nonpoint-source pollution from the water's edge;
  - Providing shade that maintains cooler water temperatures needed by certain aquatic species during the hot summer months;
  - Maintaining genetic diversity;
  - Helping maintain adequate flows of filtered water to underground aquifers; and
  - Providing greenway corridors for wildlife.

The Watershed Association is actively revamping our model Stream Corridor Ordinance to be available for municipal use.

Additional Resources

- ***Stony Brook-Millstone Watershed Association.*** The Watershed Association has a model Stream Corridor Ordinance and an Implementation Package on file for municipalities to use and tailor language to their own needs. Tel: 609.737.3735 www.thewatershed.org. The Watershed Association also has various stream corridor ordinances from other New Jersey communities including: Montgomery Township, East Windsor Township, Holmdel Township, and Clinton Township.

- ***NRCS Technical Resources for streambank restorations.*** This document is a benchmark document that is being used by a variety of agencies and others who are interested in restoring the functions and values of the nation's stream corridors. http://www.nrcs.usda.gov. *FISRWG (10/1998). Stream Corridor Restoration: Principles, Processes, and Practices. By the Federal Interagency Stream Restoration Working Group.*

Implementing the Recommendations

- Vary depending on the natural features and the existing regulations
- Municipal – education, better communication, rezoning, new ordinance
- Targets for River-Friendly
- Targets for Restoration
- State – education on new policies or rules for enforcement, new regulations (stormwater, T&E, etc.)

Case Study:
Stream Corridor Protection

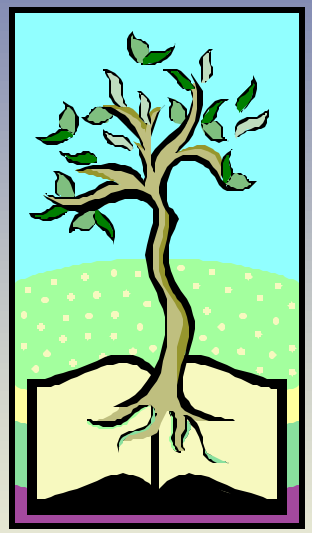
- Best way to stabilize a stream and protect water quality is to preserve the stream's surrounding ecosystem.

Stream Corridor Protection

- "Next Steps" report recommends a municipal stream corridor ordinance
- Identify a champion of the cause
- Present the idea to garner support
- Provide model language/examples
- Develop maps of buffer
- Hold community meetings
- Testify in support

Lessons Learned

- Build Friendships
- Distinguish Between Advocacy and Advice
- Be Flexible
  - The Process
  - The Program
  - The Politics
  - The Personalities
- Use Good Timing
- Obtain Outside help When You Need It
- Keep Audience in Mind
- Offer Extras
- Keep Track of Highlights
- Be Organized



Words of Wisdom

"It is amazing what you can accomplish if you do not care who gets the credit"

– Harry S. Truman

Thank You!

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Stony Brook Millstone Watershed Association