



**Loudoun Watershed Watch**

**“Restoring Loudoun Streams”**

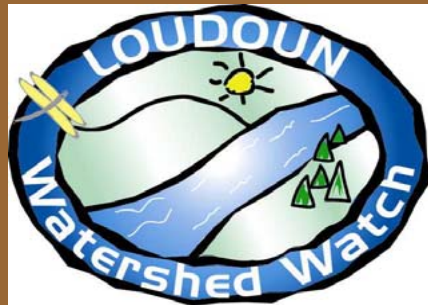
**LCSA Water Forum**

**Presented by:**

**Darrell Schwalm**

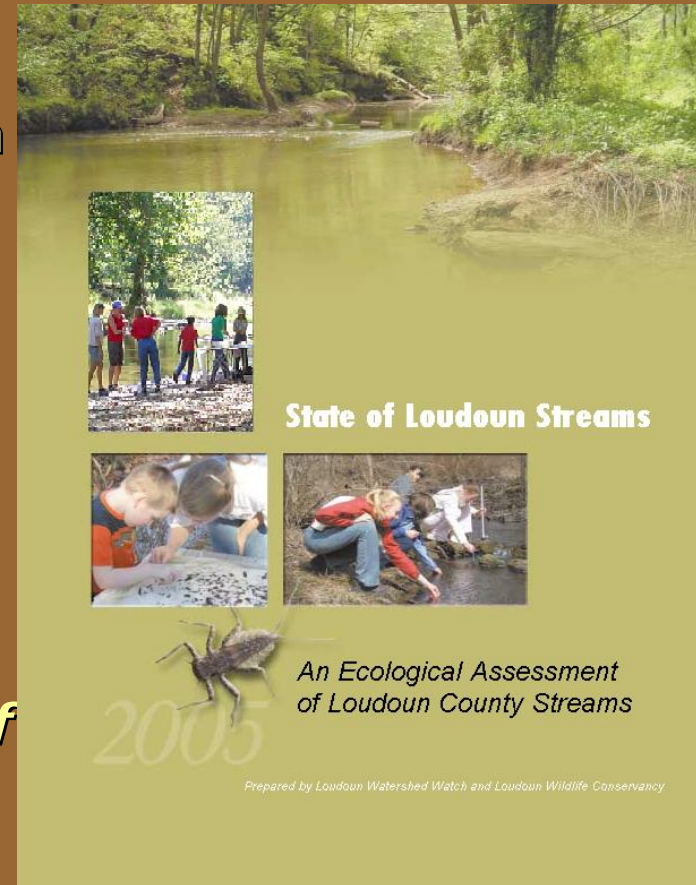
**Loudoun Watershed Watch**

**Loudoun Wildlife Conservancy**



# Loudoun Watershed Watch

- Loudoun Watershed Watch formed in 2001 – alliance of county stream stewardship groups
- Compiled countywide stream monitoring data and published, *State of Loudoun Streams: 2002 Report*.
- Compiled updated, *State of Loudoun Streams: 2005 Report*.

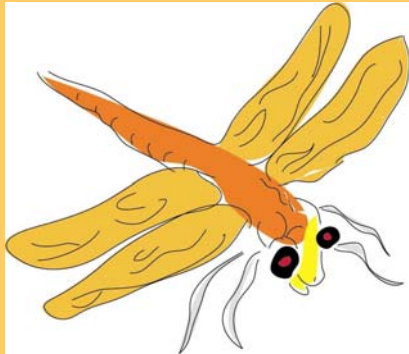


# LWW's Vision



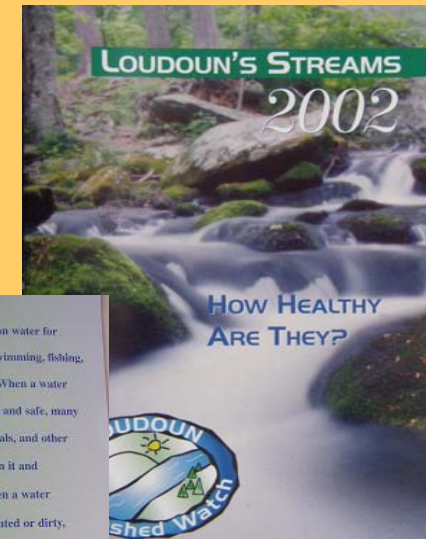
LWW shares a common vision with citizens across the nation: clean and safe water, and healthy aquatic ecosystems.

For citizens in Loudoun, this means a county distinguished for its cool meandering streams with wide, forested riparian buffers flowing through woodlots, farms, residential communities, and parks with streamside trails.



# LWW – Educational Initiatives

- LWW distributed the first **Loudoun watershed map** and activity guide for Loudoun's 37,000 public school students.
- LWW distributed a **summary report** on stream health in Loudoun County
- LWW organized the **Catoctin Watershed Project** to support TMDL implementation



# LWW – Community Stewardship Events

**Catoctin Riparian Buffer Restoration  
Waterford Area -- 2005**

# Catoctin Creek Clean-up Stewardship Event

**Taylorstown -- 2005**

# Loudoun Family Stream Day



Watershed Model at Broadlands Community  
Center - 2005

# Task 1 -- Where Do We Start Looking for Problems?

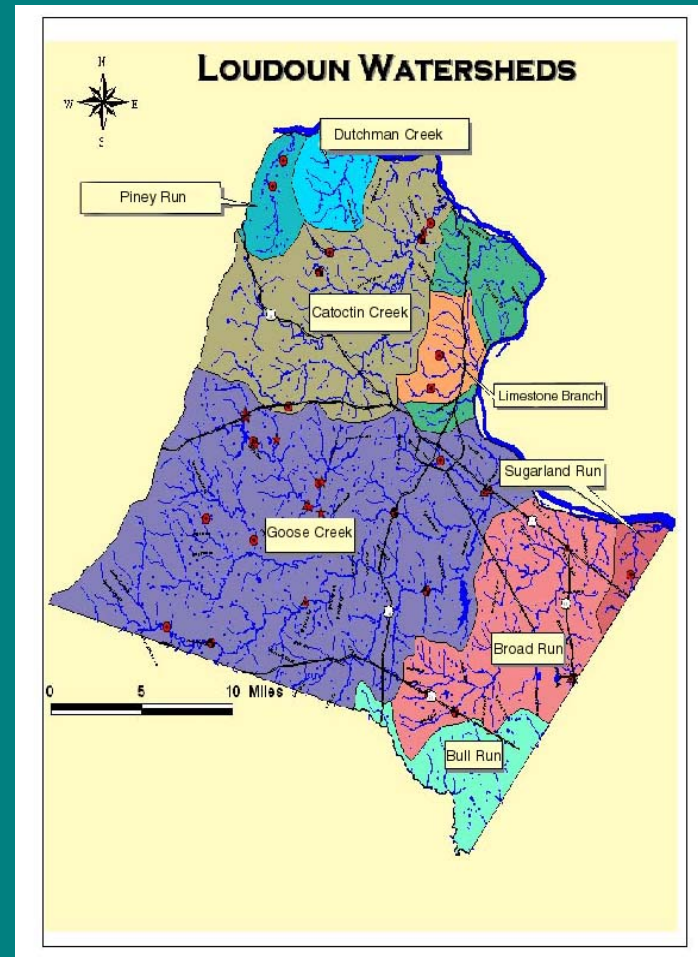




# What Do VA DEQ Reports Tell Us?

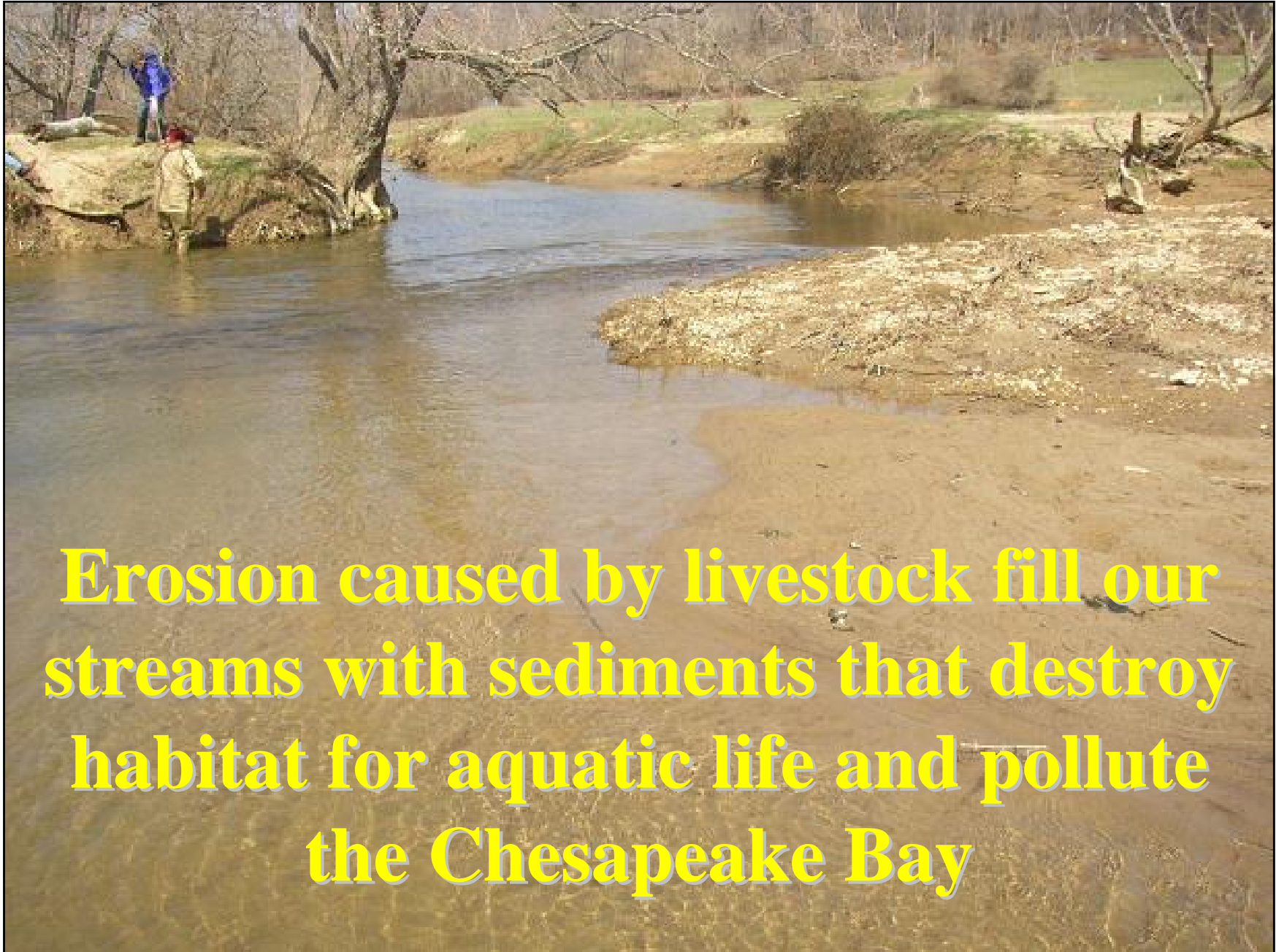
**Impaired Waters – Loudoun streams are impaired – they don't meet state water quality standards and they are often not safe for recreational use:**

- **Sugarland Run**
- **Goose Creek**
- **Tuscarora Creek**
- **NF Goose Creek**
- **Catoctin Creek**
- **SF Catoctin Creek**
- **Limestone Branch**
- **Broad Run**
- **Sycolin Creek**
- **Little River**
- **Beaverdam Creek**
- **NF Catoctin Creek**
- **Piney Run**





**Fecal pollution from livestock with access to streams is the #1 cause of impairments**



**Erosion caused by livestock fill our streams with sediments that destroy habitat for aquatic life and pollute the Chesapeake Bay**

# What Does a Tour of Loudoun Streams Tell Us?



**Developments are destroying riparian buffers, increasing stream flows, and eroding stream banks**

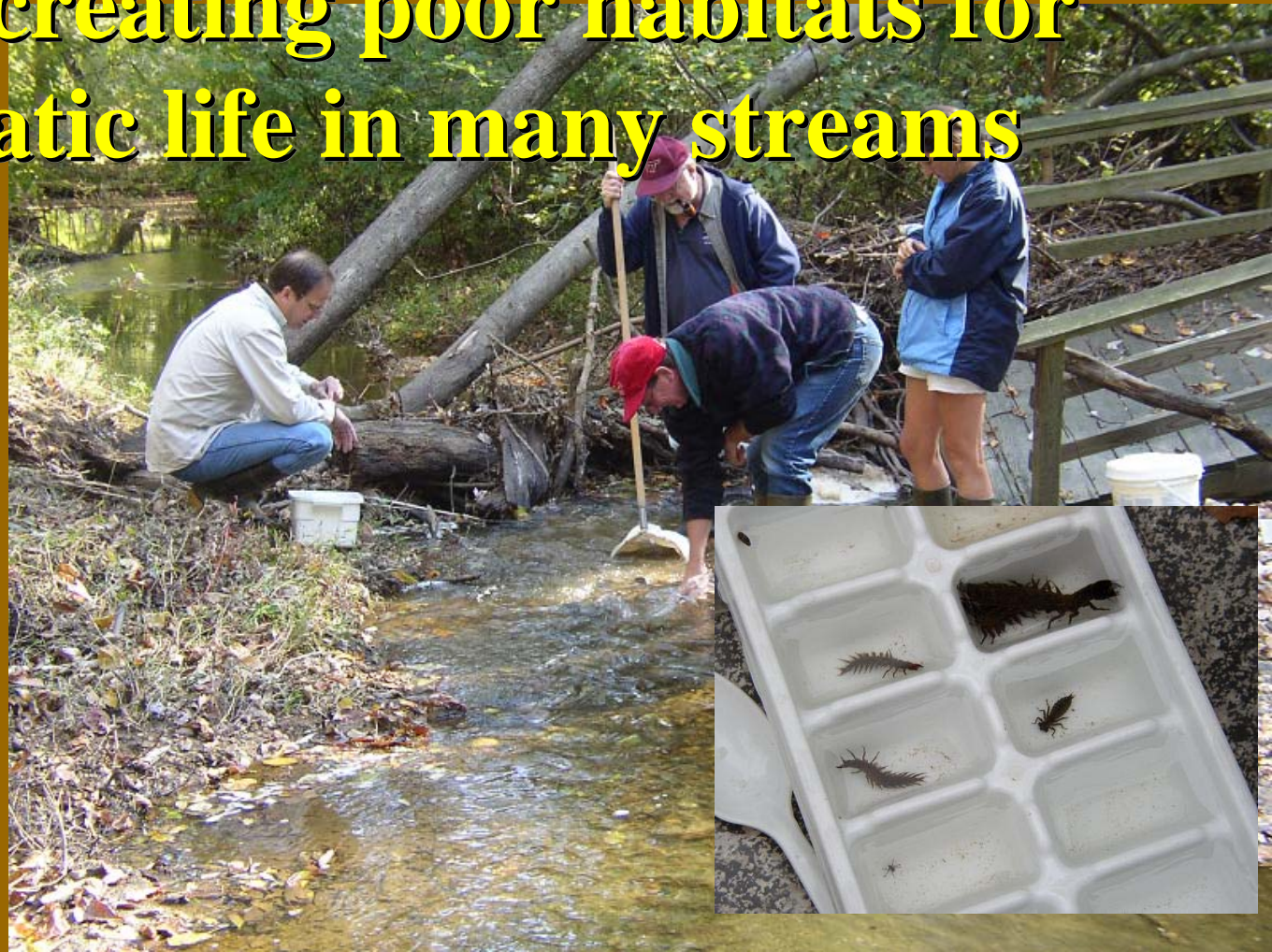


**High volume stormwater flows in urban areas are polluting our streams and erode stream banks**

**Homeowners and HOAs provide poor maintenance of stormwater drainages from impervious surfaces**



**Flooding, erosion and sediments  
are creating poor habitats for  
aquatic life in many streams**





**Why can we find so many  
problems everywhere we look?**

**Aren't BMPs suppose to be  
protecting Loudoun streams?**

**Sadly, the answer is no . . .**



# **BMPs Are Not Protecting Against Downstream Property Damage**



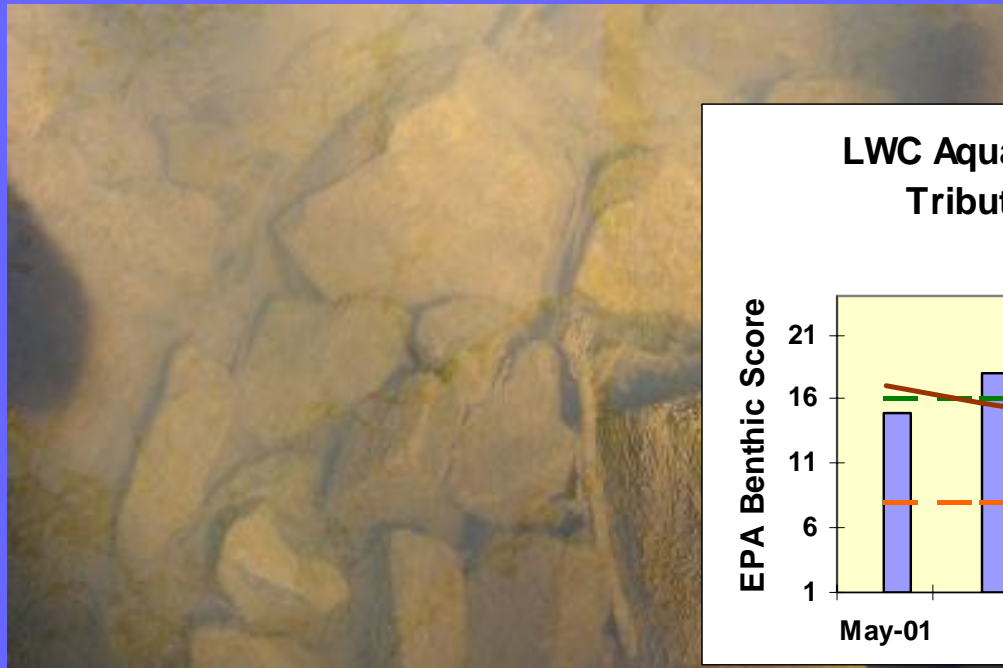
**BMP protection against erosion from  
a three-year rain is not enough.**

# **BMPs Are Not Preserving Natural Capacity to Filter and Purify**

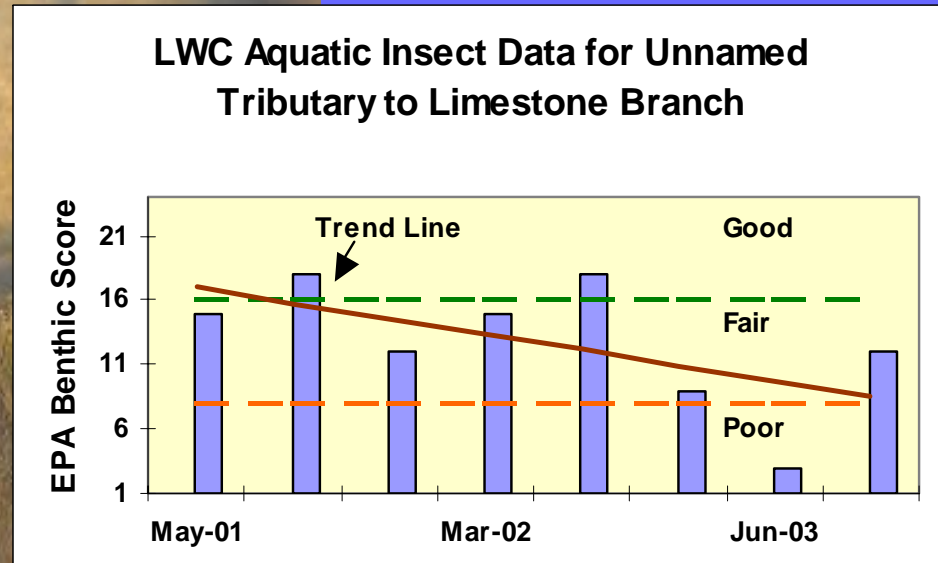


**Clearing forested buffers and grading floodplains remove capacity to filter and purify.**

# BMPs Are Not Supporting Healthy Streams and Aquatic Life



Algae growth in stream from sediments and nutrients in runoff from development



# Property Owner's Complaints About One Upstream Development

<b>Type of Complaint</b> (Submitted to Building and Development)	<b>Number of Complaints</b>
<b>Heavy sediments in stream</b>	<b>9</b>
<b>Inadequate BMP controls along stream</b>	<b>5</b>
<b>Added drainage requires new culvert or control</b>	<b>4</b>
<b>Stream water has a green coloration</b>	<b>1</b>

# Some Reasons Why BMPs Aren't Working

- County does not have performance standards to insure that water quality standards are met by developer.
- Property owners have no rights if BMPs installed by developers do not protect against downstream damage.

# **Standards are Designed to Allow Erosion and Flooding**

- **Stormwater controls are designed to prevent erosion only from 3-year rainfalls**
- 
- **Stormwater controls are designed to prevent floods only from 10-year rainfalls**
- **With greater rains -- there will be erosion and flooding caused by developments by design.**

# **County Ordinance do not Require Environmental Studies**

- **Environmental studies are needed to establish baseline water quality and habitat conditions at planned development sites.**
- **Such studies for future developments in floodplains are not required – only voluntary**

# Task 2 – Where Do We Look for Solutions?





# Look in Your In Basket!

Loudoun County Sanitation Authority

Watershed Protection Plan

for Beaverdam and

Goose Creek



# Upgrade Our BMPs!



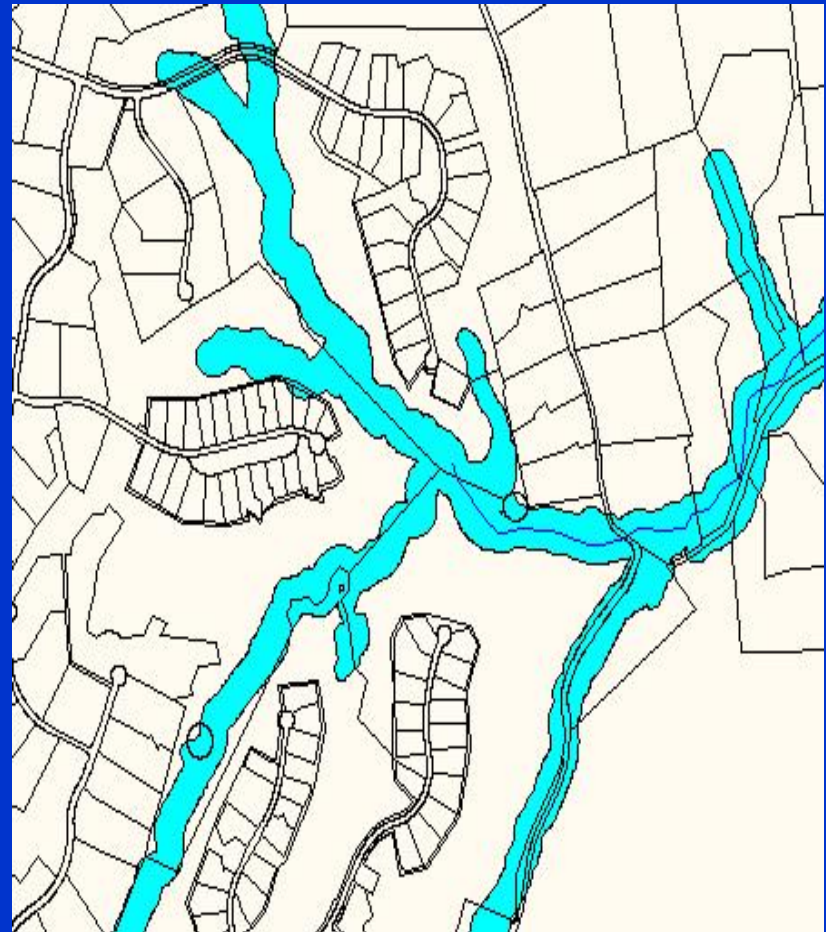
**We don't want this to happen again**

# **BMP's – What the Experts Tell Us is Needed**

- **Appropriate precipitation analysis will result in correct sizing of BMP's and protection of streams.**
- **Alternative BMP's are needed to complement watershed-level BMP's:**
  - ↳ **Structural BMP's**
  - ↳ **Vegetative BMP's**
  - ↳ **Construction BMP's**
  - ↳ **BMP Retrofitting**
  - ↳ **LID and Pollution Prevention Activities**

# **Watershed Management Planning!**

**Loudoun County  
needs to develop  
plans to implement  
the Federal Clean  
Water Act, the  
Chesapeake Bay  
Act, and Virginia  
Water Quality  
Standards**



# Loudoun Water Management Authority!

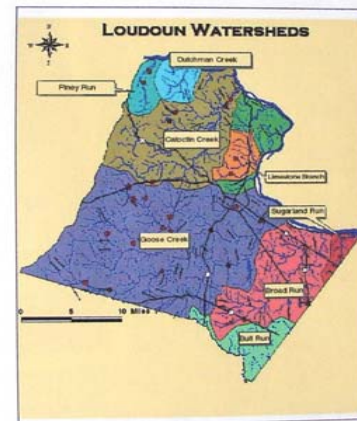
Loudoun County should create a water management authority to develop watershed management plans for each watershed, and oversee initiatives to restore the quality of Loudoun streams



# Countywide Stream Monitoring Program!

Loudoun County needs a countywide stream monitoring program to provide data to develop watershed plans, and to assess impacts of new BMPs on water quality and stream health.

## Loudoun County Comprehensive Stream Monitoring Strategy *Plan Design and Guidelines*



Loudoun Watershed Watch  
November 2003

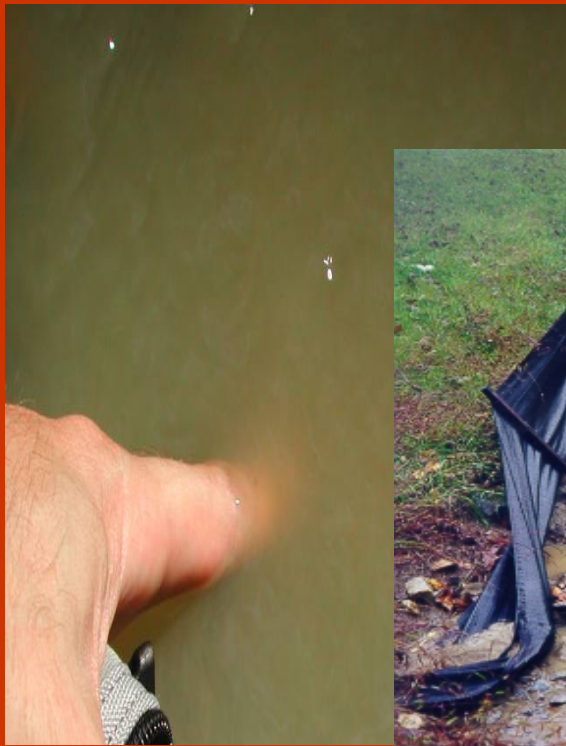
# Collaboration between State, County, and Citizens!

**We need to combine resources to tackle water pollution:**

- DEQ
- DCR
- Loudoun Soil and Water Conservation District
- Loudoun County Health Department
- Loudoun County Building and Development
- Loudoun County General Services, Public Works
- Loudoun County Planning
- Loudoun County Sanitation Authority
- Citizen Groups



**County--Citizen partnership is the best way to solve problems like these . . .**





**... and to help educate riparian property owners.**



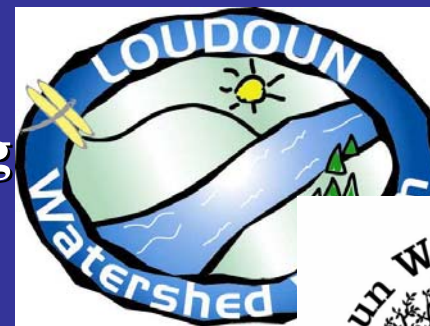
# Where to Find Information About Citizen Activities

## Websites:

- [www.LoudounWatershedWatch.org](http://www.LoudounWatershedWatch.org)
- [www.Loudounwildlife.org](http://www.Loudounwildlife.org)
- [www.Audubonnaturalist.org](http://www.Audubonnaturalist.org)

## Sites Include:

- Educational Materials
- Water Quality Data
- LWW State of Loudoun Streams Reports
- Catoctin Watershed Project Accomplishments



**Catoctin  
Watershed  
Project**

Stewardship for the Catoctin Creek Watershed

# Why Do Citizens Monitor?

**"We monitor because we care;  
we care because we are informed;  
we are informed because we monitor."**

Cassie Champion, of the Minnesota Metropolitan Council,  
[http://www.riversmn.org/resources\\_monarticles.html#Monitoring%20Bacteria](http://www.riversmn.org/resources_monarticles.html#Monitoring%20Bacteria)