

## Citizen Data and TMDL Implementation Plans

Presented by:  
Darrell Schwalm  
Loudoun Wildlife Conservancy, VA  
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## Citizen Monitoring in Loudoun County

- Two citizen groups:
  - Loudoun Wildlife Conservancy
  - Loudoun Watershed Watch
- Benthic macroinvertebrate monitoring at 15 stations since 1997 – about 50 volunteers.
- 2002 and 2005 State of Loudoun Streams reports
- Educational materials

### State of Loudoun Streams: 2005

A Water Quality Assessment of Loudoun County Streams



Loudoun  
Watershed  
Watch



Loudoun  
Wildlife  
Conservancy

Draft - June 15, 2005



### TMDL's In Loudoun County

- Five approved TMDLs including two major watersheds
- Four bacterial and one aquatic life TMDLs
- One approved TMDL Implementation Plan
  - Started Fall 2004

## Why Loudoun Citizens Should Get Involved

- Citizen monitoring data and educational initiatives **give citizens a voice** in the planning and implementation process.
- Citizens can **help assure** that water quality standards are met throughout watershed.
  - State agencies remain focused on plan
  - Milestones are tracked and progress is assessed
  - Adjustments to plan made, as needed

## TMDL Public Meeting



## Citizen Data and TMDL Study

- DEQ will use citizen data in the TMDL process. However, citizen data is unapproved data and has limited uses.
- Most data used in TMDL is state and Federal data, and additional data collected under contract.
- The following are possible uses of citizen data.

## Scope of TMDL

- TMDL should not be restricted to problems identified in stream segments monitored by state.
  - Other water quality problems identified in the watershed including problems identified through citizen monitoring should also be consider.
- If the TMDL study includes collecting additional data, citizen data can help identify key sampling points.
  - Need to get involved early in process to have influence.
  - Study may be designed before public meetings.

## TMDL Study Conclusions and Recommendations

Monitoring experience and knowledge of problems in watershed allow citizens to make meaningful comments on the draft TMDL and influence its recommendations.

## TMDL Implementation Plans

DEQ will also use citizen data in the TMDL Implementation Plan process. Again, citizen data is unapproved data and has limited uses.

## TMDL Implementation Plan – Key Elements

- **Public participation** is required in development phase
- Plan must include BMP installation milestones, **water quality milestones**, and timeline
- Plan must include **monitoring** of BMPs and water quality milestones

## TMDL IP Background – Key Elements Cont.

- Plan needs an **educational program** to change attitudes and behaviors
- Plan should be integrated with other **Watershed plans**
- Plan needs to include means of **adjusting TMDL and IP** based on monitoring results.

# Citizen Data and TMDL Implementation Plans

- **IP Committees** – Citizen monitoring groups should have a seat on the IP technical committee
- **Targeted Implementation** – Citizen data can identify stream segments impacted by human activities.
- **Action Plan** – Citizen groups can make meaningful comments on the draft IP and the recommendations

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# Using Citizen Data – Cont.

## TMDL Effectiveness Assessment

- Citizen data can help determine whether water quality is improving and the TMDL implementation is effective.
  - Use data to recommend needed changes in IP if not effective – **adaptive planning**

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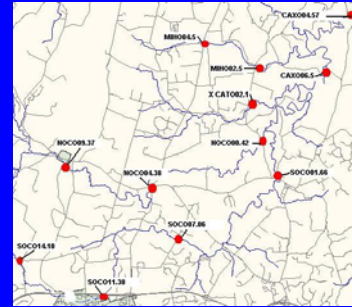
# Citizen Groups Need to Adapt

How Loudoun Wildlife Conservancy changed it's monitoring program:

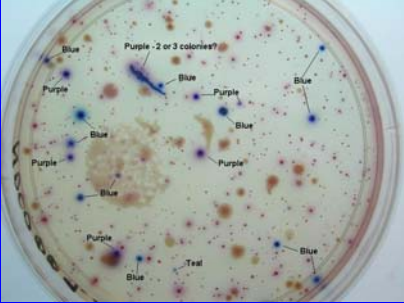
- **Expanded monitoring** to include *E.coli* bacteria using Coliscan Easygel
- **Recruited** new cadre of volunteers
- Established **new sampling stations** and **two-week monitoring schedule**
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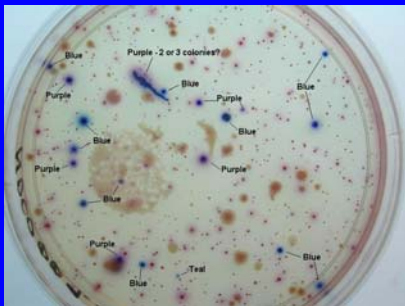
# Bacteria Monitoring Stations



## E. coli Testing



The image shows a petri dish with a white agar surface. Numerous small, dark, circular colonies are visible. Some colonies are labeled 'Blue' and others 'Purple'. A central colony is labeled 'Purple - 2 or 3 colonies?'. The dish is labeled 'E. coli' on the left side.



# Citizen Groups and Education Programs

How LWC changed its educational programs:

- Outreach to **form partnerships** with community groups
- Started annual **Catoctin Stream Day event**
  - Stream clean-up with Boy and Girl Scouts
  - Riparian tree planting
- Encouraged **formation of local watershed group**
- Prepared **new educational fliers**

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## Catoctin Watershed Project

*Stewardship for the Catoctin Creek Watershed*

## Riparian Tree Planting



## Catoctin Stream Day



## Applying for Grant Funds

LWC **did not receive** any state TMDL IP funds for monitoring or educational programs.

- LWC used prior monitoring and community educational program experience to get other grant funds
- Received grant funds for bacteria monitoring and educational initiatives
- No funds for staff or internships

## Expect Challenges

Elements of the TMDL IP process challenging for citizen groups:

- VA DEQ listed a benthic impairment immediately after the bacteria TMDL was completed and VA DCR declined to add it to the study and plan.
- There were no TMDL funds for citizen groups – only government agencies
- There is no ongoing Steering Committee to oversee plan implementation and to assess progress.

## Additional Information

Additional information about stream monitoring activities in Loudoun County, Virginia are available at the following websites:

- [www.loudounwatershedwatch.org](http://www.loudounwatershedwatch.org)
- [www.loudounwildlife.org](http://www.loudounwildlife.org)