


Partnership in Stream Monitoring – Loudoun County, Virginia



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Westminster, Maryland



Loudoun Watershed Watch - Overview

- Vision, Mission and Goals
- Data Exchange
- Catoctin Watershed Bacteria TMDL Implementation Monitoring
- Comprehensive 2009 Loudoun County Stream Assessment

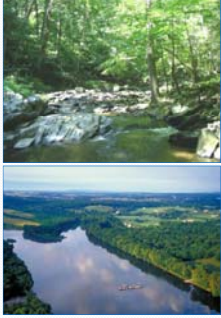




Loudoun Watershed Watch (LWW) Vision

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 meandering streams with forested riparian buffers flowing through woodlots, farms, residential communities, and parks with streamside trails.



Loudoun Watershed Watch (LWW) Mission

LWW's mission is to oversee the water resources of Loudoun County through a synergy between citizens, private groups, county, and state agencies. In order to achieve this mission, LWW promotes:

- environmental stewardship,
- countywide stream monitoring,
- watershed management planning,
- water quality and stream habitat protection and restoration.

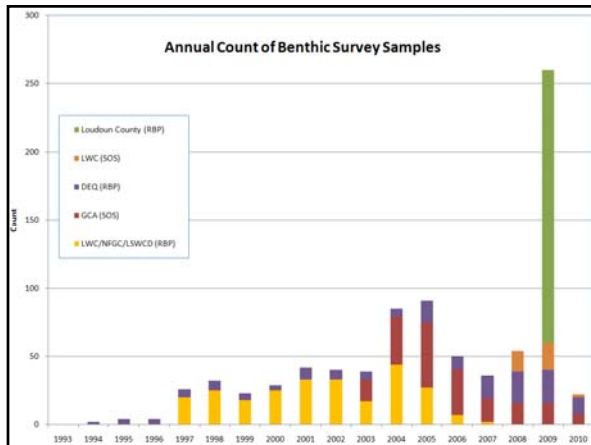




Loudoun Watershed Watch - Accomplishments

- Celebrated ten-year partnership of collaborative efforts.
- Monitored stream health on over 300 occasions at 240 sites, starting in 1997.
- Transitioned into one consistent volunteer protocol.
- Monitored bacteria bimonthly at a dozen location over five years, totaling almost 1,000 analyses.
- Outreach at many public events Family Stream Day (8), Earth Day, Lucketts River Rangers and numerous tree plantings.
- Distributed tens of thousand of pieces of literature and maintained comprehensive web site with information, data and mapping for eight years.

Loudoun Watershed Watch (LWW) Timeline

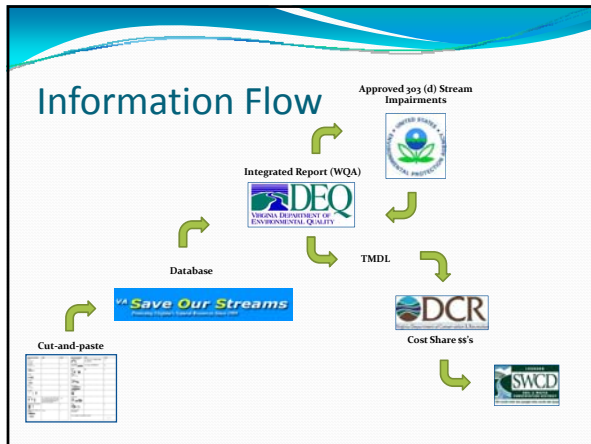


Reports

Publications

Where does the raw data go?

- To the partner and/or LWW web site
- To VA SOS
- To DEQ Citizen (non-agency) database
- To Chesapeake Bay Program
- Supports the stream monitoring site nominations submitted to by LWW to DEQ



Upload to VA SOS

Add data or view previous submissions by LWC

VASOS Data View

- Benthic and habitat (if reported)

Ecological condition and final score

VA DEQ Water Quality Assessment

- Source data, as submitted to DEQ prior to VASOS in 2008
- As uploaded to VA SOS (2008-2010)
- Summary table in Integrated Report by DEQ (after slice and dice)
- Mapped
- Verification Table returned from DEQ per specific request

LWC Listed

Stations and LWC data

http://www.deq.state.va.us/wqa/pdf/2010lr/appendices/lr10_AppendixF_Mon_Stations_Key-List.pdf

GIS Data

- GIS files is downloaded and contains synopsis of LWVW data in the station files

Three benthic events - SF Catoctin (Ward property) MP is medium probability for adverse conditions

Bacteria where 32 of 69 samples exceeded - SF Catoctin Waterford bridge

DEQ Benthic Monitoring

- DEQ stores data in EDAS, a MS Access file for the state
- Needs to be queried - complex
- Includes the 140+ samplings in Loudoun since 1995 (Spring & Fall)

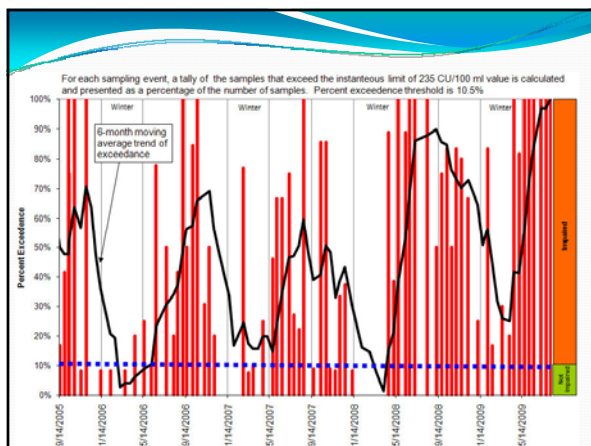
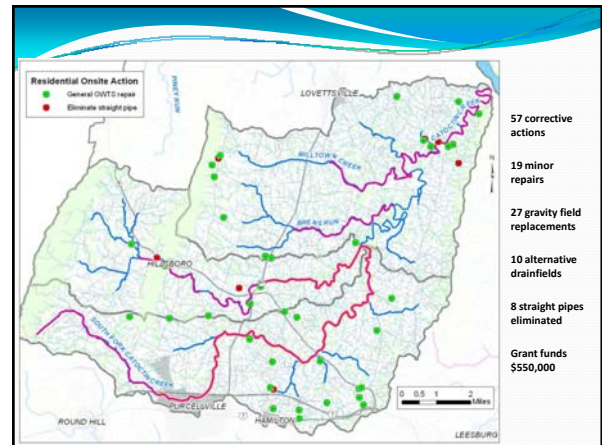
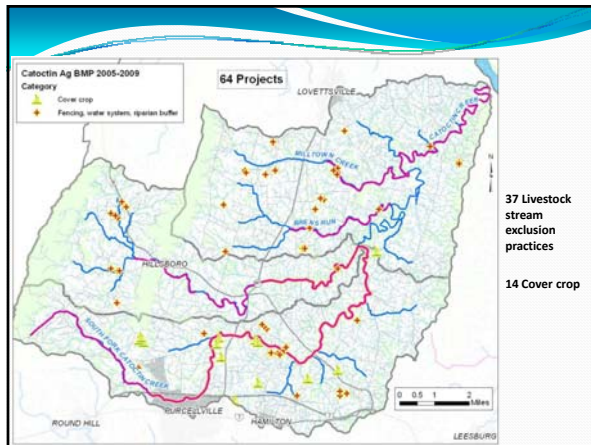


Citizen Volunteer Stakeholder's Overall Contributions – 2005-2009

Citizen volunteer organizations have made a substantial contribution to the TMDL IP:

- Community Outreach and Education – publications, website, meetings, etc. = 1200 hrs volunteer time
- Riparian Tree Planting and Stream Clean-up Projects = 1500 hrs volunteer time
- Stream Monitoring – 90 sampling days, 970 samples, 1500 lab analyses = 1500 hrs volunteer time

Recognition -- LWW/CWP received the 2007 Outstanding Organization Award from Virginia Citizens for Water Quality




Lessons Learned – Stream Monitoring

- Volunteer citizen group can conduct stream monitoring for a TMDL IP
- Assessing trends or significant changes requires several years of data
- A monitoring program based on Coliscan Easygel costs \$1200/year, and grant funds are typically available

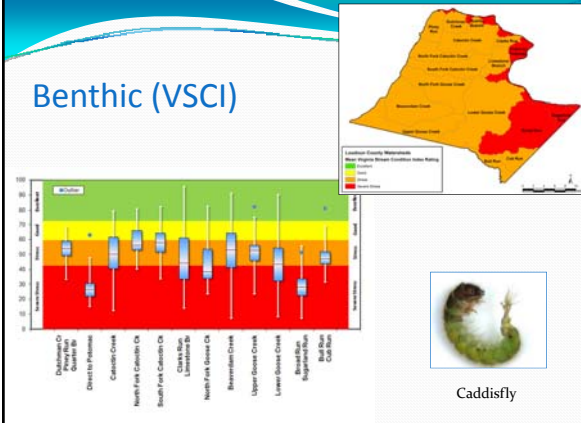
2009 Loudoun County Stream Assessment

- Benthic - Virginia Stream Condition Index (200 sites)**
 - Based on EPA RBP
 - Developed and validated for VA
 - Reference based, multimetric indicator – sites are scored by comparison with minimally impaired regional “reference condition”
 - Project Team coordination w/ DEQ
- Habitat assessment (500 sites)**
 - Individual parameters (e.g., embeddedness, substrate condition, sediment deposition, bank stability, channel alteration, riparian width) rated on 0-20 scale, contribute to overall score
 - Ratings from Optimal to Poor

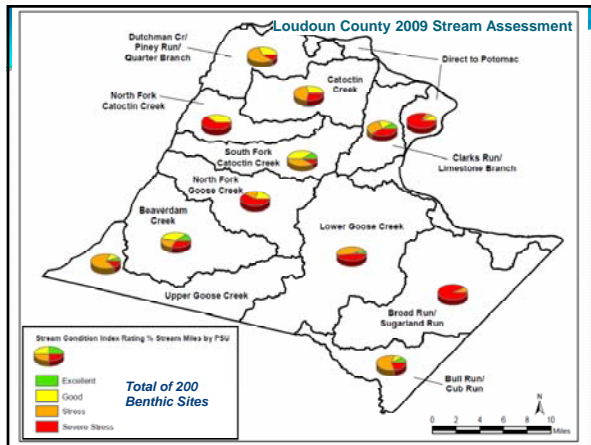


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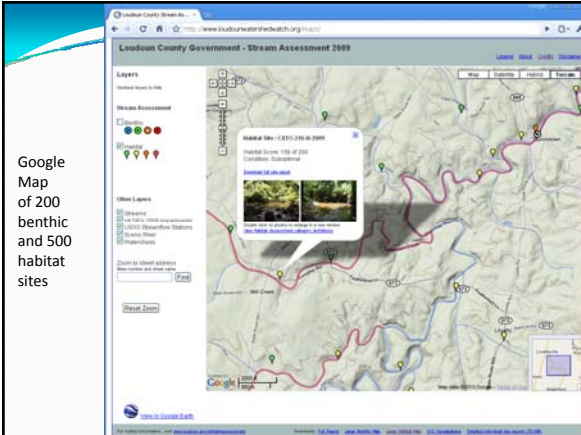
Benthic (VSCI)



Caddisfly



Google Map of 200 benthic and 500 habitat sites



“We monitor because we care;
we care because we are informed;
we are informed because we monitor.”

Cassie Champion of the Minnesota Metropolitan Council

Thanks to the LWW Partners – Tens years!

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