



Catoctin Watershed Project

Stewardship for the Catoctin Creek Watershed



June 2005 – Dec 2008



Summary

- Citizen volunteer stream monitoring
- Bi-monthly water samples collected at 12-14 locations. Over 850 samples.
- Catoctin Watershed covers 90 sq. miles between Lovettsville and Purcellville.
- Monitor effectiveness of stream protection (creek fencing for livestock exclusion, failed septic systems).

The Problem



Non-point source of pollution is widespread in the Catoctin Creek watershed. Fecal contamination and sediments are causing poor water quality and stressing habitat and aquatic life conditions.

Riparian Tree Planting



Over 900 trees were planted in 2005, 2006, 2008 near creeks to reduce pollution.

Need to Fence Livestock Out of Creeks

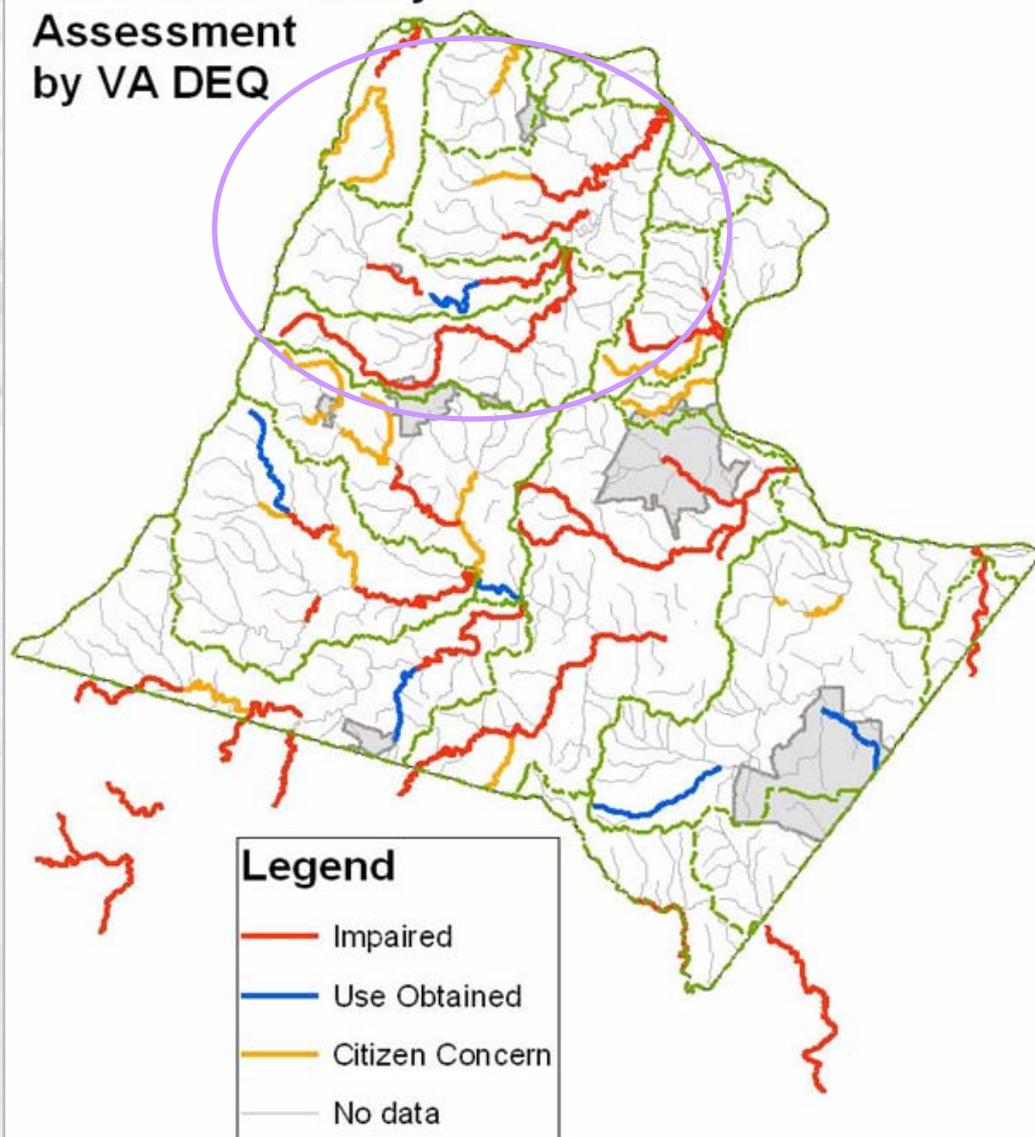


Keeping livestock out of the creeks reduced fecal coliforms.

Impaired Streams in Loudoun

- Catoclin watershed has both fecal and benthic impairments.
- All watershed have impairments even though the state Dept of Environmental Quality has only assessed 30% of all creeks.
- Reports on the impairments (known as TMDL – Total Daily Maximum Load) have been written for Catoclin, Goose Creek, Piney Run and Limestone Branch.
- Catoclin is the only watershed in Loudoun for which there is an Implementation Plan (what to do to correct the problem).
- Catoclin is one of about 20 in VA for which the Implementation Plan is actually being implemented.
- Benthic impairments reported in 2008 will be evaluated in 2020 (have a TMDL report written)

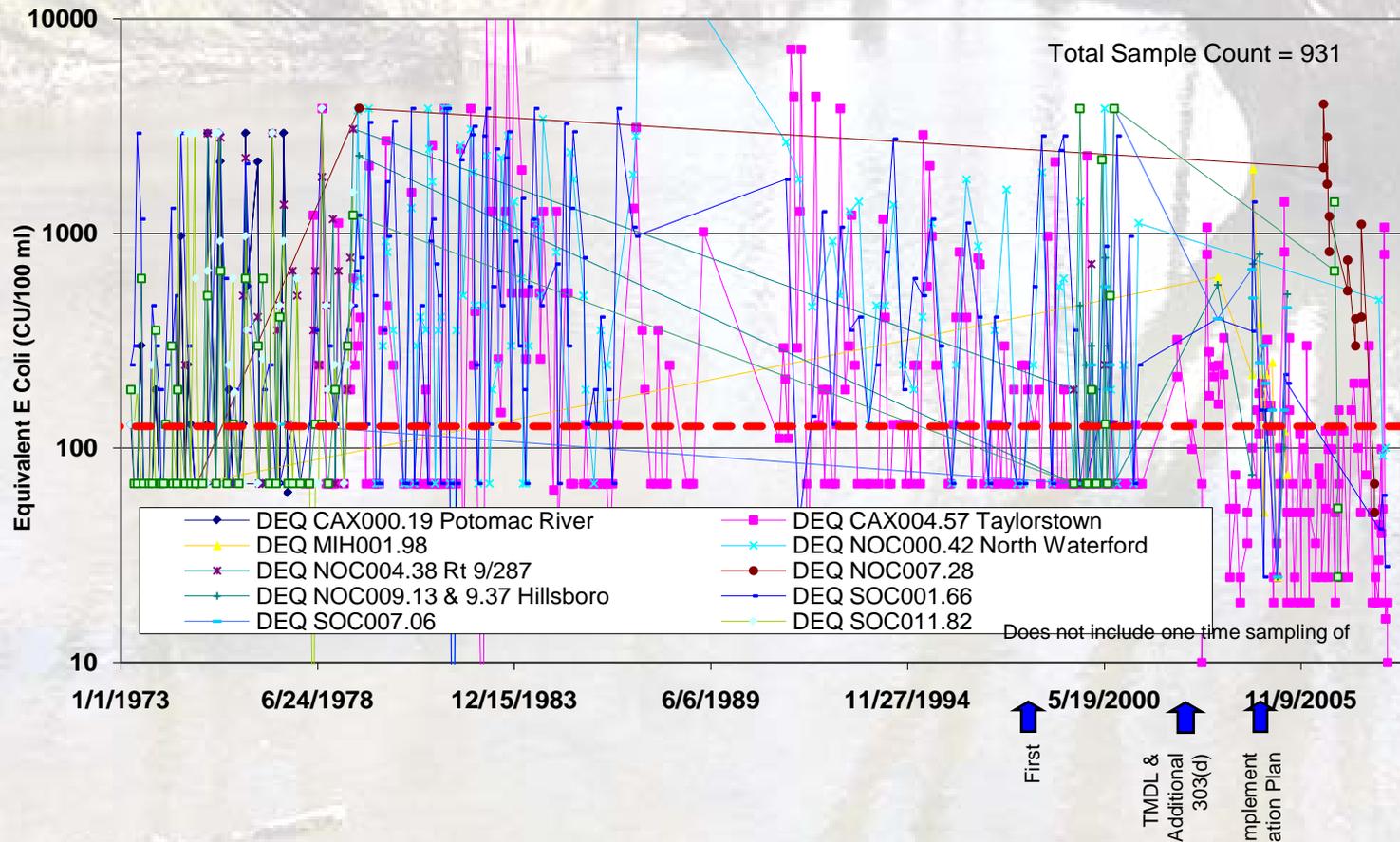
2006 Water Quality Assessment by VA DEQ



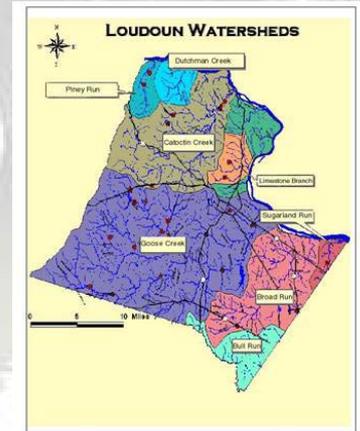
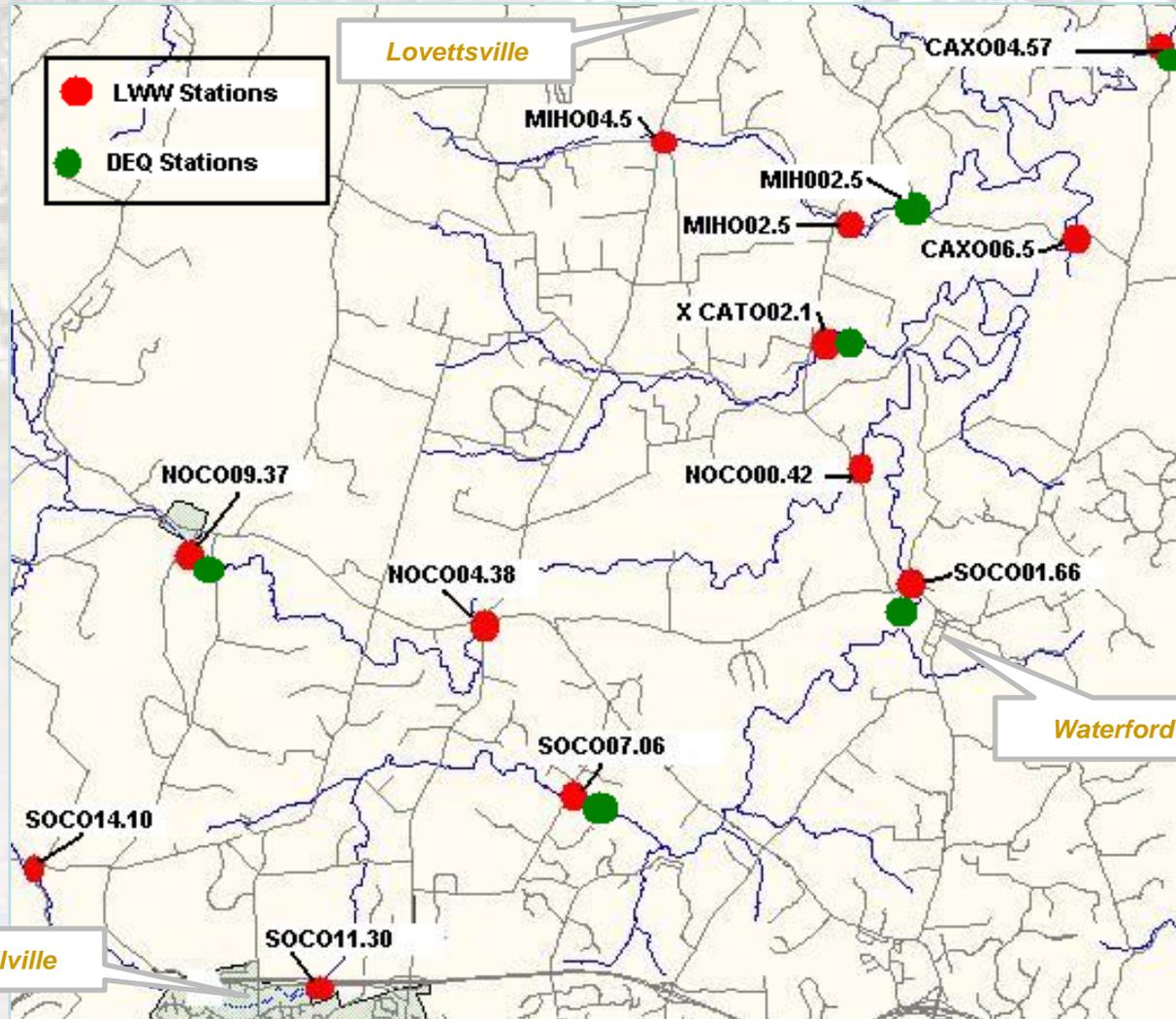
Long-Time Problem

The VA Dept of Environmental Quality has known since the early 1970's that fecal coliform is a problem. It was not until 1998 that the creeks were declared to be "impaired". The assessment report (TMDL) was written in 2002 followed by an implementation plan. Since 2002, when implementation began, DEQ has focused monitoring attention elsewhere, hence the need for citizen monitoring. In the past 3 ½ years Citizens have collected as many samples as DEQ since 1973.

DEQ Monitoring 1973-2008

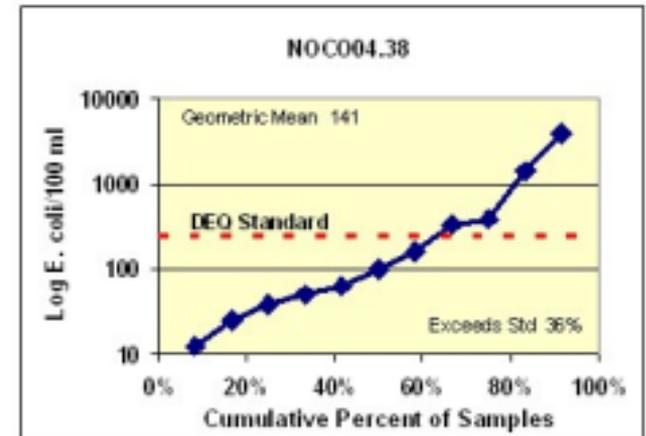
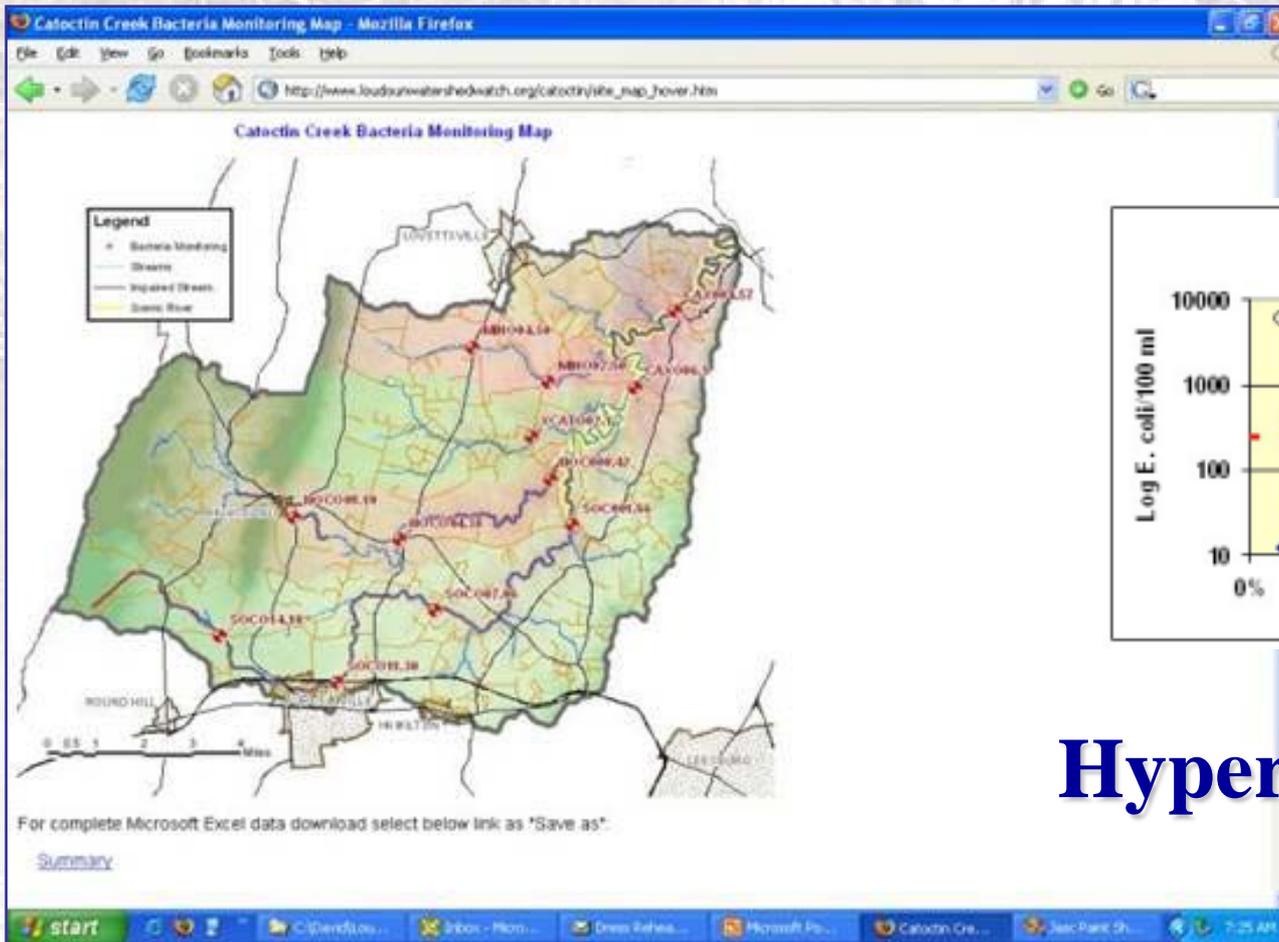


Monitoring Locations



Twelve locations at easily accessed bridge crossings.

Publish Data on Internet

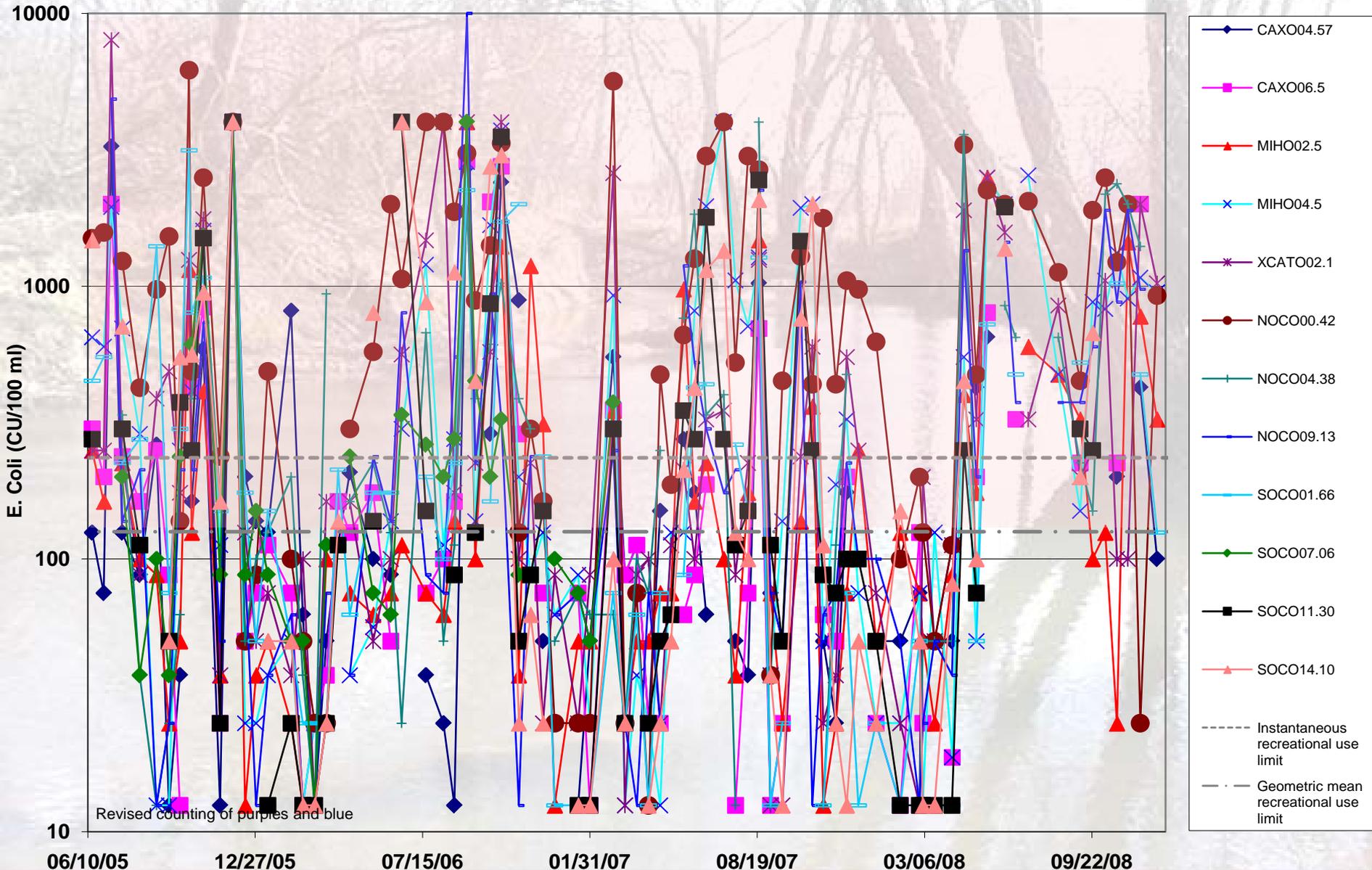


Hyperlink to map

Posting monitoring data on a website makes it available to other stakeholders.

Data is submitted to VA Dept Environmental Quality and posted at www.deq.virginia.gov

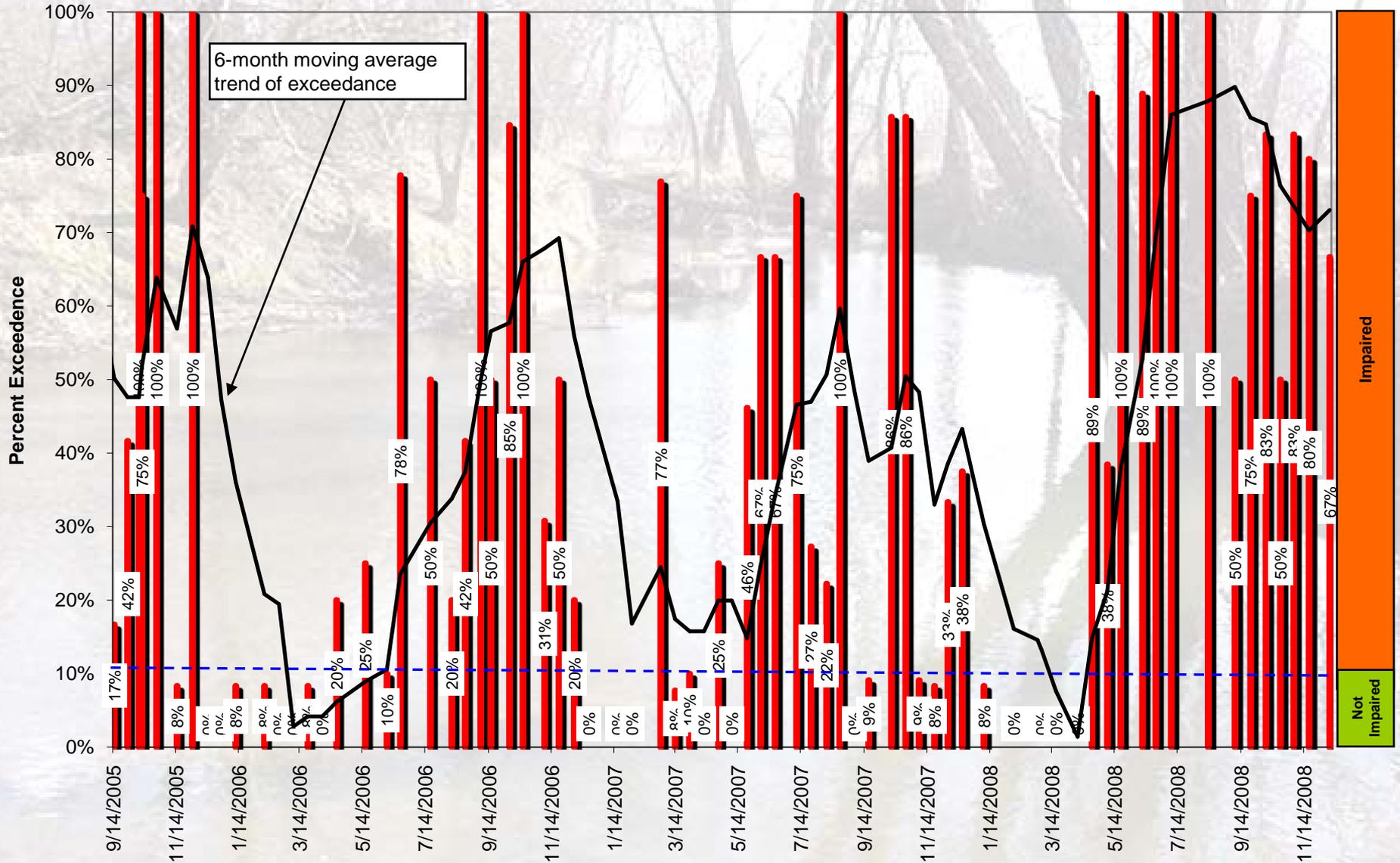
Catoctin Creek Bacteria Monitoring



The bacteria levels fluctuate significantly. Readings above recreational use limited are “impaired” and classified as an “exceedance”.

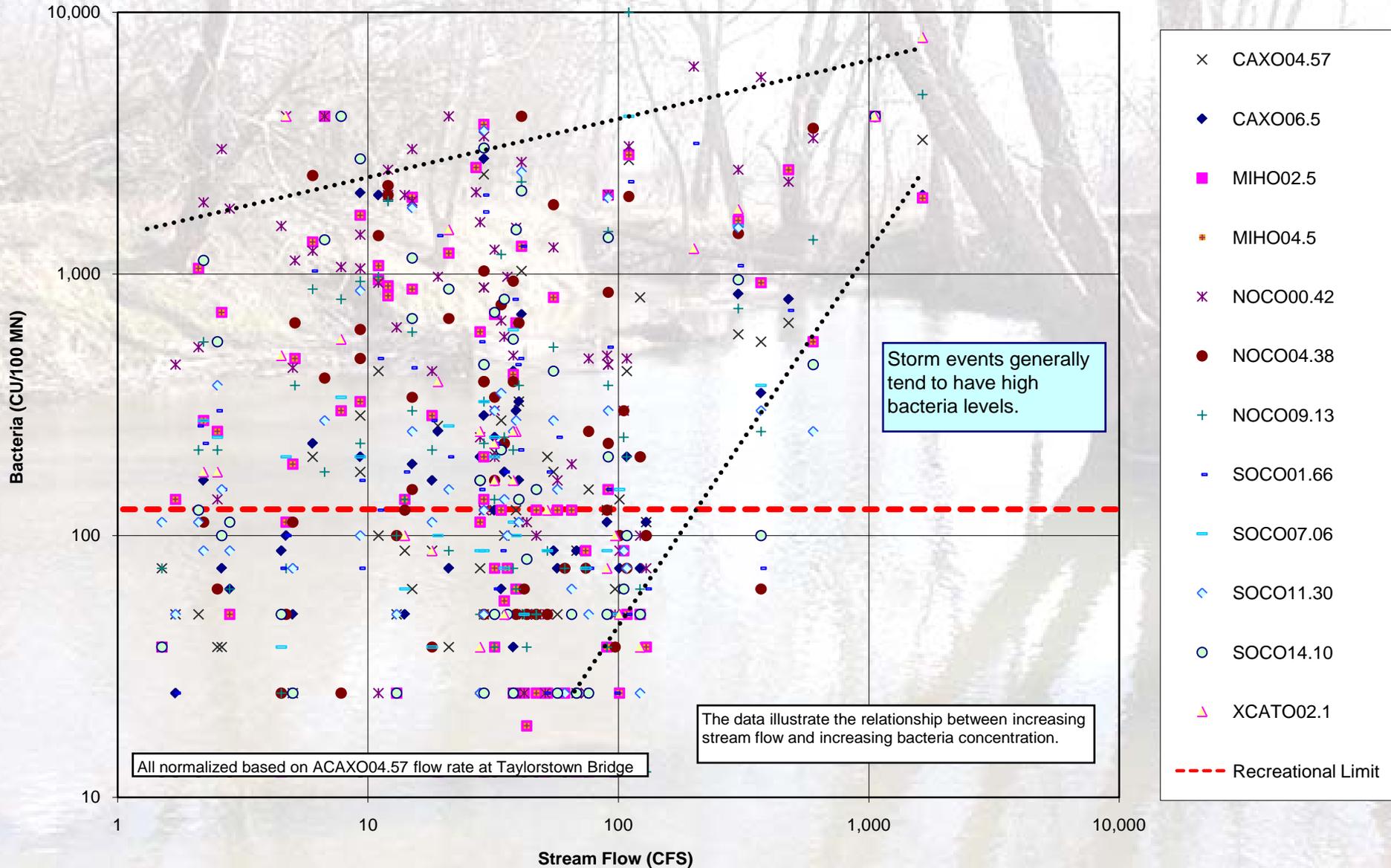
Percent Exceedence By Date

For each sampling event, a tally of the samples that exceed the instantaneous limit of 235 CU/100 ml value is calculated and presented as a percentage of the number of samples. Percent exceedence threshold is 10.5%



Annual trend shows a high exceedence in summer and low in winter

Bacteria Level versus Flow



The concentration of fecal coliform increases during storm events.



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

Cassie Champion, of the Minnesota Metropolitan Council

*Tremendous thanks to all the stream
monitors for collecting the samples,
performing the fecal analyses in the
lab, reporting and publishing the data.*

**Materials for this project were purchased through grant funds from
VA Dept Environmental Quality and Chesapeake Bay Restoration Fund, Loudoun**