



Loudoun Wildlife Conservancy  
Stream Monitoring Kickoff

March 4, 2012

Rust Library  
Leesburg, VA

Today's Agenda

- What is a healthy stream?
- Why are macroinvertebrates good indicators of stream health?
- How do we sample benthic macroinvertebrates?
- Where do we sample?
- How can you participate?

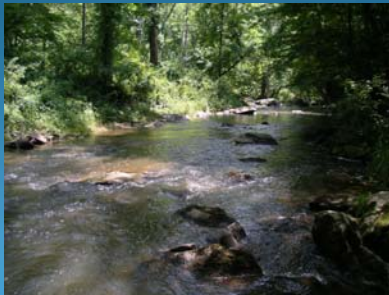
Short Break

- Introduction to Macroinvertebrate Identification
- Practice with live bugs!

Why is this a healthy stream?



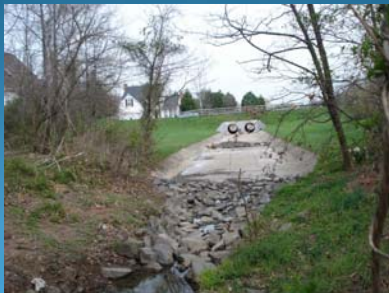
A larger healthy stream.



Healthy?



Could this be a problem?



### Too much water?



### What is a Benthic Macroinvertebrate?

**Benthic** = lives on the bottom

**Macro** = visible without magnification

**Invertebrate** = no backbone

### Why are they good indicators?

- Spend up to one year in the stream.
- Have little mobility
- Generally abundant
- Primary food source for many fish
- Wide variety of tolerances to pollution

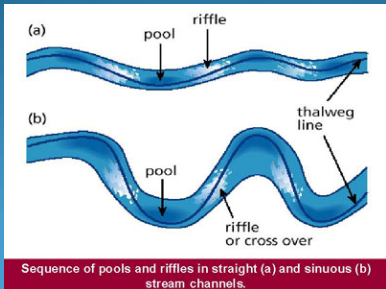
### Pollution Tolerances

**Group 1 - pollution sensitive**  
(require higher DO, neutral pH, cold water)  
Ex. mayflies, stoneflies, caddisflies

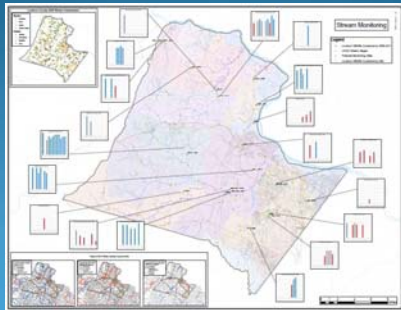
**Group 2 - somewhat pollution tolerant**  
Ex. scuds, dragonflies, damselflies

**Group 3 - pollution tolerant**  
(can tolerate low oxygen, lower/higher pH, warmer water)  
Ex. aquatic worms, midge larva

### How do we sample?



### Where do we sample?



## Where does the data go . . .

You submit your data to

- Loudoun Wildlife Conservancy
- Loudoun Watershed Watch
- Virginia Save Our Streams
- VA Department of Environmental Quality



## How can I participate?

Whenever you have time, assist one of the existing teams in the field!

Go to this website and check out the “planned” dates:

<http://www.tinyurl.com/loudounstreammonitor>

## or....Adopt your own stream!

1. Become a Certified Stream Monitor
  - a) Attend this initial information and training session
  - b) Practice in the field with an existing team
  - c) Take the stream monitor field test: demonstrate understanding of the sampling procedure and pass a short test by identifying preserved specimens
2. Pick a stream!!
3. Receive a complete stream monitoring field kit
4. Conduct monitoring with your team three to four times per year and submit your data

Short Break