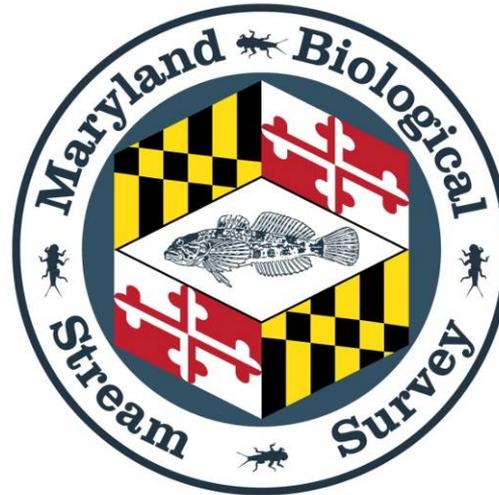


MBSS Summer Training and Certification 2014



Delaware River Float Trip (1961-?)



Overview

- Summer MBSS Certification Updates
- What's New With The MBSS?
- Agenda Quick View

MBSS Certification - New This Year

Fish Crew Leader and Fish Sampling certifications

Will be valid for three years- provided:

- Pass the written test and a field audit in year one
- Attend MBSS training each year
- Take written test each year (tentatively - only need to pass year one)

Cost = certification and training fees for year one, plus training fee for years two and three

(no certification fee for Fish Sampling certification)

Retroactive for persons certified during 2013

MBSS Certification Requirements - 2014

- Fish Crew Leader

 - attend training (years 1-3)

 - pass written test (year 1)

 - pass field audit (year 1)

- Fish Sampling

 - attend training (years 1-3)

 - pass written test (year 1)

- Fish Taxonomy

 - pass taxonomy test (annually)

 - pass field audit (annually)

 - provide vouchers for verification (annually)

MBSS Fish Taxonomy and Fish Crew Leader Certification 2014

- Pay certification fee only after passing the written test at training.
- Schedule field audits by July 31
- Complete field audits by September 30

What's New with the MBSS?

- **Statewide Round 4 (2014-2018)**
- EPA's Regional Monitoring Network (2014 - ?)
- Crayfish as Bait Regulations

MBSS Goal and Objectives

Goal:

Provide the best possible information for ensuring the protection and restoration of Maryland's stream ecological resources

Objectives:

- Assess, with known confidence, the current condition of ecological resources in Maryland's streams and rivers
- Identify causes of adverse effects (stressors) to ecological resources
- Provide an inventory of biodiversity in Maryland's streams
- Document changes (improvements and degradation) over time in Maryland's stream ecological conditions and biodiversity status
- Communicate findings to scientists, local governments, decision makers, and the public to ensure the use and application of results

Round Four Goal

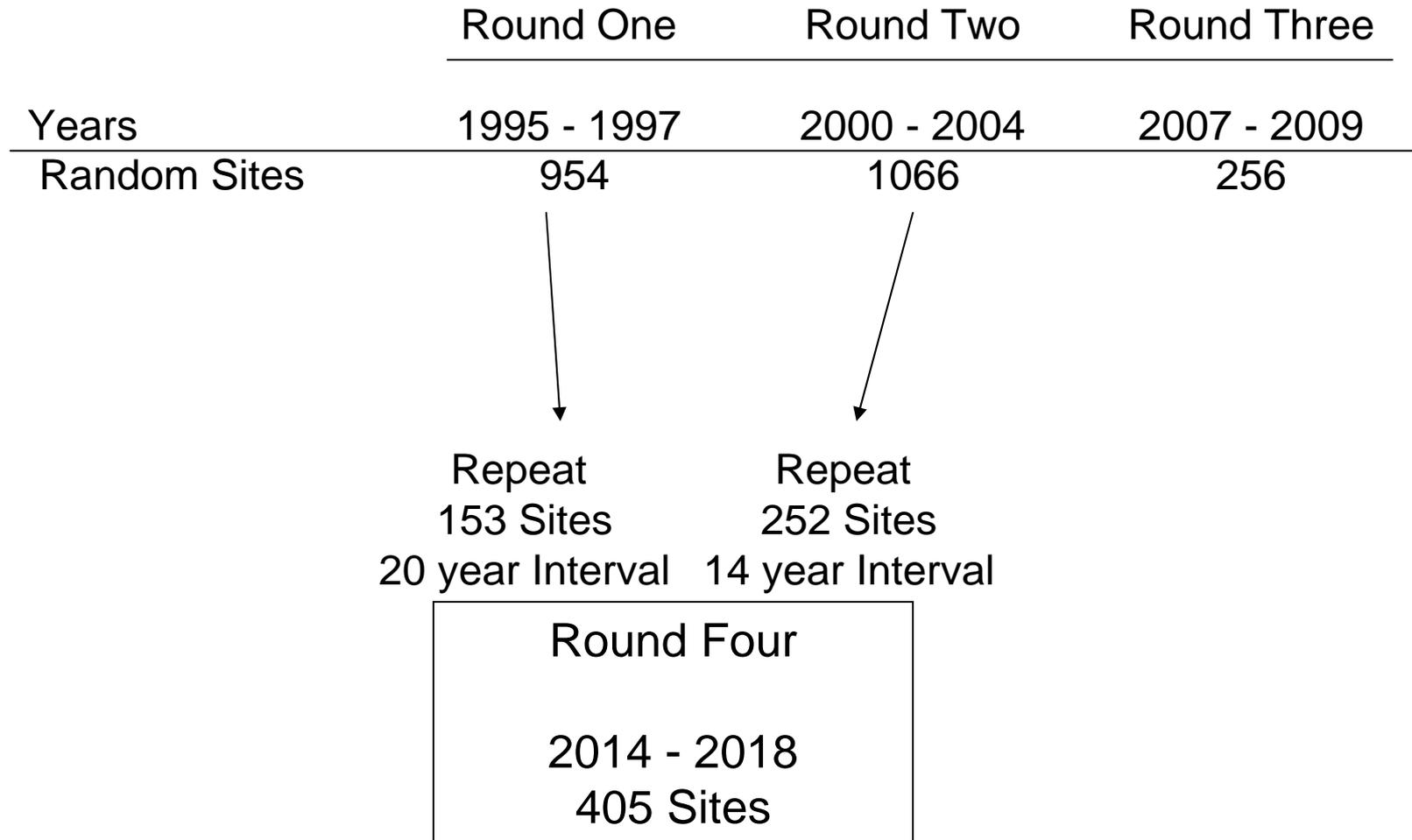
Document changes (improvements and degradation), with known confidence, in Maryland's stream ecological conditions and biodiversity status over 20 and 14 year intervals.



Have stream conditions changed?



Round Four = Resample Random Sites (Same Location) Sampled Previously



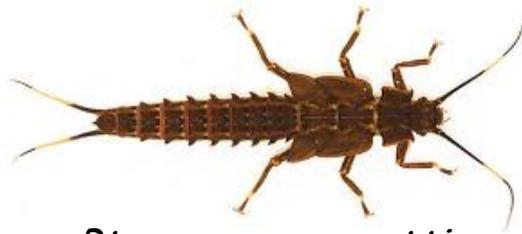
What's New with the MBSS?

- Statewide Round 4 (2014-2018)
- EPA's Regional Monitoring Network (2014 - ?)
- Crayfish as Bait Regulations

EPA's Regional Monitoring Network

(Assess Vulnerability and Response of Streams to Climate Change)

- Benthic macroinvertebrates to species (Spring and Summer)
- Air and water temperature
- Stage and Discharge



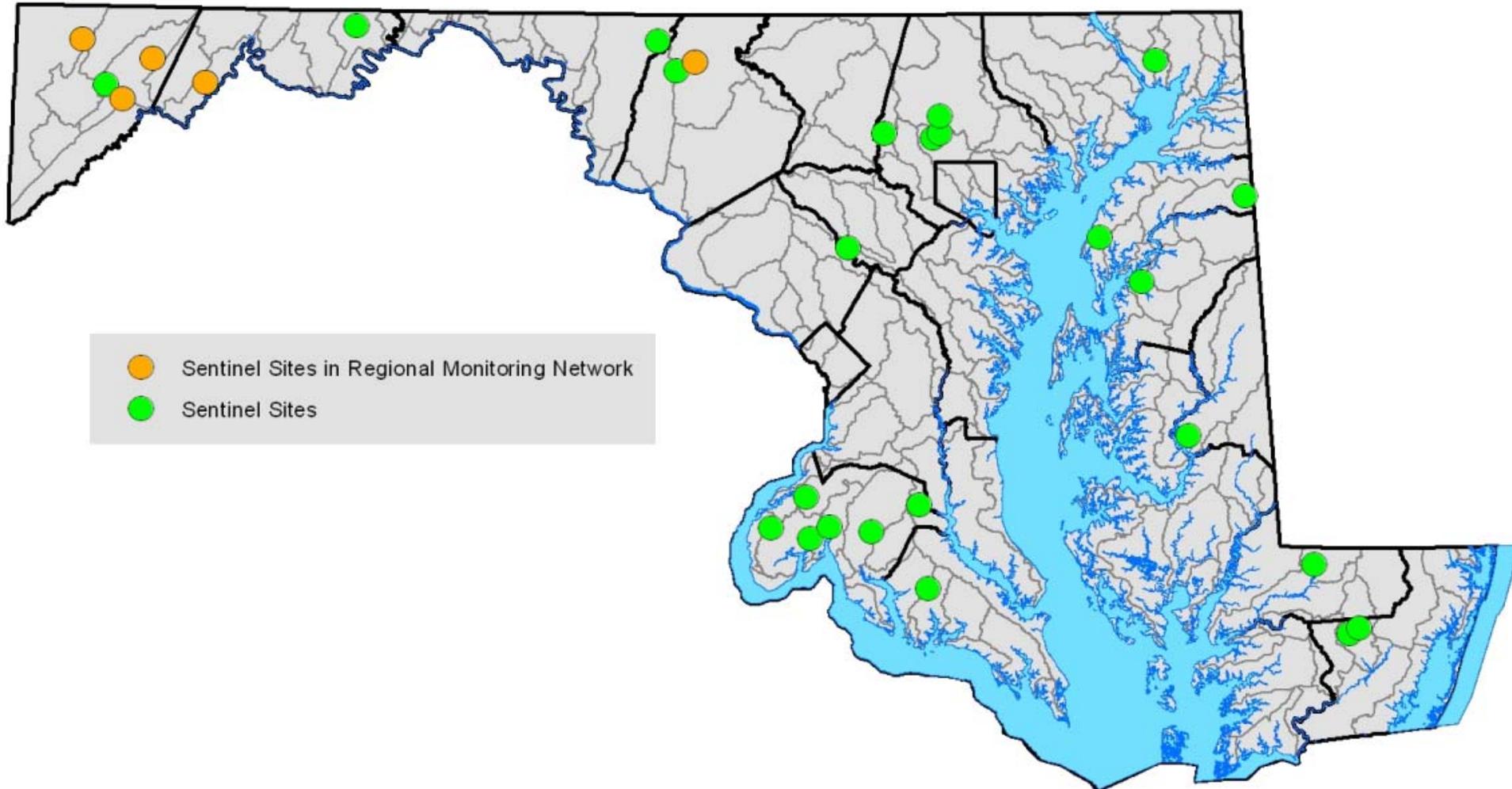
Pteronarcys scotti



+ Other MBSS Protocols



MBSS Sentinel Sites Selected by EPA for Their Regional Monitoring Network



MBSS Contribution EPA's Regional Monitoring Network

Five MBSS Sentinel Sites



Savage River



Mill Run



High Run



Crabtree Creek



Bear Creek

What's New with the MBSS?

- Statewide Round 4 (2014-2018)
- EPA's Regional Monitoring Network (2014 - ?)
- **Crayfish as Bait Regulations**

Role of MBSS Data in Setting Regulations Regarding Use of Live Crayfishes as Bait

- MBSS data being used to demonstrate that invasive crayfishes adversely affect stream ecosystems
- Invasive crayfish are primarily spread via use as bait
- Current ban on the use of live crayfish as bait in the Upper Potomac Middle Potomac and Susquehanna watersheds in Maryland
- Proposed ban for all of Maryland
- Pennsylvania also pursuing statewide ban that MD/DNR supports



Rusty Crayfish (*Orconectes rusticus*)

2014 Agenda Quick View

Day 1 (May 27) - General MBSS Protocols Training

Day 2 (May 28) - All Day Taxonomy Review

Day 3 (May 29) - All Day Taxonomy Review

Day 4 (May 30) - Fish Sampling and Fish Crew Leader Certification

A Final Thought on Streams

“Do unto those downstream as you would have those upstream do unto you” (Wendell Berry)

