

# Biological Monitoring QAPP Guidelines



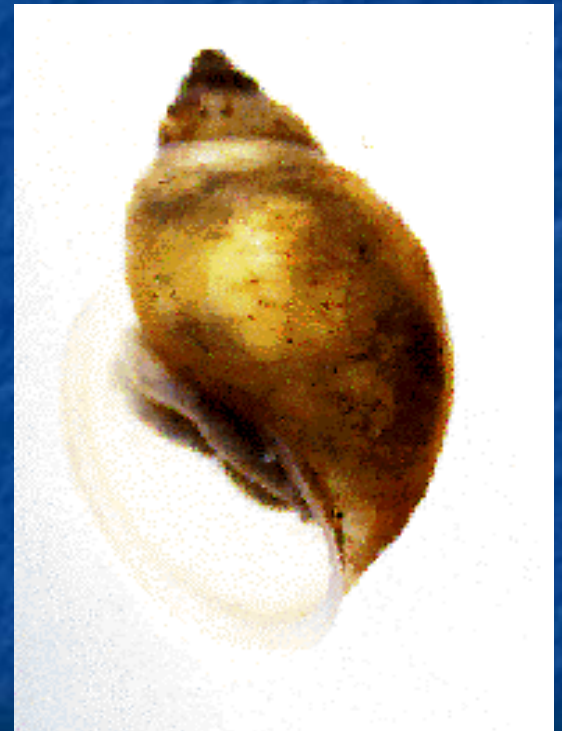
# How DEQ Uses Volunteer Data

- There are three levels of volunteer data
- Higher levels have increasing QA and are closer to DEQ protocols
- Level III data is treated the same as DEQ data



# Level I

- Must have a basic written plan
  - Purpose for monitoring, site locations, parameters, methods, and monitoring schedule
- Macroinvertebrates are identified to at least the community level. (ex. Stonefly, crayfish, etc)



# Level II

- A Quality Assurance Project Plan (QAPP) reviewed and approved by DEQ
- A training/ certification program in place to identify benthic macroinvertebrates to at least the order level
- Collection teams follow documented field, laboratory, and data-handling protocols

# Level III

- Have a QAPP reviewed and approved by DEQ
- Standard Operating Procedures (SOP) consistent with DEQ methods
- Trainers are certified by DEQ or can demonstrate proficiency
- Have a documented training program to collect and identify macroinvertebrates
- Have DEQ staff conduct periodic review of taxonomic identifications (5% of samples)

# Level III option A

- Data collected by using the Virginia Stream Condition Index.
- Identification of macroinvertebrates to family level
- Collection of macroinvertebrates follow DEQ SOP



# Level III option B

- Using a non-SCI method, a validation study is needed.
  - Validation study will compare the volunteer method to the SCI method.
  - Results will indicate similarities in data results.
  - Many methods can be validated.
  - Depending on the study, some or all data may meet Level III status

# For SOS Volunteers

- Two validation studies currently underway
- Comparing SOS modified rocky bottom method to SCI
- 5% of fall 2006 SOS samples will be sent to DEQ for confirmation

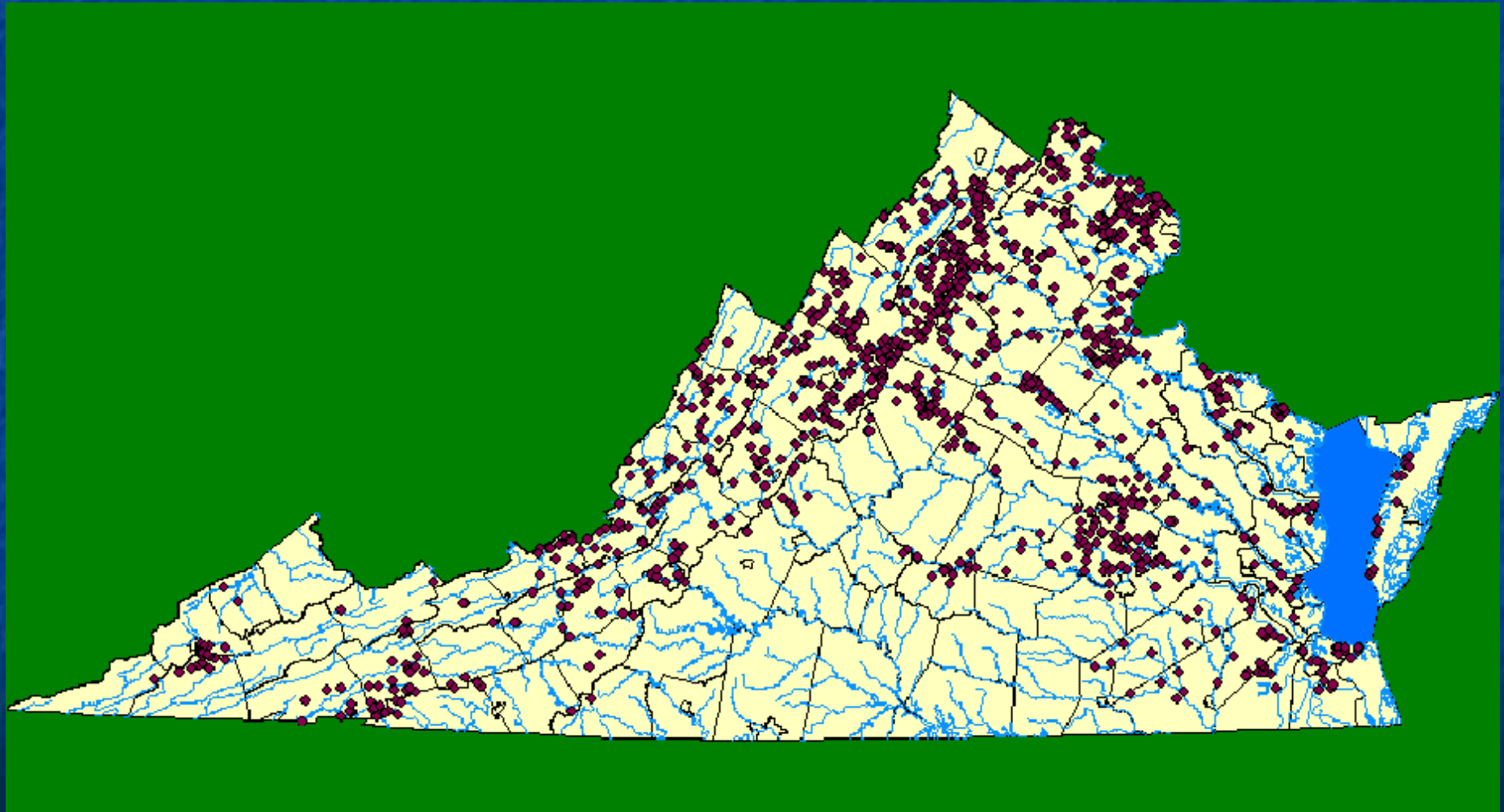


# 2006 305(b)/303(d) Report

- DEQ received data from volunteer groups monitoring at 1072 sites
  - Level I- 219 sites
  - Level II- 497 sites
  - Level III- 356 sites
- This is the highest level of volunteer data used by DEQ to date



# Where Level II And III Volunteer Monitoring Occurs



# How Does Virginia Stack Up To Other States

- Biological guidelines developed after reviewing guidelines from other states such as California, and Pennsylvania
- In 2006, DEQ surveyed other states to see how they use volunteer data
  - Received 15 responses
  - 12 states use volunteer data in 305/303 report after QA/QC review
  - 3 states do not use citizen data
- Virginia ranked equal or better than other states in using volunteer data

# For More Information

Citizen Monitoring Website:

[www.deq.virginia.gov/cmonitor](http://www.deq.virginia.gov/cmonitor)

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# Questions?



When Hellgrammites attack!