

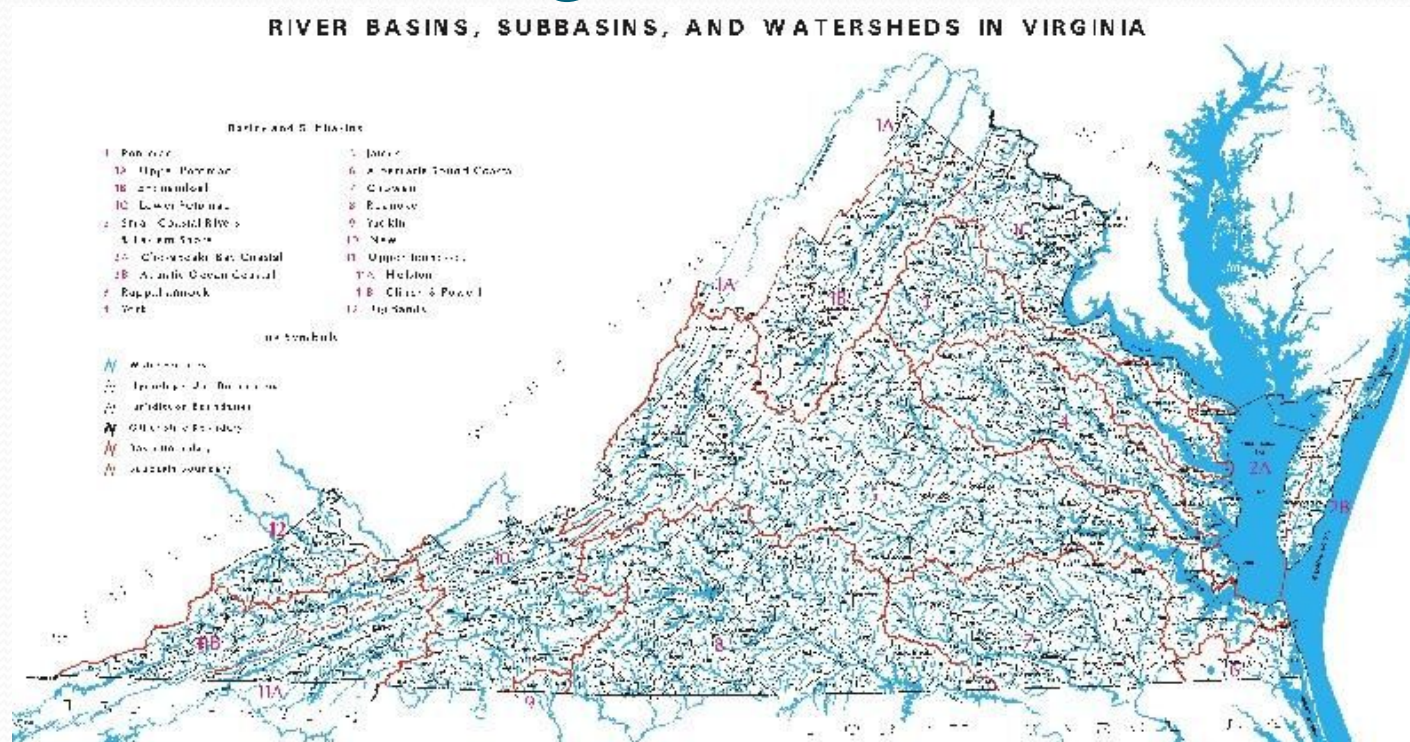
# Incorporating and Validating Non-Agency Data for 305(b)/303(d) Assessment

James Beckley

Quality Assurance Coordinator

Virginia Department of Environmental Quality

# Virginia and DEQ



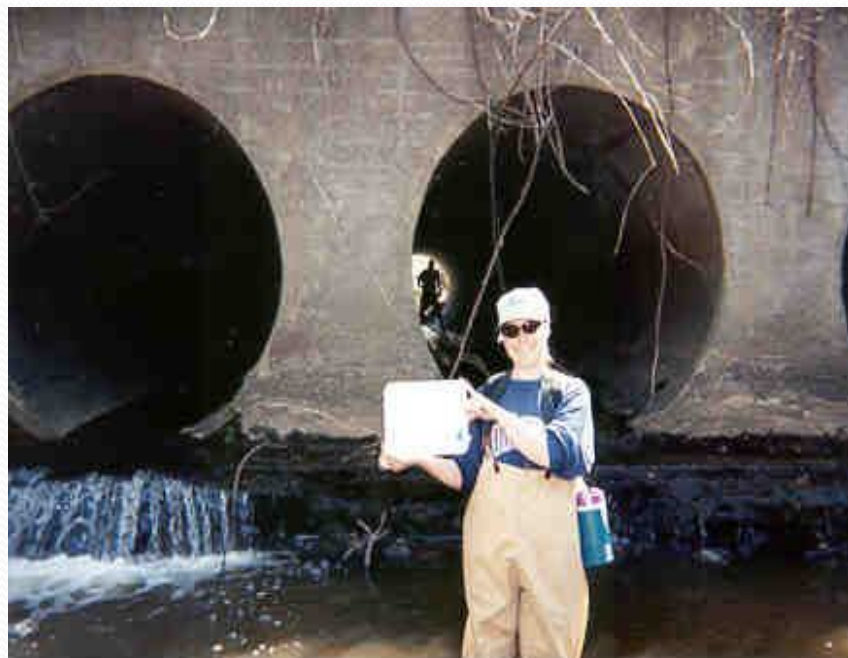
- Virginia has 52,255 miles of rivers and streams
  - 116,364 acres of significant lakes and reservoirs
  - 2,684 square miles of estuaries
- On average, DEQ monitors 2,000 stations each year with an analytical budget of \$1 million

- Since 1998 DEQ has actively partnered with non-agency water monitors
- In 2003 DEQ developed a QA/QC program to allow the agency to incorporate non-agency data to assess water quality
- Continued support by DEQ is resulting in an unprecedented amount of quality data submitted to the agency



# So What is Non-Agency Data?

% Stations Submitted



Citizen Volunteers 75.3%

Government Agencies 22.5%

Private Industry 1.4%

Academia\* 0.8%

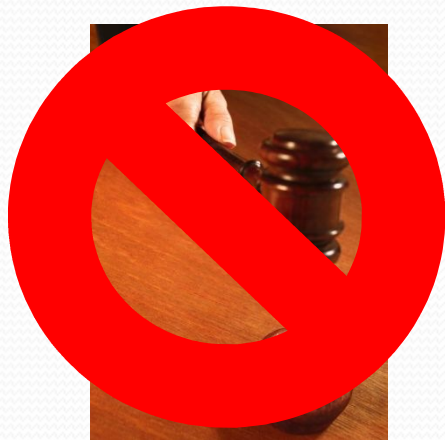
\*Not already affiliated with a citizen group or under an analysis contract by DEQ

# How DEQ Uses Non-Agency Data

- Stream Assessment
- Tracking
- Rapid Response
- Outreach
- Education
- 305(b) assessment of stream health and 303(d) listing
- Water quality improvement such as during TMDL implementation
- Early detection of pollution events to help alert DEQ
- Work with local communities in a positive way
- Show the importance of water quality to the public

# Ways DEQ Does Not Use Non-Agency Data

- Submitted data is not used by DEQ for enforcement or similar “regulatory” actions
- Data is not assessed if it was collected in permitted mixing zones or at discharge pipes
- Submitted data not used by itself to develop TMDL Implementation Plans



# How DEQ Reviews Non-agency Data

- QA all submitted data
- Groups encouraged to use DEQ approved protocols and Quality Assurance Project Plan (QAPP)
- Laboratories must pass QA/QC inspection
- Data falls into one of three categories



# Level I

## QA/QC Protocols

- Does not possess a DEQ approved QAPP or SOP
- Monitoring and/or laboratory analysis does not follow DEQ protocols
- Parameter not associated with a Virginia water quality standard

## Uses

- Education
- Baseline Data
- Pollution Red Flags
- Local Land Use Decisions
- Special Studies



# Level II

## QA/QC Protocols

- DEQ approved QAPP and SOP
- Method may deviate from DEQ methods. (e.g. a method with a higher detection limit)
- Field and/or laboratory audit required

## Uses

- All uses as stated in Level I
- Assessed in the 305(b) report to determine waters of concern (Category 3C, 3D) to prioritize waters for DEQ follow-up monitoring

# Level III

## QA/QC Protocols

- DEQ approved QAPP and SOP
- Methods do not deviate from approved methods (EPA, Standard Methods, USGS, etc.)
- Field and/or laboratory audit required

## Uses

- All uses as stated in Level II
- Assess water quality in 305(b) report
- Impairment listing/delisting in the 303(d) report




# Promoting Non-Agency Monitoring

- Data use authorization form
- Citizen Monitoring Grant Program
- Agency technical support
- Non-Agency online database
- 3,000 mile goal

# Data Use Form

- Developed in response to data submitters concern on how DEQ uses data
- Allows data submitters to tell DEQ how to use their data (submitters can only downgrade their data use)
- Resulted in increased submission of non-agency data

Attachment 1  
Page 1



**Use Authorization Form for Water Quality Data**

Name of Group or Organization: <i>Virginia Save Our Streams</i>		Date: <i>8/29/07</i>
Name of Submitter: <i>Stacey Brown</i>		Role or Title (QA officer, leader, etc.): <i>Coordinator &amp; QA Officer</i>
Type(s) of Monitoring Conducted by Organization?		
<input type="checkbox"/> Chemical (pH, dissolved oxygen nutrients, etc.)		<input checked="" type="checkbox"/> Physical (Temperature, stream flow, etc.)
		<input checked="" type="checkbox"/> Biological (Macroinvertebrate, E. coli, etc.)
Type of Organization	<input checked="" type="checkbox"/> Citizen Volunteer <input type="checkbox"/> Business or Industry	<input type="checkbox"/> Federal Agency <input type="checkbox"/> State Agency <input type="checkbox"/> Local Agency <input type="checkbox"/> College or University <input type="checkbox"/> Other (Name):

On behalf of the group identified above, we agree that the Virginia Department of Environmental Quality (DEQ) may use water quality monitoring data we generate per our selection(s) below. Our choice(s) will remain in effect unless or until our organization submits changes in the future.

**Options for Uses of Your Data (may select more than one)**

1. List and delist impaired waters on the 303(d) Impaired Waters List  
Data recognized by DEQ as Level III can be used to list or delist water on the 303(d) impaired waters list. We understand that 303(d) listed waters do not meet minimum water quality standards in Virginia and a Total Maximum Daily Load (TMDL) may eventually be developed to improve water quality.

2. Source identification for TMDL development for waters already listed as impaired  
Level III data can be used in conjunction with DEQ monitored data to identify sources of pollution for 303(d) listed waters for TMDL development. We understand that our data will not be used by itself, without water quality data collected by DEQ, wherever possible.

3. Track progress of a TMDL Implementation Plan and other restoration  
Level II or III data can be used to track the progress of restoration in a TMDL waterbody including installed Best Management Practices or to identify areas where other restoration efforts are taking place.

4. Identify waters for future DEQ monitoring  
Level II or III data can be used to identify a waterbody for follow-up monitoring by DEQ. We understand that DEQ may not be able to monitor at these locations and/or assess water quality for some period of time.

5. Educate land owners on the water quality impacts of land use activities  
All levels of data can be used to help in educating the community about water quality and land use activities.

Signature (if submitting by mail or fax): *Stacey Brown*

Mail: VA DEQ James Beckley (11 <sup>th</sup> floor) P. O. Box 1105 Richmond, VA, 23219	Fax: James Beckley VA DEQ (804) 698-4116	E-mail: <a href="mailto:jbeckley@deq.virginia.gov">jbeckley@deq.virginia.gov</a>
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# Citizen Monitoring Grant Program

- Since 1998, DEQ has provided grant money to monitoring groups
- Awards cover monitoring costs and training
- When available, grants are typically around \$4,000
- Data is submitted to DEQ and meet QA requirements



We usually send a check...

# DEQ Technical Support

- Assist with training of monitoring groups
- Technical review of methods and QA/QC procedures
- Citizen Monitoring Methods Manual
- Online resources relating to water quality



# DEQ Non-agency Database

The screenshot shows a web browser window displaying the Virginia DEQ Non-agency Database. The page title is "Virginia Volunteer/Nonagency Monitoring Data". The interface includes a search bar, a list of monitoring sites, and a list of reports. The site list is filtered to show 275 sites, and the report list is filtered to show 275 reports. The current filter is set to "Save Our Streams".

Virginia DEQ :: Monitoring Sites - Microsoft Internet Explorer  
Address: http://vadeq.easi.org/  
Commonwealth of Virginia | Web Policy | Governor of Virginia | Contact Us  
DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY  
Search DEQ | Go | Advanced search  
Virginia DEQ Home > Water Quality Monitoring Home > Citizen Monitoring Home > Citizen Monitoring Data | Welcome Guest | Register | Login | email: James E. Berkeley

Monitoring Data  
Downloads  
Help Desk

Citizen Monitoring  
Home  
Grant Opportunities  
Follow-up  
Monitoring  
Guidance  
Letter of Agreement  
Statewide Activities  
Links to Other Sites  
Water Home

Virginia Volunteer/Nonagency Monitoring Data  
[View Reports](#)

Save Our Streams  
Site#, Water Body

147 02070008-Middle Potomac/ Little Difficult Run (2)
145 02070008-Middle Potomac/ Little Difficult Run (2)
280 02080104-Lower Rappahann, Little Falls Run (4)
279 02080104-Lower Rappahann, Little Falls Run (4)
308 06010102-South Fork Hols, Little Laurel Creek (1)
307 06010102-South Fork Hols, Little Laurel Creek (1)
173 02070010-Middle Potomac/ Little Pimmit Run (2)
133 02070008-Middle Potomac/ Little River (4)
132 02070008-Middle Potomac/ Little River (5)
195 02070010-Middle Potomac/ Long Branch (6)
194 02070010-Middle Potomac/ Long Branch (2)
87 02080204-Rivanna, Long Island Creek (1)
94 02080201-Upper James, Looney Creek (1)
221 02070007-Shenandoah, Manassas Run (3)

Reports

Site Detail/Monitoring Events - Selected Site
Map of Selected Site
Map of Sites in this Basin
Save Our Streams Report - This Site
Save Our Streams HTML Bar Chart - This Site
Save Our Streams HTML Bar Chart - This Stream
Save Our Streams Bar Chart - This Site
Save Our Streams Bar Chart - This Stream
Save Our Streams Data Dump - This Site
Save Our Streams Data Dump - This Stream

Select a monitoring site from the first box and a report or action from the second box, then click the "GO" button.

[My Sites](#) | [My Group Sites](#) | [Change Site Filter](#)  
Current Filter: [Sites Shown: 275] [Group Filter: Save Our Streams] [Status Filter: Active]

site index | help  
Powered by MD-Pro

- Online database to store and display non-agency data
- Anyone can view, or query water quality data
- Registered users can upload data for their group
- Based on the EASI database used in PA



# 3,000 Mile Goal

- Virginia House Bill 1859 passed during the 2007 General Assembly and codified in §62.1-44.19:11 of Virginia Code

“It shall be the goal of the Department to encourage citizen water quality monitoring so that 3,000 stream miles are monitored by volunteer citizens by 2010.”

- This bill helped galvanize the need to develop a tracking method to determine the actual mileage contributions that non-agency groups provide to DEQ



# Was the Goal Met By 2010?








Survey Says...

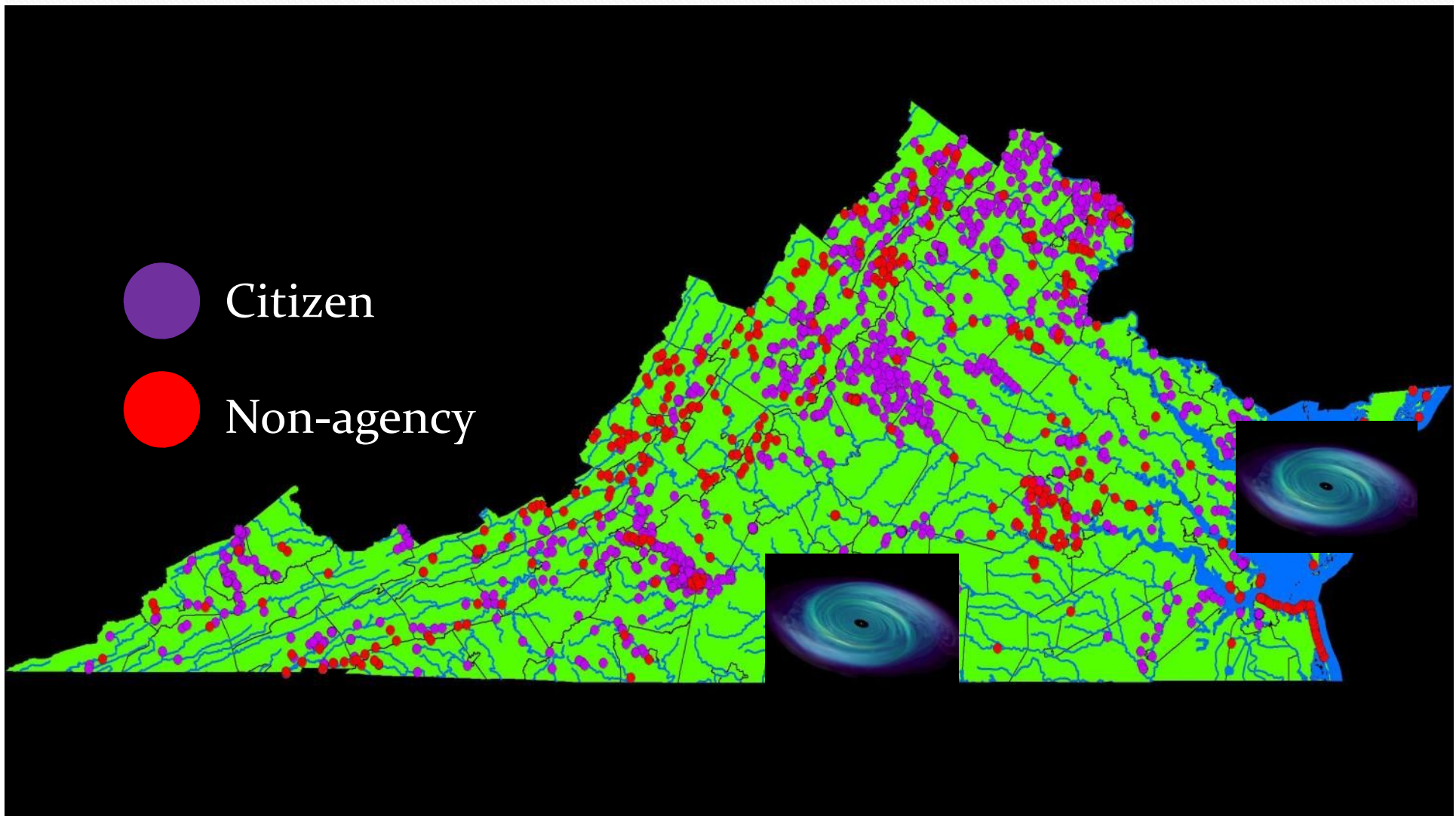
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## Data Used in the Draft 2012 305(b) Report

-  Number of stations monitored by DEQ dropped 28% from 7,600 during the 2010 305(b) Report to 5,497
-  Number of citizen volunteer stations submitting data grew 20% from 1,485 in the 2010 305(b) to 1,786
-  Stream miles monitored grew to 4,151 miles
-  Lake acreage essentially unchanged at 30,026 acres
-  Estuary area monitored dropped to 29.64 square miles

# DEQ Continues to Look for the *Next Generation* of Monitoring Partners





# For More Information

Contact:

James Beckley

Quality Assurance Coordinator

(804) 698-4025

[James.Beckley@deq.virginia.gov](mailto:James.Beckley@deq.virginia.gov)

Virginia DEQ Citizen Monitoring Website:

[www.deq.virginia.gov/Programs/Water/WaterQualityInformation  
TMDLs/WaterQualityMonitoring/CitizenMonitoring.aspx](http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/WaterQualityMonitoring/CitizenMonitoring.aspx)

(Better to [Google](#) it)