

Overview and Next Steps: Prioritization Workshop

October 13, 2016

Dickinson College, Carlisle, PA

CMC
Chesapeake Monitoring
Cooperative



Workshop Objectives

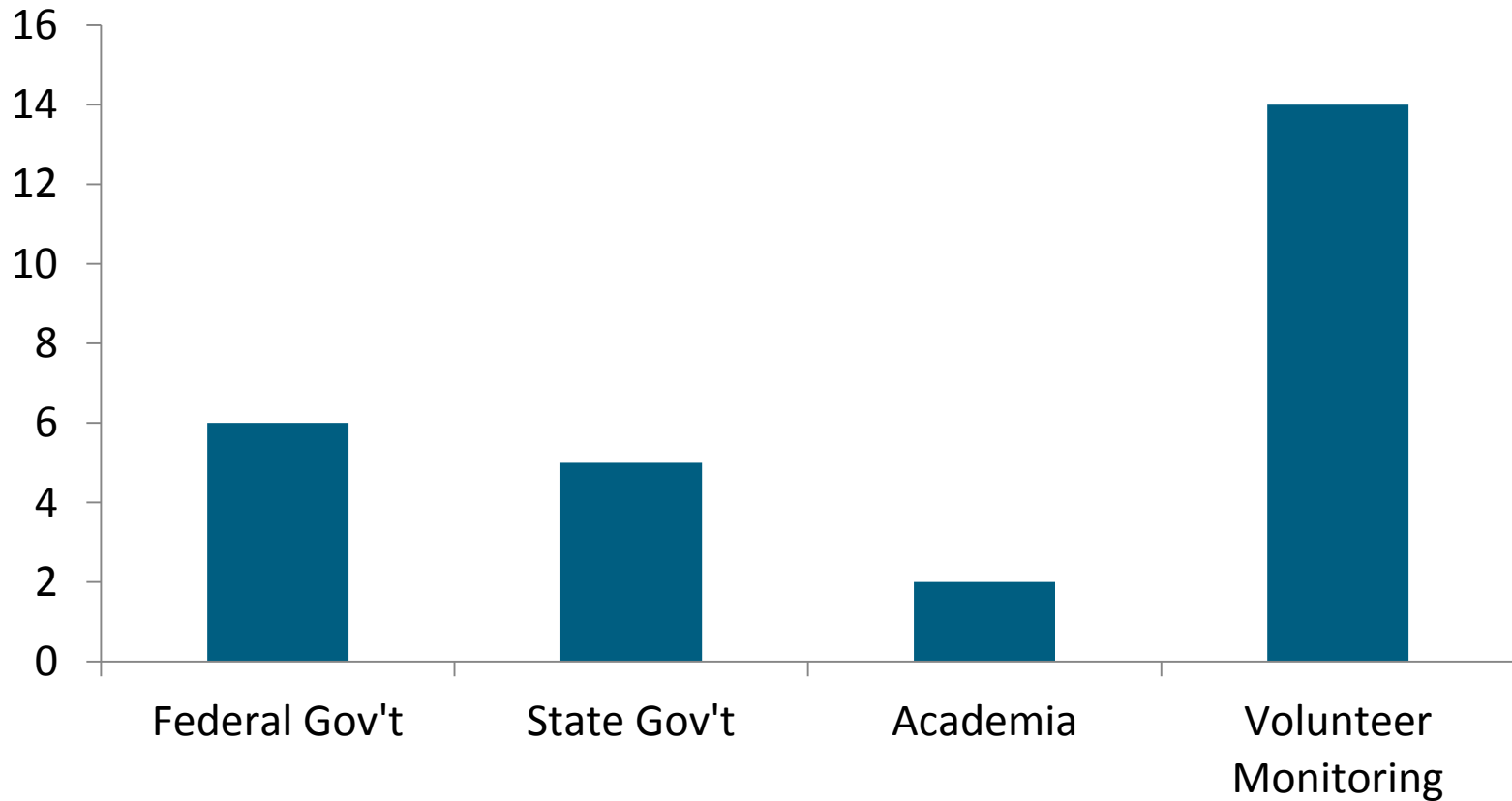
- Overview of this multi-year collaboration goal and the state's role in making this a success.
- Discuss the states needs for more data, at a higher frequency and how this Cooperative intends to help meet agencies goals for monitoring in the Chesapeake Bay Watershed.
- Collaborate with states and volunteer monitoring organizations to build a stronger, more robust monitoring network for the Chesapeake Bay Watershed.

Workshop Agenda

- Welcome and Introductions
- The Chesapeake Bay Program's Investment in the CMC
- CMC Project Goals
- Rapid Fire Brainstorming
- Virginia DEQ's experience with volunteer monitoring and ingredients for success
- Mapping Activity: Identification and prioritization of data needs
- Workshop Recap and Next Steps

Participation from different sectors

of Participants (Total: 27)



Participation across the watershed



Participants:

Alliance for Aquatic Resource Monitoring
Alliance for the Chesapeake Bay
Audubon Naturalist Society
Blue Water Baltimore
Chesapeake Bay Program
Interstate Commission Potomac River Basin
Izaak Walton League of America
Maryland Dept. of the Environment
Maryland Dept. of Natural Resources
Nanticoke Watershed Alliance
Nature Abounds
Pennsylvania Dept. of Environmental Protection
Susquehanna River Basin Commission
Trout Unlimited
U.S. Environmental Protection Agency
U.S. Geological Survey
University of Maryland Center for Environmental Science
Virginia Dept. of Environmental Quality
Virginia Save Our Streams

WV, NY, MD tidal & DC were not in attendance,
but contacted separately

Rich Batiuk (EPA/CBP)

THE CHESAPEAKE BAY PROGRAM'S INVESTMENT IN THE CMC

The Chesapeake Bay Program's **return on investment in the CMC**



“Greater confidence in assessing states’ Chesapeake Bay water quality standards attainment”

“Ability to assess the status of many more stream and river miles for impaired waters”

“Greater monitoring network temporal and spatial coverage that the Partnership alone could never afford nor sustain over time”



Rich Batiuk (EPA/CBP)

What's Different This Time Around?

- Six year cooperative agreement:
- \$400,000 in EPA funds annually w/\$300,00 in cost share funds
 - Chesapeake Bay Program staff time dedicated to supporting the CMC



Rich Batiuk (EPA/CBP)

“We need to capture those positive stories, to build the support and excitement around this effort.”

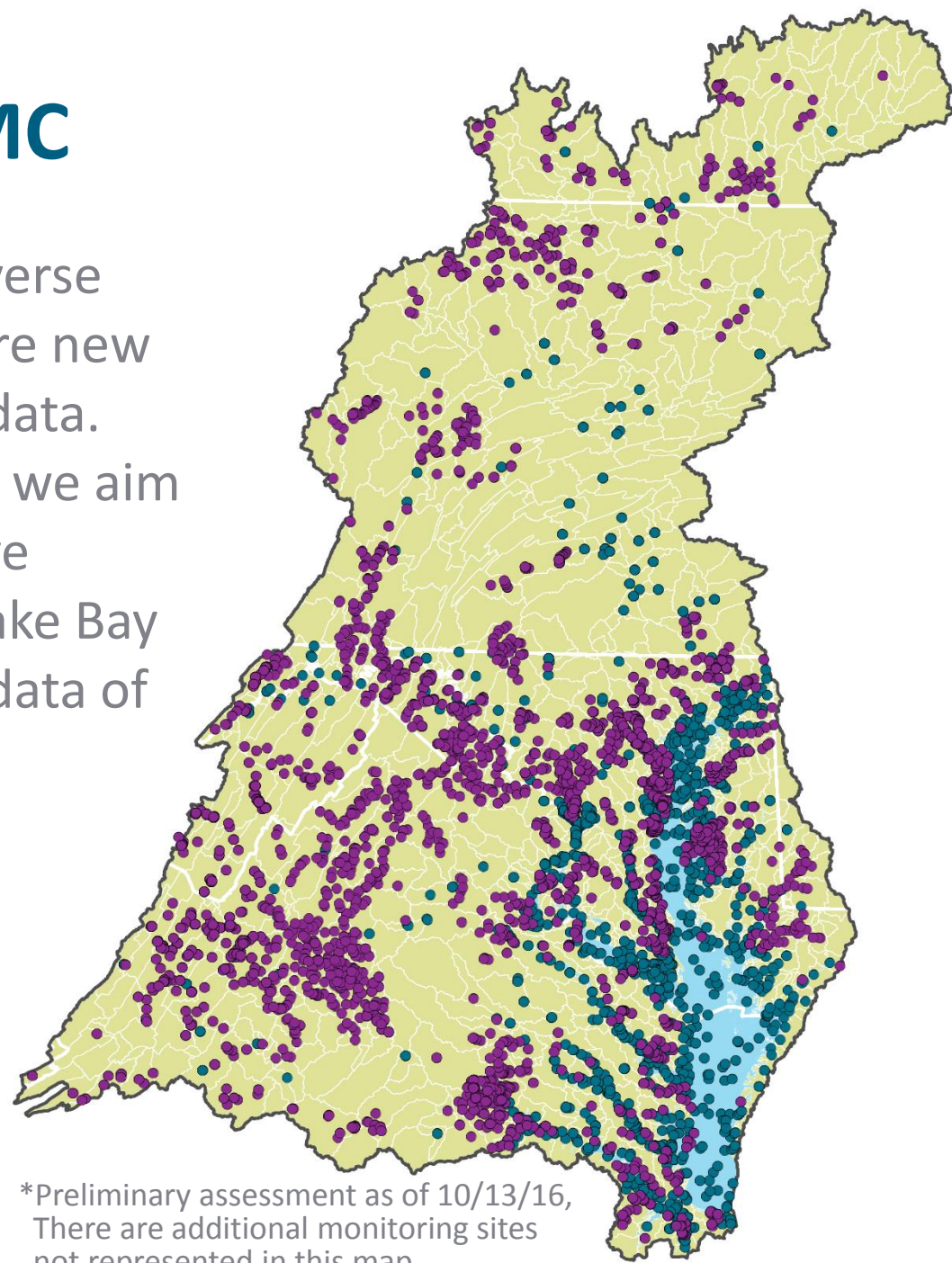
CMC Development Team

CMC PROJECT GOALS AND PLANNED WORKSHOP OUTCOMES

Mission of the CMC

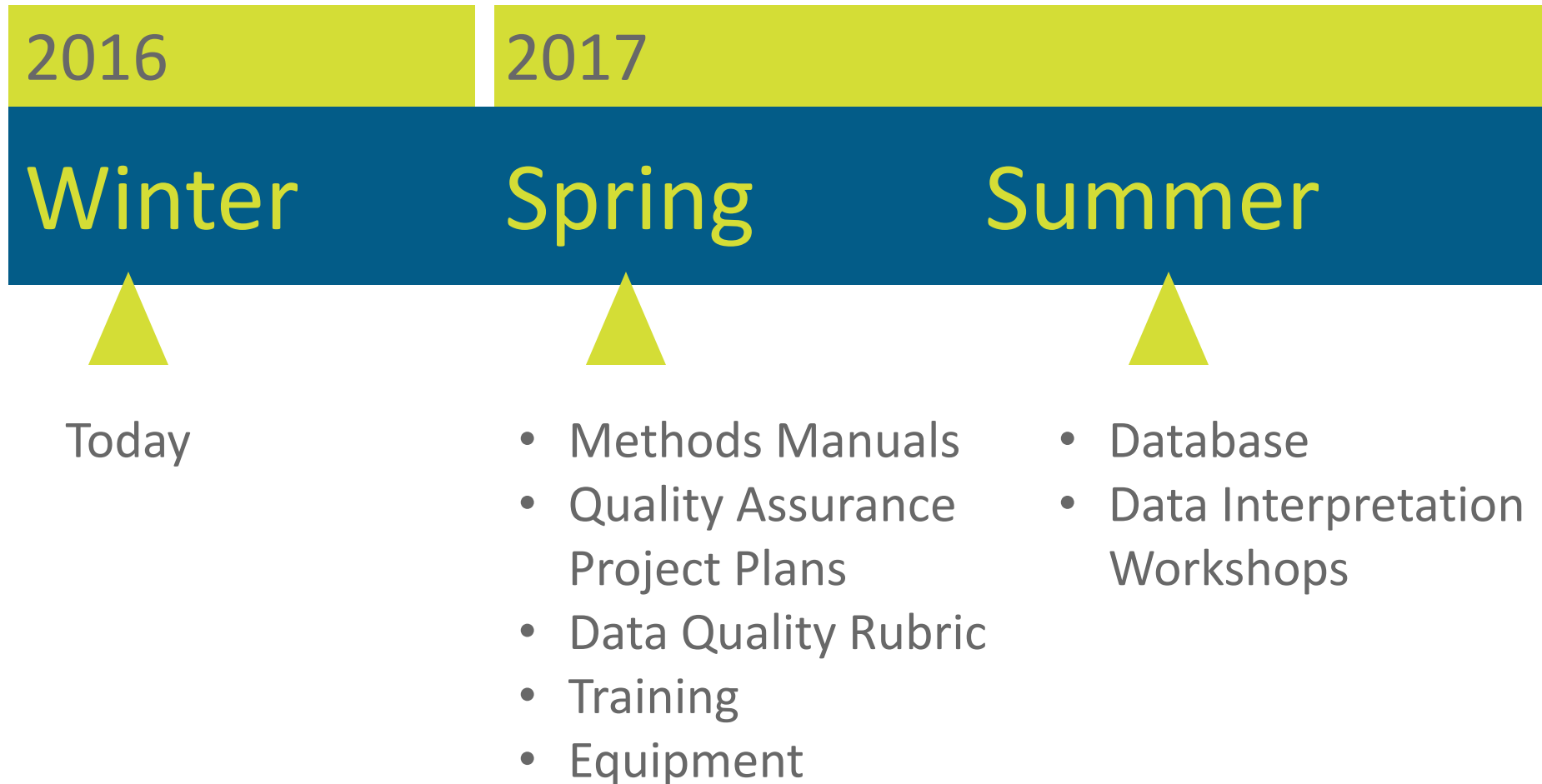
The CMC will work with diverse partners to collect and share new and existing water quality data. Through this collaboration, we aim to develop a comprehensive understanding of Chesapeake Bay Watershed health with all data of known quality.

- Traditional Sites
- Nontraditional Sites



*Preliminary assessment as of 10/13/16,
There are additional monitoring sites
not represented in this map.

Participants asked for a timeline for **CMC** **Technical Support and Resources**



Q&A of the CMC Team

Participants asked if the new CMC database work with WQX and/or STORET?

The Team identifies that need and intends for the databases to communicate with each other.

Participants asked about the training models for the CMC.

The CMC will have both a Train the Trainer program and directly train volunteers using the CMC methods and QA/QC protocols; as well as leveraging the already existing network of service providers and volunteer groups in the region.

Participants commented that there is little monitoring data being collected and shared around flow and physical habitat such as erosion, bed/bank habitat, hydrology etc., though it would be extremely useful.

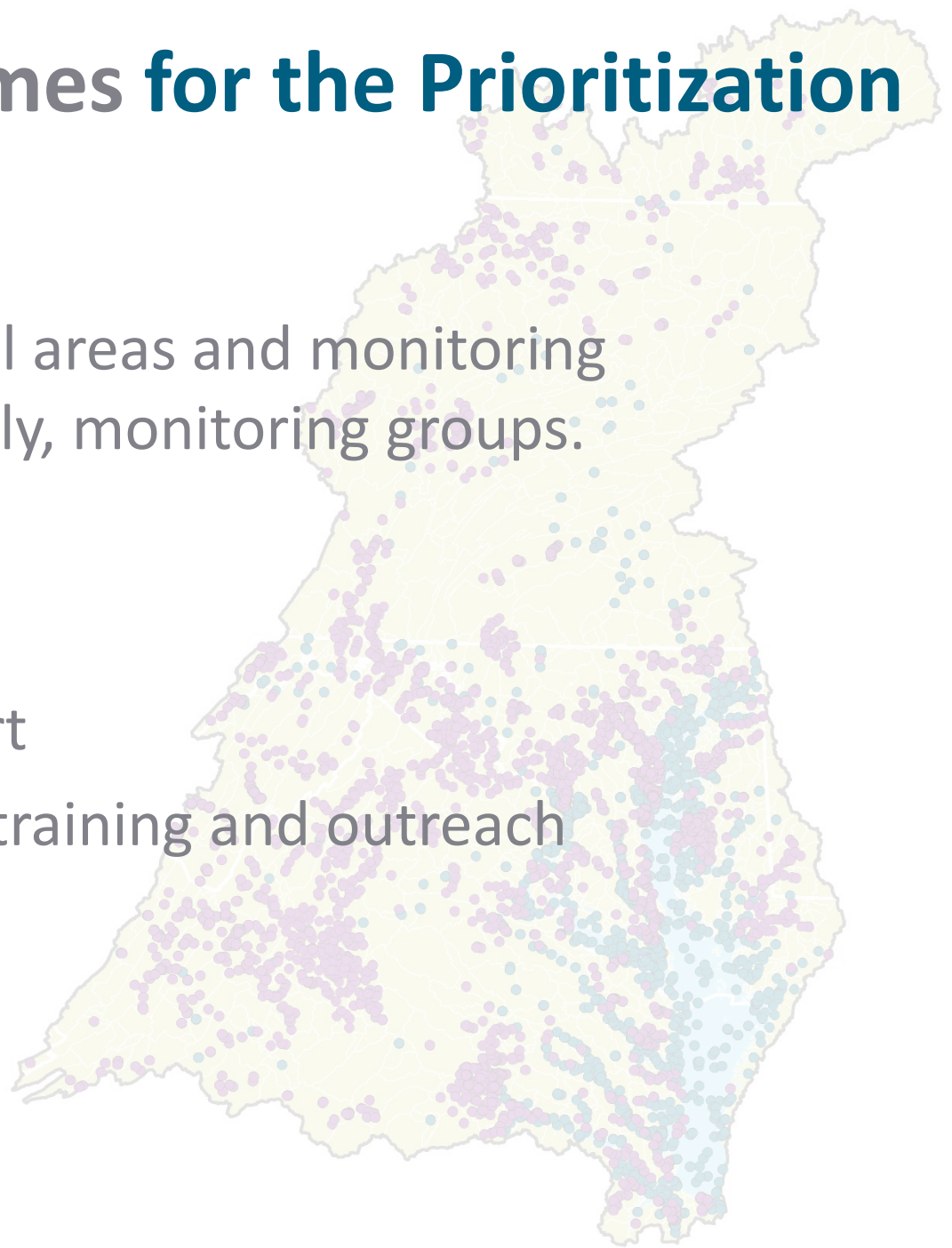
Participants discussed that there may be potential in using models for flow estimates and then verifying in the field. The CMC Team responded that right now the focus is on building the water quality and benthic macroinvertebrates monitoring networks, but expansion of monitoring parameters is expected in the future. More discussion around this topic will occur.

Planned Outcomes for the Prioritization Workshop

Prioritize geographical areas and monitoring parameters. Potentially, monitoring groups.

Outcomes:

- Prioritization Report
- Guidance for CMC training and outreach



Facilitator: Caroline Donovan (UMCES)

RAPID FIRE BRAINSTORMING SESSION

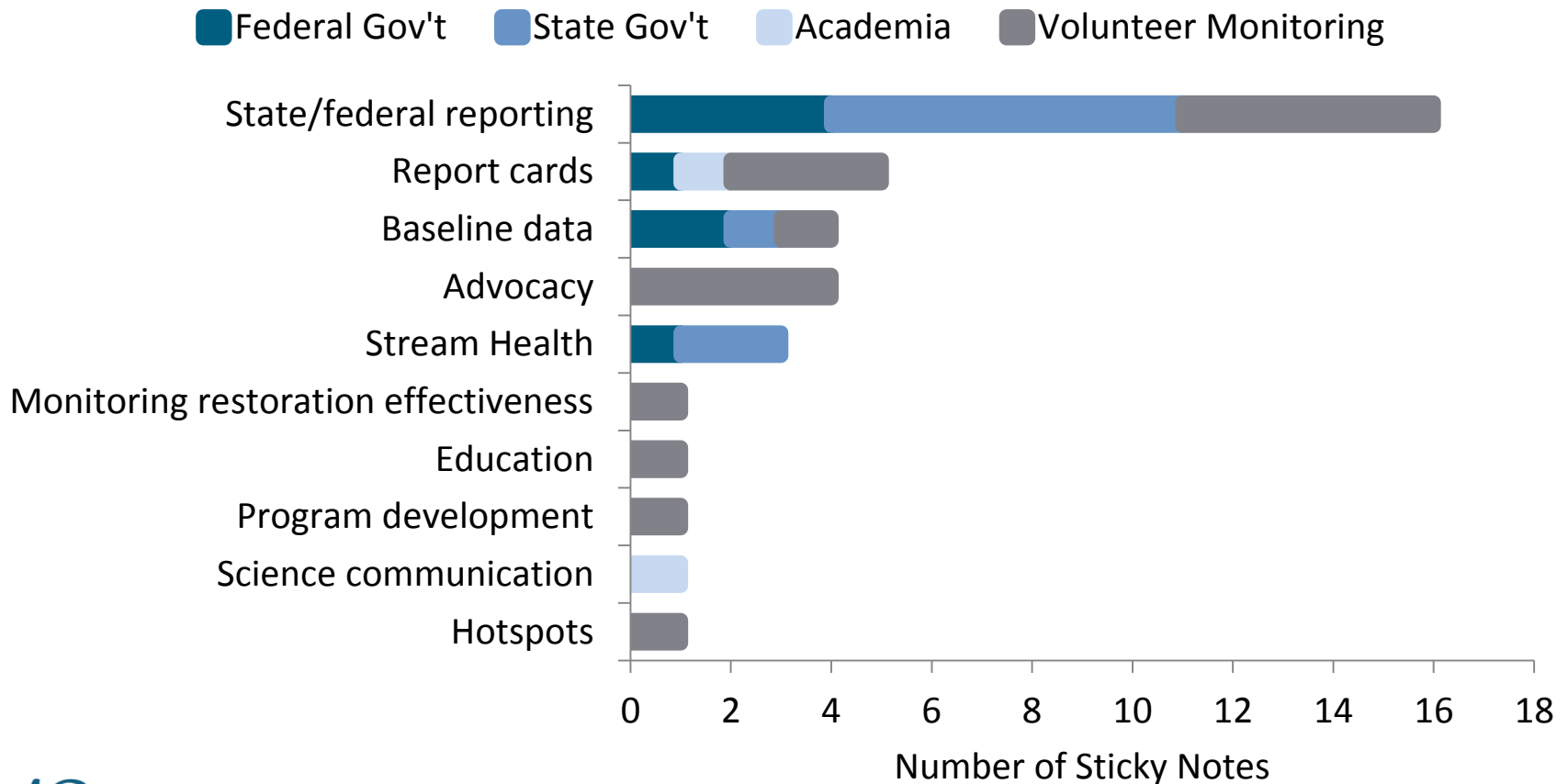
Rapid Fire Brainstorming: What is the current and preferred use of volunteer monitoring data

A rapid fire brainstorming activity, in which participants listed the top two answers for three main questions (via sticky note), was used to determine common themes between different states.



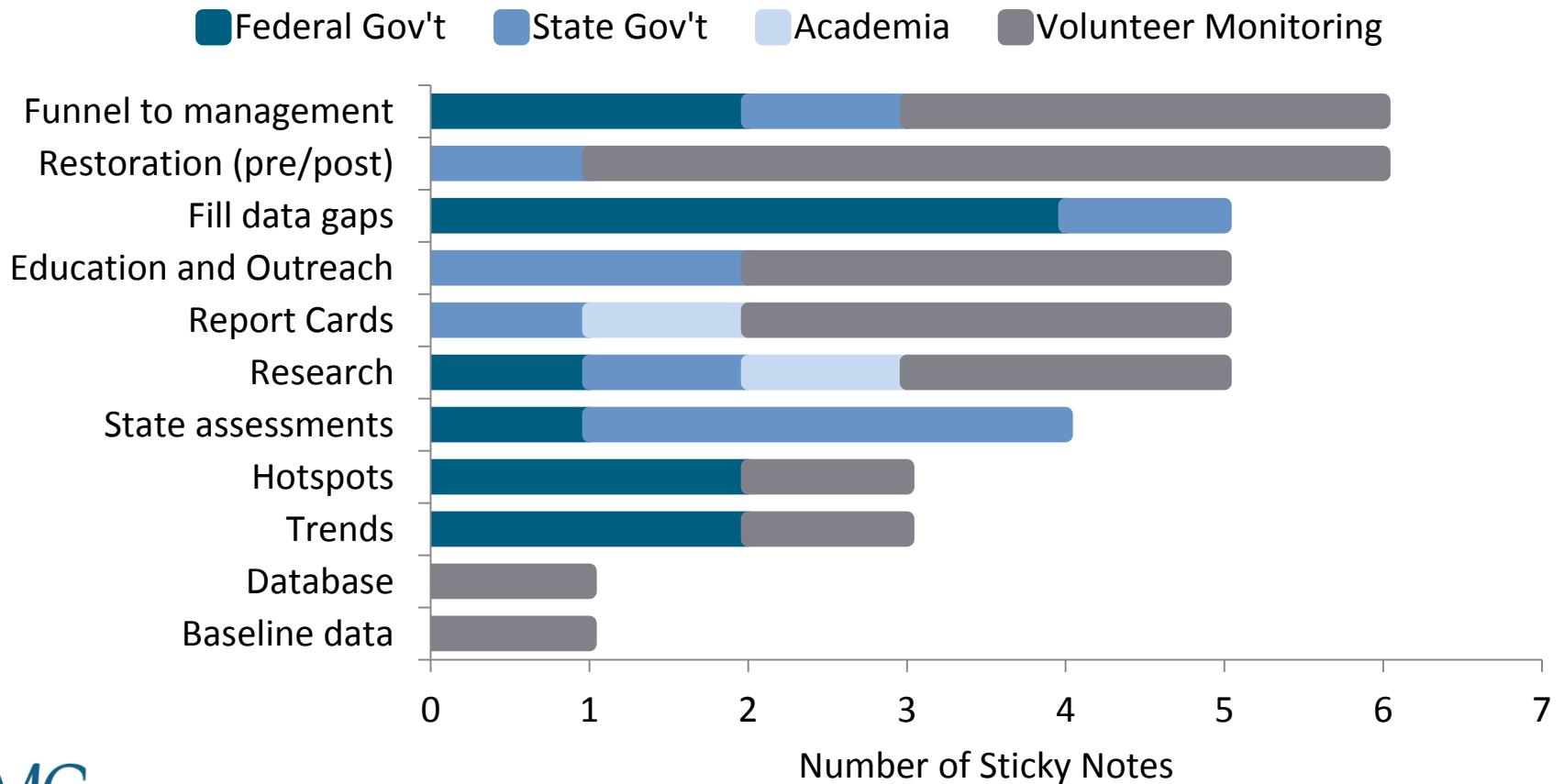
Rapid Fire Brainstorming: Agencies are using nontraditional data in state reporting, stream health monitoring, and baseline assessments

How is your organization currently using volunteer and/or nontraditional data?



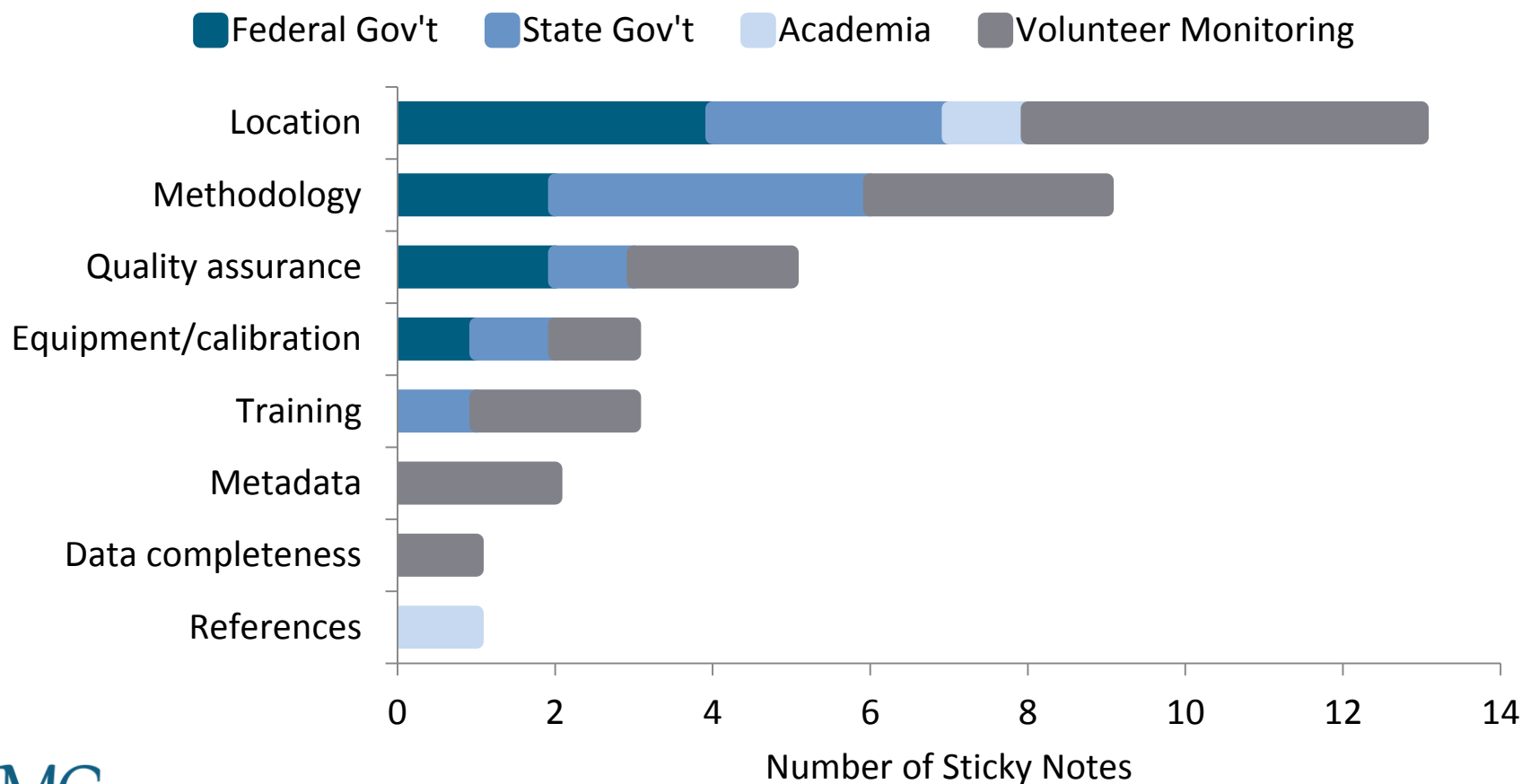
Rapid Fire Brainstorming: Agencies preferred use of nontraditional data are to fill data gaps, in state assessments, and identify hotspots

What are new ways for your organization to use volunteer data?



Rapid Fire Brainstorming: GIS coordinates and written procedures are necessary for agencies to use nontraditional data

What do you need to know about data before you can use it?



James Beckley (VA DEQ)

VIRGINIA DEQ'S EXPERIENCE WITH VOLUNTEER MONITORING AND SOME INGREDIENTS FOR SUCCESS

Ingredients for success in VA: **codified law and mileage goal**

“In 2002, the Virginia General Assembly approved [§ 62.1-44.19:11](#).

DEQ always relies on **data collected by agency staff using EPA approved protocols when performing enforcement actions**. Non-agency data may be combined with DEQ collected data to develop TMDL implementation plans.”

Participants asked how the law became codified in VA?

“Citizens and DEQ worked together to support the law being put into place.”

“In 2007, a law passed that **3,000 stream miles** are monitored by volunteer citizens by 2010.

This helped the agency build a **tracking tool** to determine the geographic contributions volunteers provide to VA DEQ.”

OUTCOME

Participants were interested in exploring whether codified law regarding volunteer monitoring contributions could be effective in other states.

Ingredients for success in VA: **monitoring grants**

Citizen monitoring grant funding

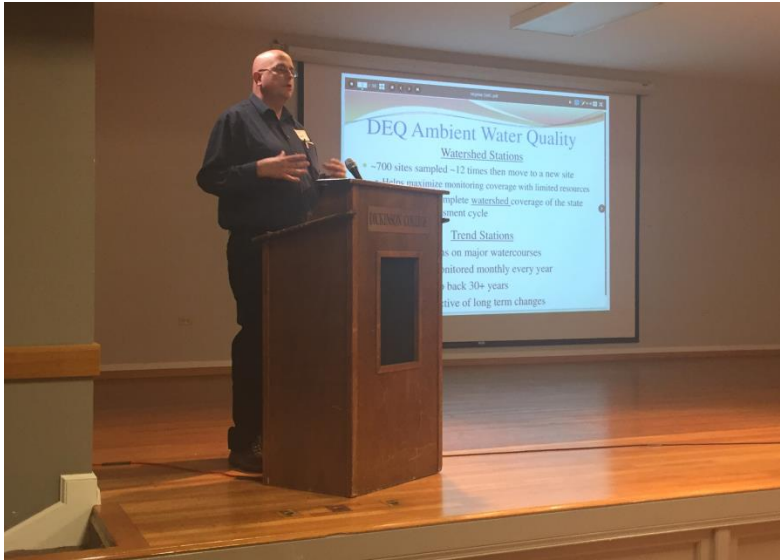
“Offered yearly when funding is available. Not only does the grant provide funds for groups to purchase more sensitive (and expensive) **equipment** to provide more accurate data, the grant **requires groups to file a QAPP and SOP for their project.**”

When VA DEQ began to track the statistics (geographic coverage and in-kind hours) of what volunteer monitors contributed to the monitoring network, the grant funding was no longer cut.”

Participants asked how the volunteer monitoring sites are selected for participants in the VA DEQ grant funding?

“Majority of groups monitor sites they are interested in, however, this is transitioning to groups asking VA DEQ where they should put sites if they are adding more.”

Ingredients for success in VA: **flexibility**



“Volunteer monitors want their data to be used, but they don’t want to be consumed by the state.”

Beckley responded: “The most important thing is to be flexible as the state agency.”

To bridge the gap in data quality, VA DEQ evaluates different methods to assign level status (three levels):

- Level 1: No quality assurance or no WQ Standards
- Level 2: Some quality assurance and methods similar to DEQ
- Level 3: Follows same methods as DEQ
- Education, pollution red flags, baseline data
- Prioritize areas for DEQ sampling, track improvement
- Assess waters and list or delist waters from ‘dirty waters’ list

A group of four people are gathered around a table, working on a large map. The map is a light-colored surface with various colored dots and lines. One person is pointing at a specific area on the map. There are several sheets of paper and a small cup on the table. The background shows a room with a window and some furniture.

Group 1: PA and NY

Group 2: MD, DE and DC

Group 3: VA and WV

MAPPING ACTIVITY: IDENTIFICATION AND PRIORITIZATION OF DATA NEEDS

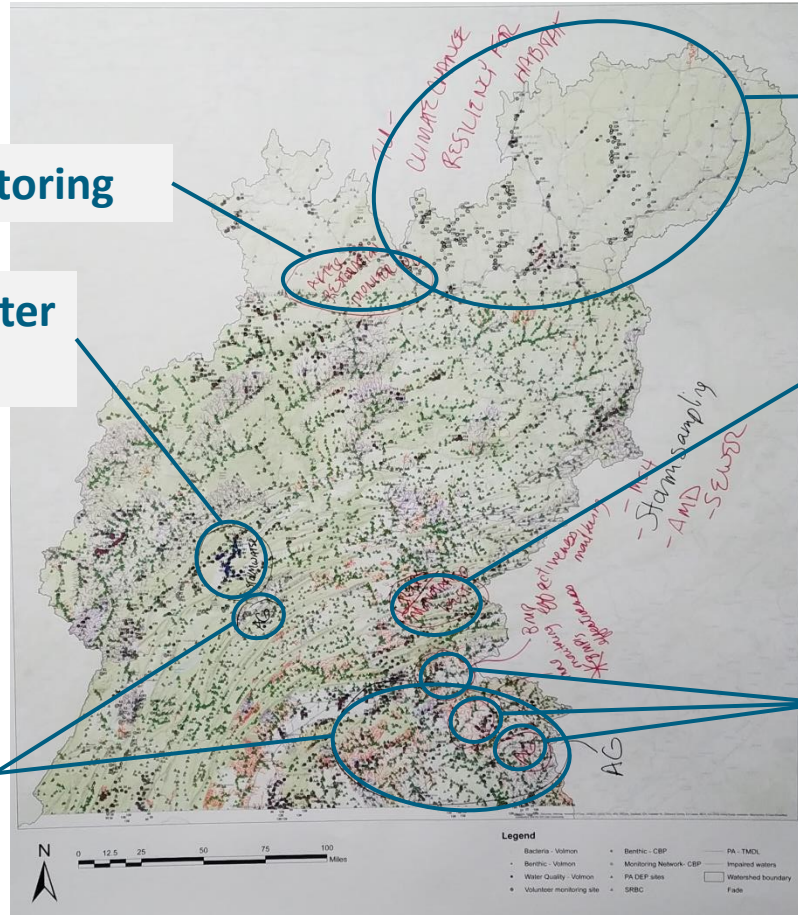
PA and NY

Post-restoration monitoring

Interested in stormwater monitoring

Need more data (heavy agricultural areas)

PA DEP and SRBC don't have the resources to monitor with enough frequency to detect changes due to BMP implementation.



Climate change resiliency for habitat

Priority data need from Trout Unlimited

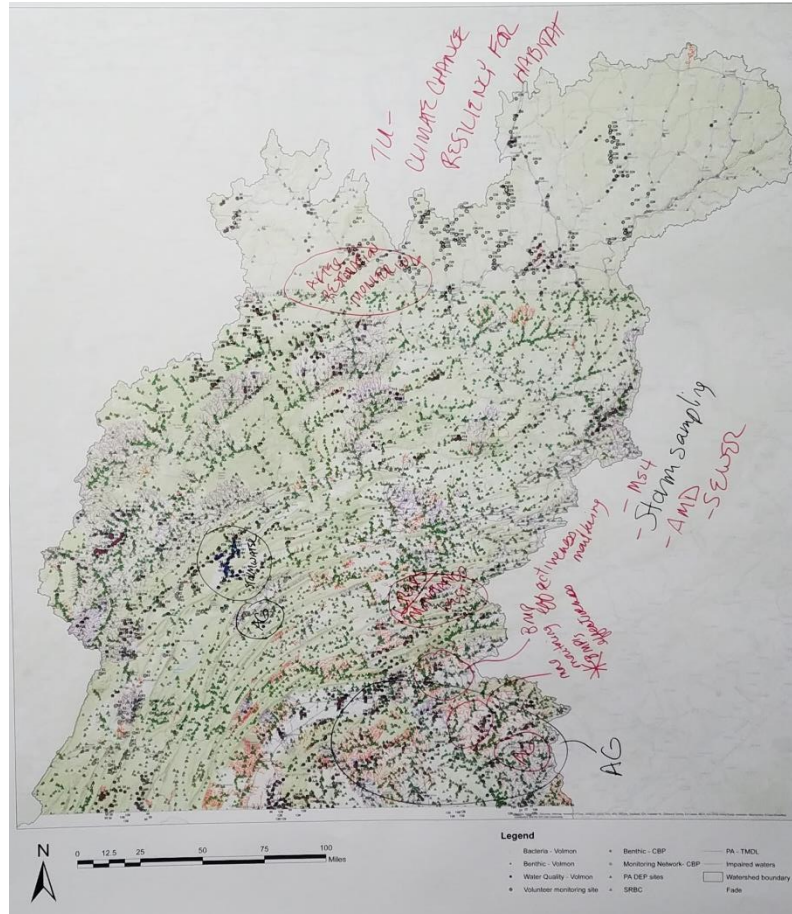
Long Range Environmental Planning Simulator (LREPS)

Potential partnership

Need more data for BMP effectiveness assessments

Majority of which are agricultural BMPs

PA and NY



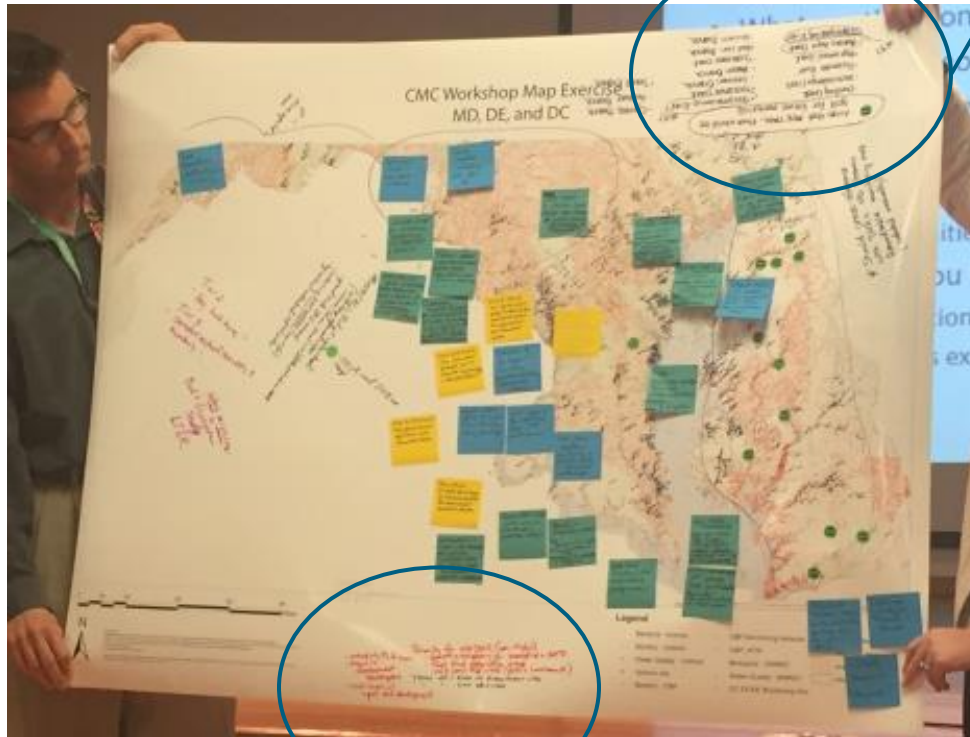
Need more data

- Small watersheds in the upper Susquehanna (higher frequency data)
- Urban areas for MS4 impacts (lower watershed)
- Coal mining legacy areas to monitor the effectiveness of remediation actions
- Assist in identifying areas primed for BMP implementation
- Storm sampling
- NY/PA border

Partnership Opportunity

SRBC has Acid Mine Drainage program for pinpointing rehab areas

MD, DC and DE



Areas that MDE TMDL think would be good for future monitoring:

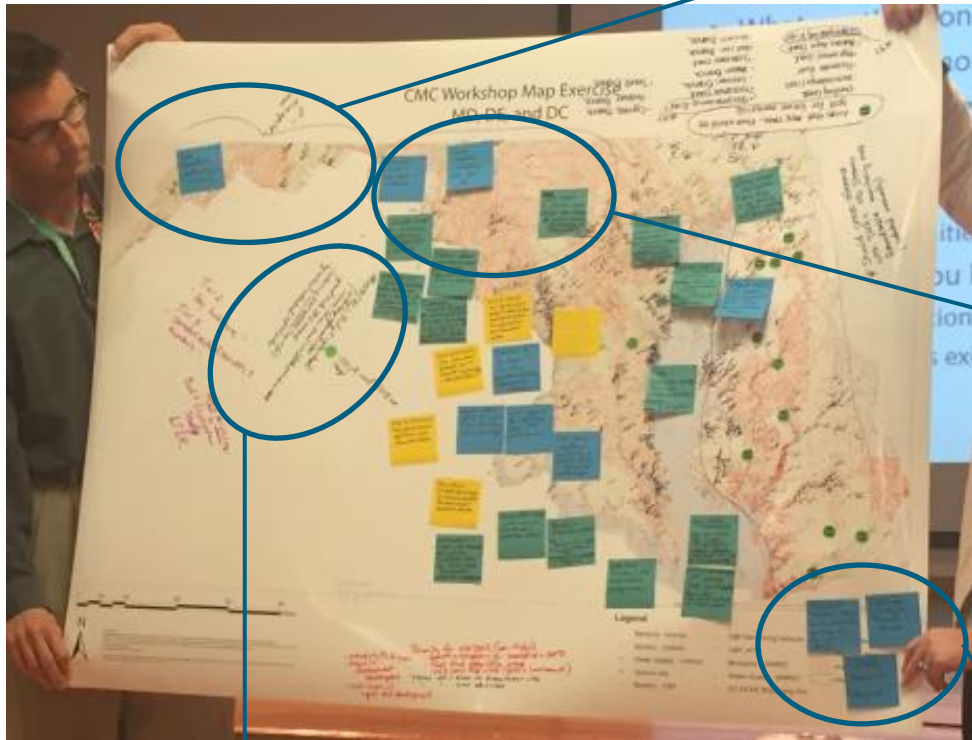
- Dividing Creek
- Nassawango Creek
- Pocomoke River
- Marumsco Creek
- Marshy Hope Creek
- Transquaking River
- Chicamacomico River
- Tuckahoe Creek
- German Branch
- Mason Branch
- Southeast Creek
- Red Lion Branch
- Unicorn Branch
- Cypress Branch
- Andover Branch
- Sewell Branch

Nanticoke
Watershed
Alliance

Priorities for MDNR (nontidal):

- Conductivity for roads
- Streams in development envelopes
- Assist schools with report card development
- Garrett and Allegheny County (Marcellus & AMD)
- Trust fund restoration areas
- MS4 permitted areas (public involvement)

MD, DC and DE



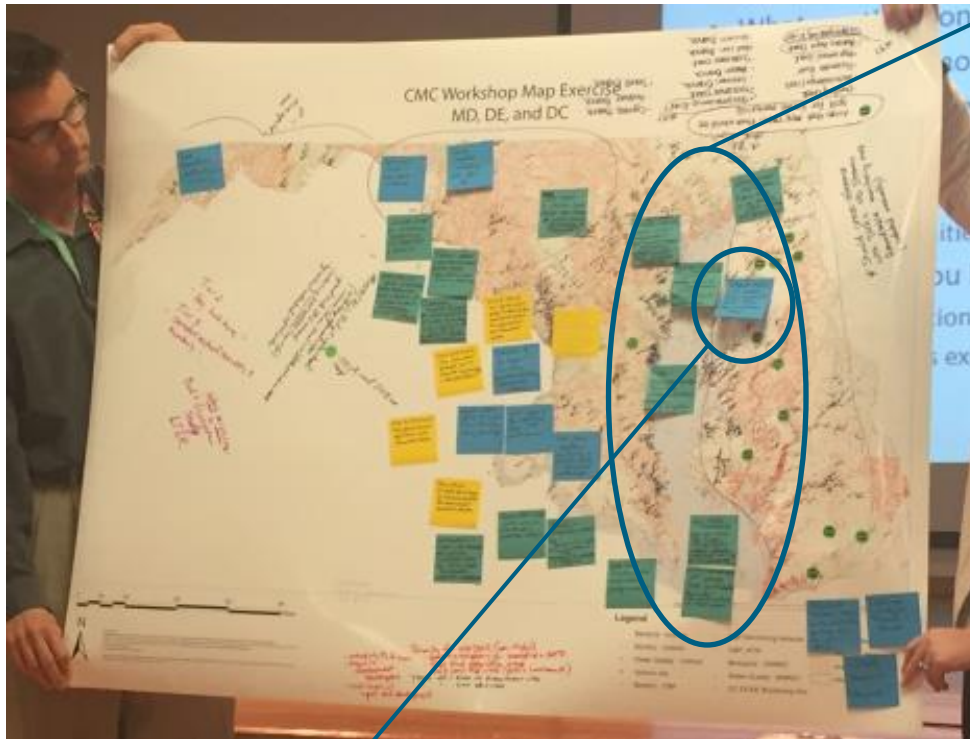
- pH in mine impacted areas
- More Marcellus and AMD mitigation monitoring

- Continuous temp in cold water streams
- Track crayfish invading MD from PA
- What about lakes and/or pond monitoring water quality assessment program?

- Blackwater has data, used in the Nanticoke (contact: Beth Wasden)
- Dorchester County for planned growth
- UMES students? Pocomoke?

- Parameters: DO, pH, cond., DO %saturation, temp
- MDE (All 8-digit watersheds with temp impaired waters) – Summer, 30 minute interval, use SAME protocols as MDE
- Ground truth SAV coverage
- Conductivity ANYWHERE (non-tidal)
- Agricultural watersheds for pesticides

MD, DC and DE

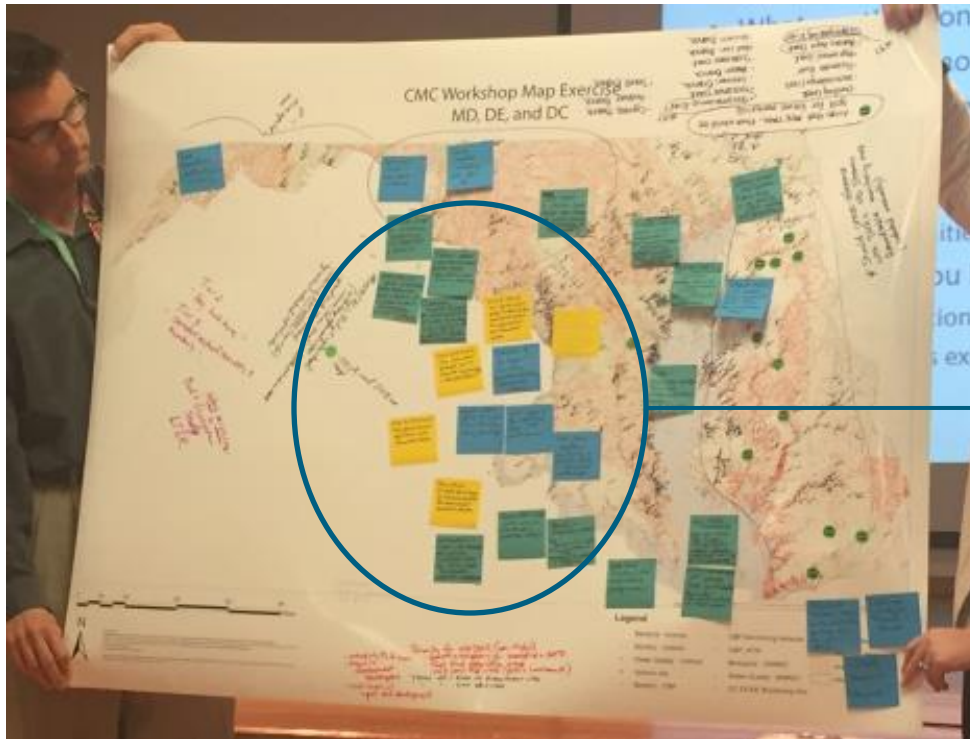


Repeat MDE's 1992 Chester River nutrient and benthic study (about 30 stream sites)

MD Tidal:

- Upper-tidal – tributary SAV distributions (refuge areas)
- Zebra mussel distributions and densities (filter feeding effects consideration with benthos)
- Baltimore: Gwynn's Falls – needs flow assessment. Baltimore ecosystem studies synergies – support Gwynn's Falls synthesis underway.
- Shallow water benthic monitoring (shallow $\leq 2-4$ meters)
- SAV species level point sample Bay-wide for WQ criteria attainment support
- **All tidal tributaries** – add 20 sites per tributary (summer, DO, temp, salinity, 2-4 times/month)

MD, DC and DE

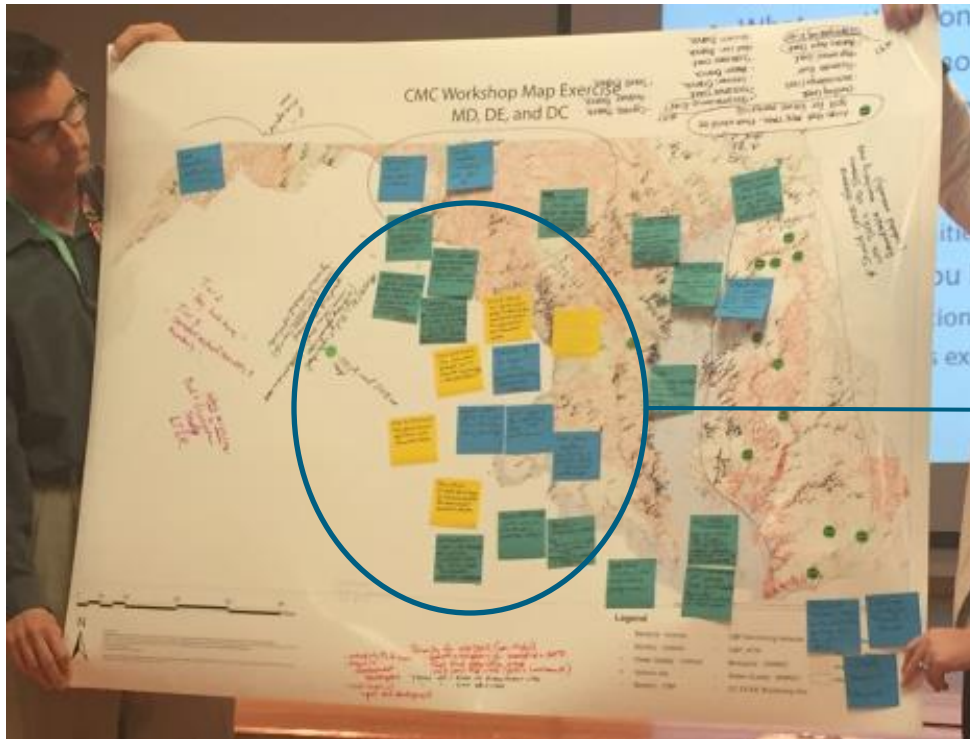


- Long-term benthic monitoring in select sites in stronghold watersheds
- Bellow fall-line water quality evaluations (coastal plain)
- Track dam removals and verify migratory fish use above dam removals – habitat connection
- Water-bird surveys

Recommendations for volunteer monitoring contributions:

- Benthic algae of watershed streams (distribution and density)
- Target areas with significant BMPs for pre/post water quality assessments
- More conductivity data tracking, salt loading as a water quality stressor in nontidal waters
- Consider habitat factors, characterization of each monitoring site (what is around the site?), such info could be used in a “factors affect patterns” analysis
- Repeat 1987 and 2012 MD synoptic stream chemistry survey (acid deposition)
- More support for watershed assessments like Mattawoman

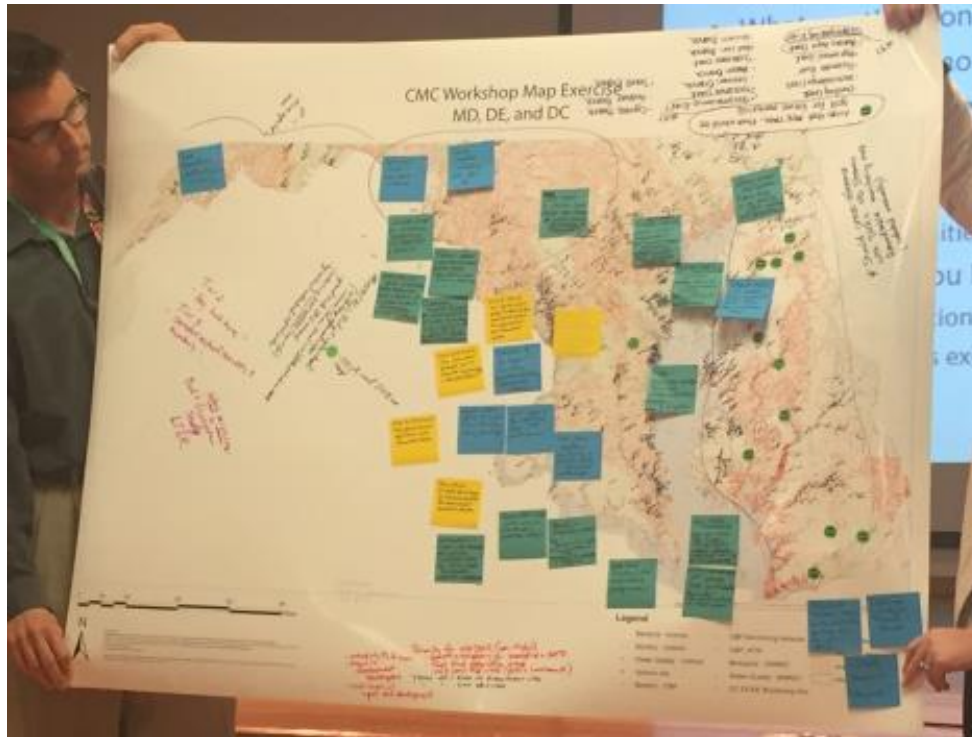
MD, DC and DE



Recommendations and Questions from volunteer monitoring service providers:

- Would like to use government data to supplement volunteer data – service provider
- What protocols can volunteer groups use to monitor hydrology and it's effects?
- Provide money to support a full-time volunteer monitoring coordinator (again)
- With funding the Audubon Naturalist Society would like to monitor in Prince George's County and DC

MD, DC and DE



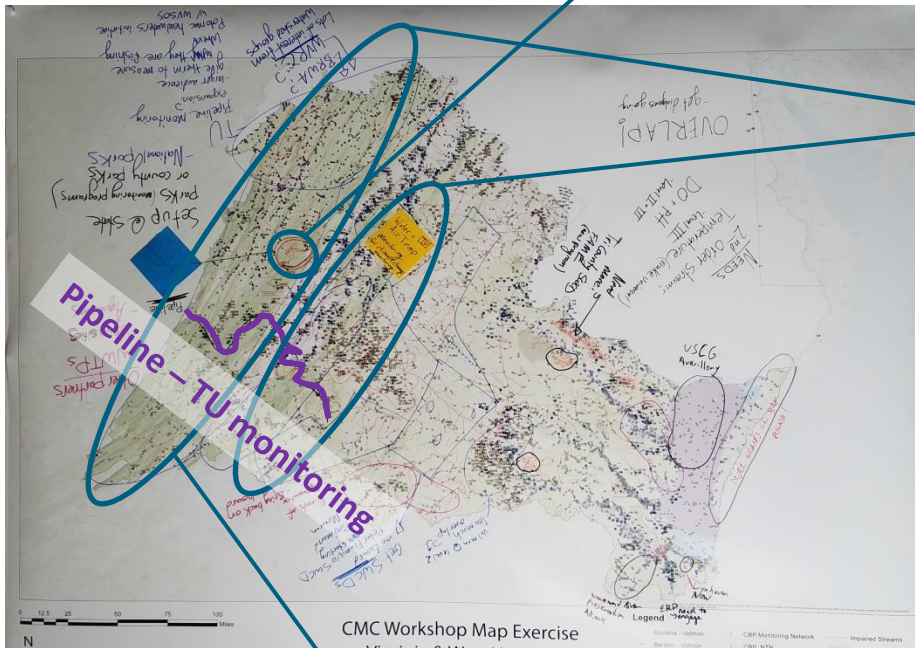
Missing sites or map revisions:

- 8,000 MD Stream Waders sites
 - 4,000 MBSS sites
 - Chester and Nanticoke have same #37
 - Baltimore Ecosystem Study (LTER) sites
 - Should cross-reference with MD DNR Streams
- Roundtable map updated annually

VA and WV

Need more data

possible group to connect with?



Need more **water and air temperature** monitoring for climate change and trout populations

Partnerships to consider:

- Waste Water Treatment Plants (certified labs)
- Universities
- Aquariums (certified labs)

Potential partners in this region:

- Bedford Regional Water Authority
- West Virginia Rivers Coalition and Blue Ridge Watershed Coalition
- Trout Unlimited (pipeline monitoring expansion)
- Recreational and professional fishermen (what parameters could they collect?)
- Potomac headwaters initiative with WV SOS
- National, state or county parks
- There are many interested volunteers in this region (Trout Unlimited survey)

100



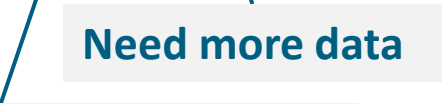
Can we reignite this volunteer monitoring group?

- 2nd order streams
- Level 3 Temperature (everywhere)
- Level 2 and 3 DO and pH
- chlorophyll *a* (requires a lab)

Potentially partner: Tri-county Soil and Water Conservation District
Fredericksburg Area Monitoring for the Environment (FAME), they have a Coliscan QAPP with DEQ

- In the Piedmont region
- In the Monacan region
- This would be a great opportunity to get the Soil and Water Conservation Districts on board. For example: the Peter Francisco SWCD in Buckingham and Cumberland Counties

100



Is there too much overlap here?
No, the volunteer monitoring data in this region is Tier II, Tier III would be helpful.

- Lower Rappahannock and York Rivers
- Potential partnership with the Waterman's Museum (water trends)

Potential partner: the U.S. Coast Guard Auxiliary

On the Bay side of VA Eastern Shore

- Lynhaven River NOW
- Emergency Response Planning (ERP)
- Nansemond River Preservation Alliance

Next Steps **1 of 2**

Prioritization Report (Release: December 31, 2016)

This CMC written report will include a more in-depth synthesis of the discussions had at the Prioritization Workshop. Workshop attendees will be asked to review and comment on draft report before final release.

CMC Organized Topical Calls or Meetings (on-going)

- How volunteer monitors can effectively measure flow
- Further exploration on VA's codified law on volunteer monitoring for other states
- With environmental state agencies that were unable to attend the Prioritization Workshop

Next Steps **2 of 2**

Identify and Share Success Stories

As the Chesapeake monitoring community, let's identify 15 success stories to share via 2-3 minute videos, to bring more awareness to the great work of volunteers and the benefits of collaboration between volunteer groups and government agencies.

Thank you for attending!



CMC Contact Information



Nissa Dean, Project Advisor, ndeane@allianceforthebay.org

Lea Rubin, Project Coordinator, lrubin@iwla.org

Caroline Donovan, Project Partner, cdonovan@ca.umces.edu

Julie Vastine, Project Partner, allarm@dickinson.edu

Danielle Donkersloot, Project Partner, ddonkersloot@iwla.org

Sign up for our Newsletter @
ChesapeakeMonitoringCoop.org