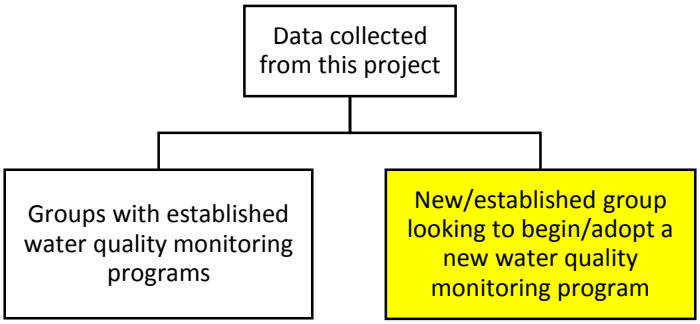
Integrated Monitoring Network Meeting
April 20, 2016, 1 – 3 PM
Integrating Citizen and Non-Traditional Monitoring into the Chesapeake Bay Program Network:
Non-Tidal Water Quality Monitoring Program/QAPP

Non-Tidal Water Quality Monitoring Program

Program Objective:
The objective of the Non-Tidal Water Quality Monitoring Program is to gather water quality data collected from non-tidal streams in the Chesapeake Bay watershed by citizen and other non-traditional monitoring groups. The program is designed to recruit and train monitoring groups looking to begin a water quality monitoring program. Monitoring groups following different procedures than those outlined in the program's QAPP and methods manual may also contribute data into the citizen & non-traditional database after completing a review process and being accepted into the project.



Data Use:
For many of the parameters, there will be the option to collect tier 1 and tier 2 data, as outlined in the QAPP and methods manual. For both tiers, there are minimum requirements which must be met in order for the data to be incorporated into the citizen & non-traditional database. An example of some of the general requirements are found in the table below. Additional requirements include equipment used (accuracy and precision), documentation of successful QC results (calibration, field audit certification, duplicate lab analysis, etc.), etc.

Tier	Intended Data Use	Summary of Data Requirements
Tier 1	Education, environmental health screening	Clearly documented monitoring methodology, site locations and written study design.
Tier 2	Environmental health screening, environmental health report cards, targeting of management actions	Program has an approved volunteer monitoring QAPP and uses approved field or laboratory standard operating procedures with defined levels of precision and accuracy.
Tier 3	Regulatory assessment of water quality standards attainment	EPA or CBP approved QAPP and field/lab standard operating procedures.

Parameters & Sampling Timeframe:
Currently, the program lists a total of eleven parameters that groups can select to monitor. These parameters were chosen based on the feasibility of monitoring by citizen and non-traditional groups. Additional parameters may be added once the results from the project's survey are compiled. Groups will choose which parameters they measure based on their local watershed concerns and the resources available within their group.

Parameter	Sampling Frequency	Sampling Period
Primary parameters		
Dissolved oxygen	Monthly	Year round
Nitrate-nitrogen	Monthly	Year round
Orthophosphate	Monthly	Year round
Turbidity	Monthly	Year round
Water clarity	Monthly	Year round
Water temperature	Monthly	Year round
Secondary parameters		
Alkalinity	Monthly	Year round
Bacteria	Monthly	March – November
Conductivity	Monthly	Year round

pH	Monthly	Year round
Total dissolved solids	Monthly	Year round

Parameters:

- *Should any other parameters be added to this list?*
- *Are there parameters that should be listed under a different category (primary vs. secondary)?*

Sampling Frequency:

- *Are there specific times of the year where high frequency is critical?*

Sampling Timeframe:

- *Should a site be monitored for a specific length of time or minimum number of observations?*

Site Locations:

Monitors will work with Project Partners to select monitoring sites. Sites will be chosen by first accessing information about the local watershed (historic WQ data, land use, stream impairments, etc.) in order to see if there are data gaps that could be filled. Site characteristics (accessibility, placement in the watershed, etc.) will also be reviewed in order to choose an appropriate monitoring location.

- *Are there priority sub-watersheds or sites throughout the Bay region where monitoring needs to be prioritized?*
  - Specific states, (sub)watersheds, or streams
  - Watersheds dominated by a specific characteristic, such as land use, geology, or a special feature (designated use, impairment, extraction activity, etc.)
  - Watersheds with restoration projects, BMPs, or TMDLs in place or planned
  - Watersheds without any data
  - Specific stream order/drainage area
  - Sites with historical data
- Is there an ideal minimum number of sites needed in a watershed to help with data comparability and analysis?

This information can help inform the Project Partners of the areas to target for recruiting monitors and establishing monitoring sites.

Quality Assurance/Quality Control:

1. Training – program overview, watershed functions, safety, study design development, site location selection, sample collection & analysis, QA/QC procedures, data entry and management
2. Internal – SOP's, calibration standards, replicates, duplicates, equipment cleaning & maintenance
3. External – lab analysis of duplicate samples, field audits, knowns

Data Management:

Monitors will record their results onto data sheets and enter into the citizen & non-traditional database.

- *What information/metadata should accompany the water quality results in the database?*