



## Analytical Methods & Quality Assurance Workgroup (AMQAW)

**Tuesday, January 29, 2013**  
**U.S. Fish & Wildlife Service Conference Room**  
**177 Admiral Cochrane Dr, Annapolis, MD 21401**  
**10:00 am - 3:00 pm**

### Participants

Bruce Michael-MD DNR ( <i>Chair</i> )	Mary Ellen Ley-USGS ( <i>Coordinator</i> )	Lea Rubin-CRC/CBP ( <i>Staff</i> )
Shahla Ameli-DHMH	Jay Armstrong-DCLS	Sally Bowen-MD DNR
Douglas Chambers-USGS	Suzanne Doughten-ODU	Adil Godrej-OWML
Kristen Heyer-MD DNR	Janine Howard-VA DEQ	Cindy Johnson-VA DEQ
Nancy Kaumeyer-CBL	Mike Mallonee-ICPRB	Betty Neikirk-VIMS
Ben Pressly-DNREC	Dongmei Wang-OWML	Carl Zimmermann-CBL
Doug Moyer-USGS	Laura Fabian-MD DNR	Jewel Freeman-Scott-DHMH
Laura Zeller Johnson-DHMH	Mike Lane-ODU	Chris Morton-DCLS

### Next AMQAW Meeting

**Wednesday, April 24<sup>th</sup> 10am-3pm**

Joe Macknis Memorial Conference Room

Chesapeake Bay Program Office

410 Severn Ave., Annapolis, MD 21403

Conference Line: (866) 299-3188 Code: (410) 267-5731

Adobe Connect: <https://epa.connectsolutions.com/amqaw>

Meeting Materials can be found at the following link:

<http://www.chesapeakebay.net/calendar/event/19285/>

---

### Action Items:

- Follow up on contact for program participation at WV water science center (MEL, DM)
- Follow up with Kevin McGonigal to maintain participation from SRBC (BM)
- USGS sampling groups using the NWQL should adopt the recommendations of the Office of Water Quality Technical Memorandum 2013.01 (TM 2013.01)
- Discuss TM 2013.01 changes with the Nontidal workgroup (MEL, BM)
- Develop a cost estimate and study design to compare higher TSS samples and storm samples with TM 2013.01 changes for H. Mirsajadi. (BP, BM)
- Ask Elgin to present at next AMQAW meeting or NTWG meeting about his results from the VA data. (MEL, Bruce)

- With questions regarding sample blanks and sampling procedures for QC contact Doug Moyer.
  - Submit either TSS or SSC blank samples to MM (Data Providers)
  - Compare TSS samples vs. SSC samples to show that they are comparable and therefore only have need for one or the other. (KH)
  - Find date of method switch for filter size and inform data providers (MEL)
  - Contact Suzanna Doughten or Mike Lane with comments or questions about SIF report.
  - For split-sample data, ODU to report both Skalar and Lachat sample results during instrument transition. (MM)
  - Address the issue of data being flagged based on an MDL that is unrepresentative of the data because of sample volumes differing from blank volumes, if this affects DUET. (MEL, Mike M.)
  - Contact MEL with any questions or concerns about the Draft Revisions to the CBP Recommended Guidelines for Sampling & Analysis.
  - Chris Morton committed to completing Carl Zimmerman's TSS section of the guidelines.
  - All laboratory revisions of guidelines is to be completed by next AMQAW quarterly meeting (April 24<sup>th</sup>, 2013) (Committed authors)
  - Email workgroup the [EPA memo](#) listing approved methods based on the 22<sup>nd</sup> Edition of *Standard Methods for the Examination of Water and Wastewater*. (MEL)
  - MD-USGS should report actual raw results found not the detection limits for split-sample tributary data.
  - All data providers should have all data to MM before meetings.
- 

## Meeting Minutes:

### Announcements (Bruce Michael)

- Release of [2012 Bay Barometer](#)
- Retirement of Carl Zimmerman

### AMQAW 2013 Work Plan, (Bruce Michael)

Click to view the [2013 AMQAW Workplan](#)

1. Complete the CBP Guidelines for Sampling and Analysis; publish on CBP website.

- a. Lab methods revisions led by Mary Ellen Ley
- b. NTN Sampling Guidance

- Funding by the CBP has allowed for additional NT monitoring stations throughout all the states, that data is used by the CBP's modeling group to show progress for the TMDL

- Documenting trends in nitrogen, phosphorus, and sediment concentrations in the Chesapeake Bay watershed as well as loads of these constituents entering the bay will help assess progress in water-quality improvements associated with the TMDL. Because the bay TMDL is focused on changes in loads of nitrogen, phosphorus, and sediment to Chesapeake Bay, the USGS has developed an enhanced statistical technique to describe long-term changes in nutrient and sediment loads.

*To learn more about the new “Weighted Regression on Time, Discharge, and Season” (WRTDS) statistical method and findings, view the following publications:*

[Science Summary—Determining Nutrient and Sediment Loads and Trends in the Chesapeake Bay Watershed by Using an Enhanced Statistical Technique \(USGS\)](#)

[Technique reveals total loads, trends of nutrients entering Bay \(Bay Journal\)](#)

2. Implement the DUET QC data review and reporting requirements.

- [DUET Users Guide](#) is now available

3. Work with NTWG on:

- a. Laboratory method changes for TN and NO<sub>3</sub>.
- b. Documenting and implementing changes to NTN Sampling Procedures from 2012 recommendations.

4. Conduct quarterly reviews of 8-10 laboratories’ results on interlaboratory performance testing (CBP Coordinated Split Samples, Blind Audit samples and/or USGS Reference Samples).

- a. Compare additional split-sample parameters to better represent Delaware and Pennsylvania NTN sampling scheme.
- WV water science center participates in the USGS Reference samples program but not all possible parameters.
  - **ACTION:** Follow up on contact for program participation at WV water science center (MEL, DM)

5. Expand NTN participation in AMQAW - representatives from USGS Water Science Centers, SRBC, and the Delaware and Pennsylvania state laboratories have been invited to participate.

- **ACTION:** Follow up with Kevin McGonigal to maintain participation from SRBC (BM)

- The Chesapeake Bay Program released the [2011-2012 Bay Barometer](#)

### **Nontidal Monitoring Network QA Issues, (Mary Ellen Ley)**

USGS Guidance on Methods for Determining the Concentration of Total Nitrogen in Whole Water Samples

- **Recommend:** USGS sampling groups should discontinue using the alkaline persulfate digestion method for Total Nitrogen (TN) (Only for TDN)
- **Recommend:** for Total Nitrogen, analyze TDN + PN
- **Recommend:** Do not use TN calculated as the sum of TKN + NO<sub>2</sub>3
- **ACTION:** USGS sampling groups using the NWQL should adopt the recommendations of the Office of Water Quality Technical Memorandum 2013.01 (TM 2013.01)

### **Office of Water Quality Technical Memorandum 2013.01**

### **Discussion and Questions**

- VA DEQ has adapted changes from TM 2013.01 has added paired Nitrogen digestion as well as PN and DN analysis-E. Perry has analyzed the data set and found it is not as consistent (dependent on flow conditions)
- **ACTION:** Discuss TM 2013.01 changes with the Nontidal workgroup (MEL, BM)
- **ACTION:** Develop a cost estimate and study design to compare higher TSS samples and storm samples with TM 2013.01 changes for H. Mirsajadi. (BP, BM)
- Allow Data study to identify the magnitude of the problem and the urgency of the TM 2013.01 corrections. Data study would expand upon E. Perry's analysis.
- With increasing TSS loads, laboratories may be seeing compounds that are more easily oxidized than the Nitrogen compounds and may cause the sum of the parts to be larger than the Total Nitrogen measurement.
- DCLS Noticed challenges with the alkaline persulfate digestion method on Total Nitrogen.
- **ACTION:** Ask Elgin to present at next AMQAW meeting or NTWG meeting about his results from the VA data. (MEL, Bruce)

### **Revised CBP Guidance for Field Blanks & Duplicates**

- The new procedures for sample blanks and duplicates were discussed at the last [DUET-NTWG conference call](#); the new [Interim 2013 Guidance](#) is available on the CBP website.

- **ACTION:** With questions regarding sample blanks and sampling procedures for QC contact Doug Moyer.
- Caps on the number of duplicate samples required are included in the draft of the [Interim 2013 Guidance](#), which can be found on the [AMQAW](#) or [NTWG](#) webpage's.
- DUET includes a QC unit to view the nutrient sample plots and associated blanks.
- In the [Interim 2013 Guidance](#) view Appendix A. Procedure to Randomly Select Station for Field QC Samples for an example procedure for randomly selecting stations, temporal distribution, and event types for field blanks and duplicates.

#### 2012 NTN Data Submittals

- **ACTION:** Submit either TSS or SSC blank samples to MM (Data Providers)
- **ACTION:** Compare TSS samples vs. SSC samples to show that they are comparable and therefore only have need for one or the other. (KH)
- **ACTION:** Find date of method switch for filter size and inform data providers (MEL)
- MEL is creating method tables for QA/QC to assist newer labs with determining what values to report to be used in QA plans.

#### **ODU Comparison Study for Silicates with Lachat auto-analyzer, (Suzanne Doughten and Mike Lane)**

A comparison study of two instruments, the Skalar® continuous flow analyzer formally used by ODU and the newly purchased Lachat Instruments® flow injection analyzer system, was performed for the determination of comparability of the data generated for the analysis of silicate on the different systems and to develop a conversion factor if needed. The study methods can be found in the [Draft Report](#). The study's results show good agreement between methods although at higher SIF concentrations the Lachat® values appear, in general, to decrease relative to the Skalar® values (Figure 4 in Report). The ODU WQL recommends no correction value.

#### **Discussion and Questions**

- **ACTION:** Contact Suzanna Doughten or Mike Lane with comments or questions about SIF report.
- Recommendation for QC check is to run a sample through the Lachat that is diluted manually for comparison with auto-diluter.

- The user manual suggests using a “1/x-weighting” option when using Lachat to assist with the lower concentrations, orthophosphorus is the only parameter not recommended for this additional calculation.
- **ACTION:** For split-sample data ODU will report both Skalar and Lachat sample results during instrument transition. (MM)

#### **Detection limits of particulate Nitrogen, Particulate Carbon, and Particulate Phosphorus, (Cindy Johnson)**

An issue was addressed with reporting MDL due to current reporting in mg/L versus reporting in µg of substance, the MDL is dependent on the volume filter. How will this affect QC checks?

#### **Discussion and Questions**

- DUET will be including Tidal water monitoring by the end of the water year along with the nontidal water monitoring
- **ACTION:** Address the issue of data being flagged based on an MDL that is unrepresentative of the data because of sample volumes differing from blank volumes, if this affects DUET. (MEL, Mike M.)

#### **Updates to Recommended Guidelines, (Mary Ellen Ley)**

- [Draft Revisions to CBP Recommended Guidelines for Sampling & Analysis](#) is available by chapter on the Chesapeake Bay Program Website under AMQAW Projects & Resources.
- **ACTION:** Contact MEL with any questions or concerns about the Draft Revisions to the CBP Recommended Guidelines for Sampling & Analysis.
- **ACTION:** Chris Morton committed to completing Carl Zimmerman’s TSS section of the guidelines.
- **ACTION:** All laboratory revisions of guidelines are to be completed by next AMQAW quarterly meeting (April 24<sup>th</sup>, 2013) (Committed authors)
- **ACTION:** Email workgroup the [EPA memo](#) listing approved methods based on the 22<sup>nd</sup> Edition of *Standard Methods for the Examination of Water and Wastewater*. (MEL)

#### **EPA QA Activities, (Mary Ellen Ley)**

Proposed Laboratory Competency Requirements for Grants

#### [Final Draft of EPA Competency Policy](#)

Discussed revised QAPP and QMP Requirements (12/26/12 Fed. Register: NOA/Request for Comments) Comment Period extended to Feb. 11, 2013

#### [EPA Quality Assurance Project Plans \(QAPP\)](#)

## [EPA Quality Management Plan \(QMP\)](#)

### **Interlaboratory Performance Studies, (Mike Mallonee, Lea Rubin, and Carl Zimmerman)**

#### **Coordinated Split Sample Results presented by Mike Mallonee**

##### [Presentation of Mainstem Split Sample Results](#)

##### [Presentation of Tributary Split Sample Results](#)

#### **Discussion and Questions**

- **ACTION:** MD-USGS should report actual raw results found not the detection limits for split-sample tributary data
- Now that multiple labs are reporting TP in tributary samples a comparison plot can be presented
- **ACTION:** All data providers should have all data to MM before meetings

#### **USGS Reference Sample Results presented by Lea Rubin**

##### [Presentation of USGS Reference Sample Results](#)

#### **Discussion and Questions**

- **SUGGESTION:** To check for errors; analyze the total of all nutrients part vs. analyzed parts to ensure the results add up properly.

#### **Blind Audit Update by Carl Zimmerman**

- Winter blind audit will be going out this winter, 2013
- The 2012 Summer Blind audit will be finished in June, 2013

#### **Susquehanna River Sediments behind Conowingo Dam, (Bruce Michael)**

The presentation discussed the Susquehanna River sediment build up behind the Conowingo dam, a hydroelectric facility, and the impacts from high flow events (USGS Report). The dams upstream have reached equilibrium and are no longer trapping sediment; the Conowingo Dam is currently at approximately 86% capacity. B. Michael mentioned the upcoming Conowingo Dam relicensing partners and schedule as well as funding possibilities. The Lower Susquehanna River Watershed Assessment (LSRWA) study partners and work completed to date were presented. To view the presentation [click here](#).

#### **Discussion and Questions**

- Examine the possibility for increasing storage capacity upstream of the Conowingo Dam in the Susquehanna and Potomac River basins to compare costs with dredging behind Conowingo Dam.

- Looking into beneficial reuse of the dredging material such as; reinforcing the Dam foundation, coarse grain material to be transported downstream for fish habitat.
- Possibility of releasing the sediment at specific seasons to minimize impact on the Bay.
- Contact B. Michael with interest in participating in the LSRWA open meetings.