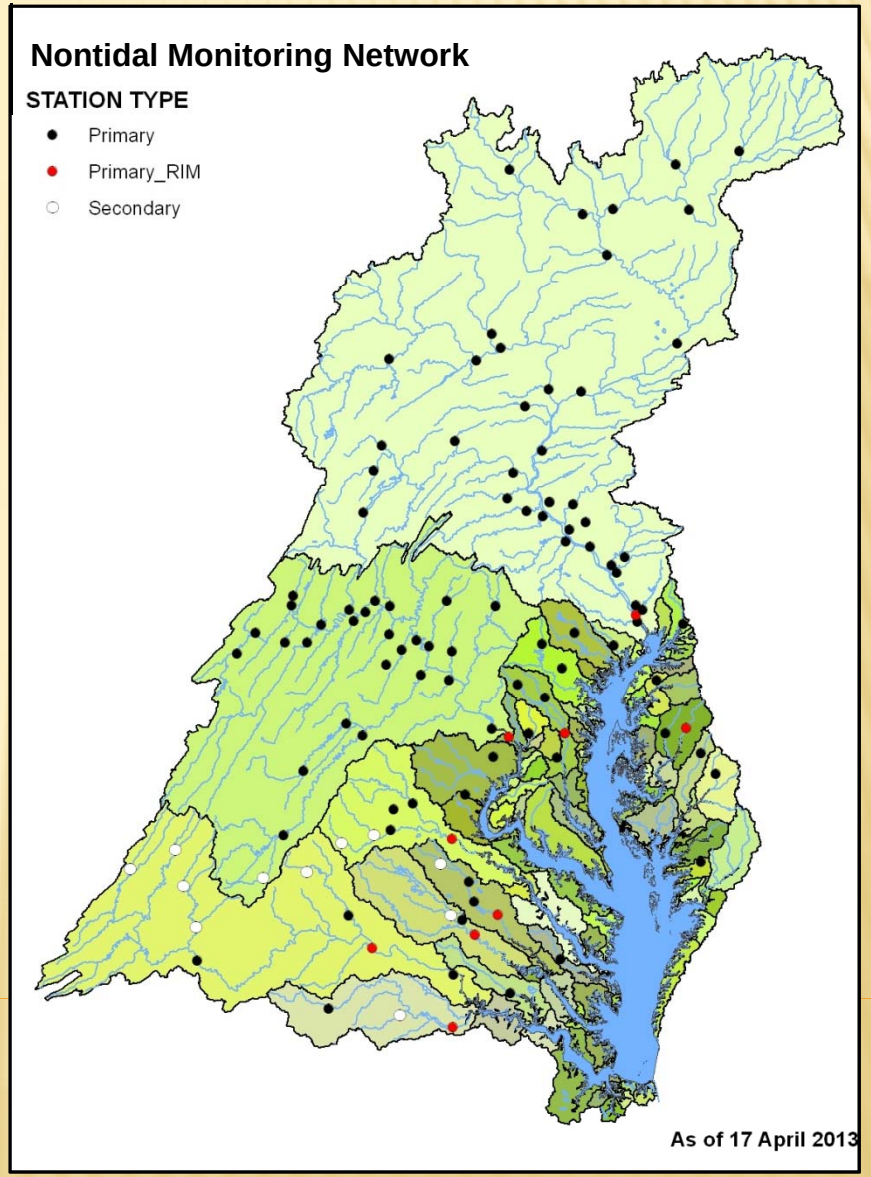
DUET

STATUS OF WY2012 DATA SUBMISSION AND DISCUSSION OF CURRENT/FUTURE ISSUES



Nontidal Water Quality Workgroup
17 April 2013

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NTN: DATA ENTERPRISE SYSTEM

The NTN data enterprise system enables NTN Project staff to accomplish the following routine activities *in a predictable, timely manner*:

1. Obtain Water Year (WY) monitoring data;
2. Construct fully reviewed, qualified and standardized water quality databases;
3. Provide access to each WY database to all CBP partners for use as appropriate; and
4. Describe the NTN monitoring conducted for each WY, and in so doing, answer fundamental questions often asked of any long-term monitoring program:

- *What is monitored?*
- *What is the purpose of the monitoring?*
- *Where is monitoring conducted?*
- *When is monitoring conducted?*
- *How is monitoring conducted?*
- *Who is conducting monitoring?*
- *What is the quality of the monitoring data?*
- *Do the monitoring data meet data requirements?*

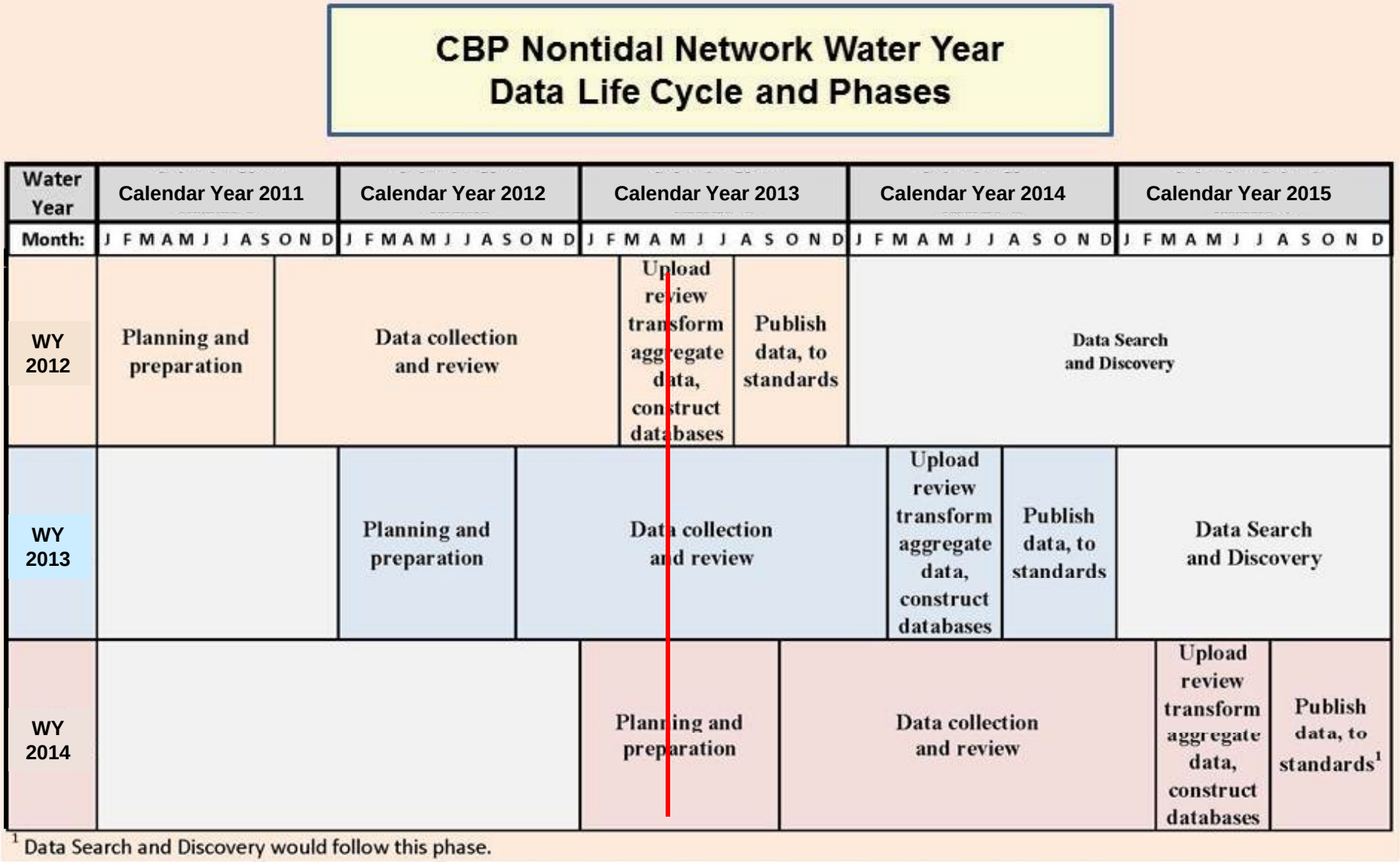
DUET: UPLOAD & QA CHECK ISSUES

- Login Usernames and Passwords
  - Passwords expire after 90 days
  - Users will have to contact the helpdesk to change their password to a 12 character strong password
- Upload Issues
  - Processing Errors
    - Table structure (fields missing or re-named)
    - Field data type mismatches
  - Fatal Errors
    - Undefined or null stations
    - Undefined or null codes (method, parameter)
  - Nonfatal Errors
    - Matching up SAMPLE_ID, SAMPLE_TYPE, and LAYER codes
    - Field blank (FB) coding

DUET: CURRENT DATA HOLDINGS

STATE	AGENCY	SOURCE	WATER YEAR	UPLOADED	IMPORTED	EVENTS	tab_DATA	tab_WAREHOUSE
DE	DEDNREC	DEDNREC	WY2012	YES	YES	30	906	957
MD	MDDNR	MDDNR	WY2012	YES	YES	289	5489	7344
MD	MDDNR	USGSMD	WY2012	YES		97	2639	
PA	PADEP	PADEP, SRBC, USGSPA	WY2012	YES		785	15562	
NY	SRBC	SRBC, NYSDEC	WY2012	YES		87	1326	
VA	VADEQ	VADEQ/***, USGSVA	WY2012	YES	YES	535	9651	10991
WV	USGSWV	USGSWV	WY2012					
				WY2012 TOTAL:		1823	35573	19292
MD	MDDNR	MDDNR	WY2013 (1ST QTR)	YES	YES	99	1726	2135
VA	VADEQ	VADEQ/***, USGSVA	WY2013 (1ST QTR)	YES	YES	129	2327	2720
				WY2013 TOTAL:		228	4053	4855
				DATABASE TOTAL:		2051	39626	24147

FAST (FORMAL, AUTOMATED, STANDARDIZED, AND TIMELY) PROCESS



PHASES OF THE NTN DATA LIFE CYCLE

Planning & Preparation

a) Each April-May, the CBP NTN Data Manager (Mike) will request metadata for the next WY that begins in October. Mike will provide a template (MS Excel file) with the request, to include information such as the expected NTN stations, WQ parameters, collection agency, etc.

b) Each NTN monitoring agency or State data provider shall modify the template to reflect changes in stations, parameters, methods, personnel, etc., anticipated for the upcoming WY. These same changes should be documented in the agency's QAPP.

c) Completed templates are due mid-July, at least two months before actual data collection begins for the new WY. The mid-July deadline is critical to allow sufficient time for CBP to:
   i. Aggregate information for each NTN monitoring station, collection group, etc., into a summary file;
   ii. Reprogram DUET to ensure that the correct WQ parameters will be imported and calculated; and
   iii. Inform laboratories and data reviewers of changes in expected consistency checks.

d) Mike will return the Excel spreadsheets to all NTN monitoring agencies by mid-August.

PHASES OF THE NTN DATA LIFE CYCLE (2)

Data Collection & Review

Each October, begin sampling for the new WY, making all changes indicated in the metadata template. Collect samples and field measurements according to standard protocols for next 12 months, finishing sampling on Sept. 30 of the next year.

Upload, Review, Transform & Aggregate Data - Construct Database

a) Every January-February, the data manager will make a Final NTN Project data call *for the previous WY.* Some Providers will have submitted quarterly or semi-annual datasets during the previous year, while others may choose to submit the entire set of data for the WY.

b) By March 15th, the WQ data is to be submitted via the MS Access database file template provided or approved by the CBP Data Manager. Laboratory metadata must be provided in an Excel spreadsheet to document the laboratory method, MDL and/or reporting limit for each WQ parameter analyzed in the previous WY.

c) Build database, ensure fatal errors corrected, etc. Submit to USGS by April 15th.

Publish Data to Standards

ISSUES FOR WY2013 DATA COLLECTION

- Update changes in:
  - Stations : New, upgraded or discontinued
  - Parameters Analyzed
  - Lab Methods, Detection limits

  - Necessary for DUET *completeness* & *calculated parameter* routines

- Implement WY2013 QC Sampling Design
  - Blanks: 1 field blank/station/year
  - Duplicates: 2 duplicate pairs/station/year, up to 24 pairs

- Complete USGS stream gage location mapping (in conjunction with the completed NTN monitoring site mapping).

- **DUE BY: 15 May 2013**

Summary Table Data Collector:_____

Item #	Data Required for DUET Data Upload	Can Provide this Item via DUET for WY2013 Data upload?	Comment
1	Provide the WQ and metadata described below in MS Access format for DUET data uploads		
2	Identify the Event _Type for each sampling event: R, RSI, S, ONS, OS		
3	Provide an appropriate Event_Remark code if the WQ sampling location was other than the normal sampling location: LF, HF or AL(alt. location due to accessibility)		
4	Provide Sampling Layer Codes: VH (vert/horiz), I (depth integrated only?), S (surface)		
5	Qualify WQP values that are measureable and above the MDL but below the reporting limit using the "G" qualifier code		
6	Conduct consistency checks; Provide problem codes as needed (QQ, NQ, IQ, NV). Only check consistency of parameters whose values are above the reporting limit.		
7	Collect the minimum number and frequency of duplicate samples as recommended in 2013 guidance.		If stations are located in multiple Data Provider jurisdictions, create separate lists or indicate if single list applies to all stations.
8	Provide all expected (X) WQP data for each **duplicate sample.** List expected (X) WQPs which will **not** be duplicated.		
9	Code and provide field-split (FS1 and FS2) duplicate, or concurrent (S1 and S2) duplicate, sample data.		

Item #	Data Required for DUET Data Upload	Can Provide this Item via DUET for WY2013 Data upload?	Comment
10	Provide duplicate sample data to three or more significant figures. For low concentrations, submit raw or unrounded data to report 3 figures even if one or two are insignificant.		
11	For duplicate sample results failing consistency checks (i.e., NQ), do not null the WQP values, but provide all WQP values		
12	Collect the minimum number and frequency of field blank samples as recommended in 2013 guidance.		If stations are located in multiple Data Provider jurisdictions, create separate lists or indicate if single list applies to all stations.
13	Provide all expected (X) WQP data for each FB, or selected expected (X) WQP data for each FB. If latter, List any expected (X) WQPs to be excluded.		
14	Assign one of three Problem Codes to any contaminated FB measureable WQP value (>MDL) on basis of their investigation of the source(s) of contamination (UB, BB, CB)		
15	Historical NTN Data Capture	Possible but needs to be fully discussed	
16	Out of Network Automated Sampling Data Capture	Possible, if discussed and verification procedures put in place in timely manner	
17	Out of Network Continuous Data Capture	Unlikely, but needs to be discussed	