

## **R5 Future of STORET/WQX Outreach Meeting**

### **Meeting Background:**

A WQX regional outreach meeting was held at the EPA R5 offices in Chicago, IL on July 12-13, 2006. The purpose of the meeting was for EPA HQ and EPA R5 to meet with WQX stakeholders within R5 (see attendees list) for the purpose of discussing the new WQX system. Three main topics were covered:

- an overview of what the production WQX system is, and how it will function, including an overview of the WQX schema
- feedback on the data elements within the schema for purposes of sharing water quality monitoring data
- discussion of the transition to WQX for users (either from the current STORET system, or other)

The following minutes capture the issues and action items brought up during the meeting.

### **Day 1 – July 12, 2006**

Dwane Young (EPA HQ) welcomed participants to the meeting and made introductions.

**The WQX system overview was given as well as a look at the data elements within the WQX schema.**

### **The following questions were asked after the WQX overview:**

How are users going to deal with changing old STORET data once WQX is running?

- Users can send all data the first time through to WQX so it can be in the ODS
- EPA could migrate the data from the WH for users
- EPA could change individual activities/records in the warehouse – this option would be least desirable

Will WQX submissions be drop and replace?

- No – the submissions will be transactional; the system will know which data to update/insert and/or delete

Will Legacy data still be around?

- yes
- the legacy will probably not be put in to the WH

Will error reporting be available in January 2007?

- yes

What about data in EDAS (example: NE has their bio data in EDAS)

- Dwane has talked to EDAS – They can submit via WebSIM, or the hope is that they will also send WQX XML

If Legacy data is important to EPA, why isn't it being included in the WH?

- The lack of documentation in the legacy data is a barrier to putting it in the WH.
- EPA still sees the legacy data as important

Dwane Young outlined the major reasons why EPA is moving in the direction of WQX

- Budget
- Aging Technology
- Two Business needs: Local data management and data sharing. STORET attempted to meet both. WQX is shifting the local data management piece to the states, as technology is too difficult to keep up with. The science and components of water quality monitoring won't change as fast. EPA wants to provide the data standards and data sharing capability for the business of water quality monitoring, and not need to be tied to changing technology.

**The following are questions and comments that were given during the overview of the WQX schema and data elements:**

WQX does not have programs – concept that was more functional at the data management level, not necessarily the data sharing level

Ground Water? What about well data? This would be example of domain values impacting data model structure – A station can own many wells, for example. A “z” component also needs to be taken into account. (Mike from OH EPA)

- ESAR has well data elements, however this is a piece that hasn't been finalized.

Multiple lat/longs for a station do not exist in WQX. Unlike STORET, it doesn't allow a polygonal station to be defined. Activities may have multiple locations, however.

How will the NHD be tied into WQX?

- Concept of WebRIT – tying attribute data to NHD
- There are concurrent projects going on for the indexing to NHD as data flows leveraging these same EN tools.

What about External Station ID?

- Lots of folks advocate for adding this – example of USGS station being monitored by a state.
- Public water supply ID?
- Allow multiple instances of External Station ID or don't allow (Mary anne – OH EPA)
- EPA need for national synthesis?

Can we still tie QC activities to a monitoring location?

- yes, this is possible

Field sets as related to samples is not covered. Some users see this as important – they do this through using visits. (Mary ann – OH EPA)

Why aren't activity groups a parent to activity?

- The sibling relationship between activity groups and activity allows more many to many flexibility

Activity ID must be unique across the Organization. This will be a transition issue for users since this will need to be managed.

How does the schema allow for reporting a characteristic at different depths?

- We would add depth at the result level.

We currently don't provide a domain value list for analytical methods. Is this necessary?

- EPA should provide a domain value list for this

Sample Preparation Methods are optional. Is this good?

- This will open up availability for more data where before the data wasn't provided since users had to pick a certain method

Sample Fraction – do we want to conditionally require for certain characteristics?

- Many say yes – this is the way STORET does it.

Result Qualifier – differing opinions about whether to include this, and whether it would be a domain value.

Result Analytical Method – the business rule is unclear – this is mandatory for samples, though it looks completely optional.

### **Day 1 ACTION ITEMS:**

**AI: Domain List Change: Monitoring Location Type: “playa” (Requested by Cecil in NM)**

**AI: Put up the Activity Types that require a monitoring location on website**

**AI: Write a description about how activity group works for capturing QC data**

**AI: Write a description/verbiage about the main ways WQX differs from STORET**

**AI: Add relative depth to schema (activity depth level).**

**AI: Add depth at the result level**

**AI: Provide analytical methods domain value lists**

**AI: Add the conditionally required business rule for sample fraction**

**AI: Research the question about measure value – this is a string field. STORET would convert a string value in measure value to a number (example: STORET would make the non-detects all 0's) We need to ensure this doesn't happen in WQX.**

**AI: Research flagging the result values as numeric or string – this would make the data much more usable.**

**AI: Make sure Result Analytical Method business rules are right in data dictionary.**

## **Day 2 – July 13, 2006**

**Dwane Young went over the latest schema changes list.**

**The following are questions/issues that were brought up during the discussion of the schema changes list:**

12-Digit HUC – some discussion occurred regarding whether this should be included as a data element.

- Without the data element, EPA would generate this field using the provided lat/longs, so that people could pull based on 12-digit HUC from the WH.
- Nate Booth brought up the issue that many times lat/longs end up on HUC boundaries.
- Perhaps having this as a data element would help avoid uncertainty with generating from lat/longs

Partial submittals -- If you submit 1000 results and 25 are bad, do you have to resubmit the entire 1000 results?

- Yes, unless the 25 are within a different activity.

Will the system tell you the errors/warnings upon submission?

- Yes.

Is there a possibility to send dummy data/a test submission?

- You can send WQX preliminary instead of final results as a surrogate for testing data. This would only be available at the result level.

Will there be something similar to DEMOTEST?

- Probably not, as with WQX this wouldn't be a test ORG for a local system

Is there a way to hit the QA services/ test data against ODS prior to actual submittal?

- EPA could provide this – could be the schematron validation tool.

What about data logger information?

- 2 ways to capture now – line by line or attached as a BLOB. Lots of people want to see statistical / summary information from data logger information. WQX does allow providing mean, max, min, etc, however it seems funny to associate this info with a data logger line.

Composite Sampling? This question came up along with the question of capturing transect information. Sediment sampling sees this as important.

**Kristen Gunthardt went over the domain value lists and some of the related issues.**

**The following are questions/ discussion that occurred during the domain values discussion:**

Issue of capturing ephemeral / perennial streams in monitoring location type:

- NM would like to have ephemeral stream
- WI wonders whether that would be better captured as part of the NHD instead of station types
- RI states that they may not have made the final decisions on whether or not a stream is ephemeral or perennial

OH wondered whether or not they would be able to implement a parent/child relationship for activities

OH requested expansion of Municipal Water Supply station types.

- Either take out the term ‘Municipal’ and make them all PWS. Look at what SDWIS does. WI recommends that we not break them out because they change all the time. Agree that removing the word ‘Municipal’ is a good solution. Call it ‘Public Water Supply’.

OH requested a monitoring location type of ‘Drowned River Mouth’, similar to a ‘Freshwater Estuary’.

MN asked about the sample collection equipment name Flexible Vinyl Tube. They use an inflexible tube. Jim Porter will resend request for this change in name.

**Ryan Jorgensen (Gold Systems) gave a presentation on the WQX Submission Process**

**The following questions were brought up after Ryan’s presentation and Dwane’s discussion of data submission process / system overview:**

Is there a way to provide some summary information about what is in WQX by state, over time? (This is like what Lee used to do)

Users will have to keep track of data changes locally in order to submit those changes to WQX. Keeping track of data deletes will be a challenge.

Question about NEIEN grant schedule

- should know winners for FY07 money by the end of July
- November 07 – guidance for proposals and request for proposals for FY08 on Federal Register
- Early 07 (Jan or Feb) EPA will review due proposals

Question about WH web services: Will the GetStations web service also provide organizational data?

- Yes.

What types of parameters will people will be able to put on the GetResults query?

- We are still scoping this, but folks will be able to pull by state, HUC, time frame, parameter.

Would it be good for a state to have smaller volunteer groups use the XML generation tool instead of having them put the data into the local system for interface with the node?

- Yes, that would be a great implementation of that.

Would this satisfy 319 grant requirements?

- Yes.

### **Transition Issues Discussion**

NM – Lack of resources and money to make a system that is seamless (database to node)

RI – WQX production schedule is very important

IL, OH, MN – WQX leaves states with no database

OH – At some point, WQX will need to address groundwater

WI – Voluminous data logger, continuous data logger data issue

KS -- Capacity – will the system be able to handle the amount of data that people might want to submit, will a large transaction stop others?

OH – Question about where the node lives-outside the firewall? The node needs to be available to handle web services, live behind a proxy server or something. How you configure your node will also influence how people can get to your node.

WI – making sure that web services are documented and available

OH – During this transition, some will really depend on SIM (other STORET tools) – will STORET survive until 2009

EPA R5 – Trend analysis across legacy, modern STORET and into the future WQX

WI – Fitting in NHD, fitting in ADB/NAD

OH – Need to put in 12 digit HUC – states really use this granularity

Communication within the state, managerial buy-in

OH – Need STORET → XML script (this would probably not happen until next year)

NOAA coordination

### **EPA's Role in the Transition:**

Data system models that have been made available: VA, MA, NH (back end data structures, all in Oracle, and front end requirements, user documentation. VA, NH front ends in Oracle Forms, MA user interface is a web interface in developed in .NET)

Region 8 Consortium – still in the planning phases

### **Day 2 ACTION ITEMS:**

**AI: Bring up question of composite sampling on listserv and user call**

**AI: Provide a list of the error and warning possibilities that may come back through the system – what these mean.**

**AI: Provide back to user community the list of states grouped by A, B, C – users could validate whether the list is correct**

**AI: Cecil Servers from NM will consider the question regarding ephemeral/perennial streams.**

**AI: Change Municipal Water Supply station types to not include the word municipal. Just change to Public Water supply (look at what SDWIS does)**

**AI: Look at sample collection equipment name of Flexible Vinyl Tube. Change request from MN to add “Inflexible Vinyl Tube” to the list. Jim Porter (MN) to resend this request.**

**AI: Create examples of data evolution (data sheets all the way to XML, with instances of examples like composites) (request from WI)**

**AI: Research providing a web service from the WH that would allow a user to pull all data within an Organization's state, but not under user's ORG name**

**AI: Follow up with Iowa, see if they want to be a part of the R8 consortium.**

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