

WQX User Call

October 27, 2022

There were approximately 30 participants on the call.

Agenda:

1. WQX Project Status Report (15 mins)
 - WQX/WQXWeb performance/updates
 - WQX Monthly User Tip
 - WQX questions/comments
2. WQP Status Report (15 mins)
 - WQP General Status Report
 - WQP questions/comments
3. Open Discussion
 - Other topics/questions

Notes:

1. WQX Project Status Report from Kevin Christian
 - 1 new contractor for WQX/WQP Helpdesk support. Welcome, Shay Torres.
 - Currently troubleshooting reported delayed processing of xml submission files
 - Routine system maintenance of WQX Web bugfixes and enhancements
 - Performance tuned WQX Web XML generation via Azure Cloud.
 - Beginning development of enhanced WQX Web Review reports: detailed Export to Excel reports for all elements.
2. WQP Project Status Report from Candice Hopkins
 - 2 new developers for WQP that will be onboarded in the next few weeks.
 - Dev Updates
 - Not a lot to report, other than routine monitoring and operations.
 - They will be working on 3.0 profiles and adding additional fields and profiles as deliverables.

Topic: Duplicate domain value resolution via the method of retiring domain values.

What happens on the WQX side when a characteristic / taxon is retired?

- Users can no longer submit data with that old retired characteristic / taxon, they will get an error
 - Original record is renamed old name with the *****retired***use added (with new name)**
- However, users can submit the old name with the *****retired***use new name**
 - Users can submit **“old name”***retired***use “new name”**
 - Retired domain value can/will be removed when no longer referenced by any data submissions
- Users can switch to the new name
 - Data owners can request assistance (email: wqx@epa.gov) to migrate all domain values (characteristic / taxon) from **“old name”** to **“new name”**
 - Populate Characteristic/SubjectTaxonomic User Supplied with the **“old name”**

What happens on the WQP side? *(There are three potential synonyms?)*

1. Old data is changes: keeps the old name but includes the appended new name as well
 - Old data submitted with original record renamed to **“old name”***retired***use “new name”**
2. New data submitted under the old name will also get the ****retired use**** added
 - VALID for submission: domain value is **“old name”***retired***use “new name”**
 - Two domain values as synonyms:
 1. **“old name”***retired***use “new name”**
 2. **“new name”**
3. Data submitted with the new name gets the new name
 - Domain value: **“new name”**
4. Three synonyms providers
 - **“old name” - STORET Warehouse READONLY**
 - **“old name” ***retired***use “new name” - WQX**
 - **“new name” - WQX / USGS NWIS**
 - New names are more intuitive than old/retired names
 1. There is a field for new comparable name in the characteristic domain table.
- Question: User impact
 - If it's possible, we recommend moving all your data to the new name (including old submissions)
 - The user will receive an error if submitting data using the old/original name.
 - WQX can't delete the **“old/retired”** name until it is no longer attached to any records.
 - No data are fully migrated to the new name without an owner's permission, however original records are renamed as follows: **“old name”***retired***use“new name”**
 - Data owners can request 1:1 data assistance for data migration of all domain values (retired characteristics/taxon, and units).

- Users can migrate their data to the new name from the old/retired name, including their old submissions which would be preferable in the long term.
 - The comparable name is the preferred name – this is reviewable in the domain table ([Characteristic \(ZIP\)](#) , [Taxon \(ZIP\)](#))
 - Next Release: The new data profiles for the WQP GUI will publish all WQX 3.0 elements and comparable name.

How can users track the new vs. retired names changes? [GetDomainValues](#)

- Characteristics / Taxon domain
 - Last change date
 - [Characteristic \(ZIP\)](#) | ([XML](#))| ([CSV](#))
 - [Taxon \(ZIP\)](#) | ([XML](#))
- *Characteristics alias / Taxon alias domain?*
 - *Alias: Retired names*
 - [CharacteristicAlias \(ZIP\)](#) | ([XML](#))
 - [TaxonAlias \(ZIP\)](#) | ([XML](#))

Example Characteristic domain values

| CHR_UID | OLD_NAME (characteristic_user_supplied) | NEW_NAME (characteristic) | RETIRED_NAME (String Max 255): TAX_NAME or CHR_NAME |
|---------|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 9001 | pH, saturated | pH | pH, saturated***retired***use pH |
| 9225 | Norethindrone | Norethisterone | Norethindrone***retired***use Norethisterone |
| 9230 | Dissolved Oxygen | Dissolved Oxygen (DO) | Dissolved Oxygen***retired***use Dissolved Oxygen (DO) |
| 9232 | 4-Bromophenyl phenyl ether | BDE-003 | 4-Bromophenyl phenyl ether***retired***use BDE-003 |
| 9235 | N-ethylperfluoro-1- octanesulfonamide | Sulfluramid | N-ethylperfluoro-1- octanesulfonamide***retired** *use Sulfluramid |
| 9237 | Specific conductivity | Specific conductance | Specific conductivity***retired***use Specific conductance |
| 9242 | Ibuprofen | Benzeneacetic acid, .alpha.- methyl-4-(2-methylpropyl)- | Ibuprofen***retired***use Benzeneacetic acid, .alpha.- methyl-4-(2-methylpropyl)- |
| 9246 | Bentazone | Bentazon | Bentazone***retired***use Bentazon |
| 9257 | Arsenic (V) | Arsenic ion (5+) | Arsenic (V)***retired***use Arsenic ion (5+) |
| 9258 | Arsenic (III) | Arsenic ion (3+) | Arsenic (III)***retired***use Arsenic ion (3+) |
| 9270 | 4,4'-Dibromodiphenyl ether | p,p'-Dibromodiphenyl ether | 4,4'-Dibromodiphenyl ether***retired***use p,p'- Dibromodiphenyl ether |
| 9276 | gamma-Chlordane | 2,2,4,5,6,7,8-Octachloro- 2,3,3a,4,7,7a-hexahydro-4,7- methano-1H-indene | gamma- Chlordane***retired***use 2,2,4,5,6,7,8-Octachloro- 2,3,3a,4,7,7a-hexahydro-4,7- methano-1H-indene |
| 9277 | 1,1,2-Trichlorotrifluoroethane | CFC-113 | 1,1,2- Trichlorotrifluoroethane***retir ed***use CFC-113 |
| 9278 | PAH | Polycyclic aromatic hydrocarbons | PAH***retired***use Polycyclic aromatic hydrocarbons |
| 9279 | AMPA (glyphosate metabolite) | Aminomethylphosphonic acid | AMPA (glyphosate metabolite)***retired***use Aminomethylphosphonic acid |
| 9280 | Trichloroethene (TCE) | Trichloroethylene | Trichloroethene (TCE)***retired***use Trichloroethylene |
| 9281 | Tetrachloroethene | Tetrachloroethylene | Tetrachloroethene***retired** *use Tetrachloroethylene |
| 9282 | Dichloroprop | Dichlorprop | Dichloroprop***retired***use Dichlorprop |
| 9318 | Number of individuals | Individuals examined, actual number | Number of individuals***retired***use Individuals examined, actual number |
| 9391 | Xylenes, m- & p- Mix | m,p-Xylene | Xylenes, m- & p- Mix***retired***use m,p- Xylene |
| 9392 | Phencyclidine hydrochloride | Piperidine, 1-(1- phenylcyclohexyl)-, hydrochloride | Phencyclidine hydrochloride***retired***use Piperidine, 1-(1- phenylcyclohexyl)-, hydrochloride |
| 9393 | 1,1-Dimethylbiguanide | Metformin | 1,1- Dimethylbiguanide***retired** *use Metformin |
| 9394 | Tonalide | 6-Acetyl-1,1,2,4,4,7- hexamethyltetralin | Tonalide***retired***use 6- Acetyl-1,1,2,4,4,7- hexamethyltetralin |
| 9395 | Benzenemethanol, .alpha.-[(1R)- 1-aminoethyl]-, hydrochloride (1:1), (. | Phenylpropanolamine hydrochloride | Benzenemethanol, .alpha.-[(1R)- 1-aminoethyl]-, hydrochloride (1:1), (.***retired***use Phenylpropanolamine hydrochloride |

| | | | |
|------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| 9399 | Dimethyl 1,4-dihydro-2,6-dimethyl-4-(2-nitrophenyl)-3,5-pyridinedicarboxylate | Nifedipine | Dimethyl 1,4-dihydro-2,6-dimethyl-4-(2-nitrophenyl)-3,5-pyridinedicarboxylate***retired***use Nifedipine |
| 9400 | Benzamide, 5-chloro-N-[2-[4-[[[(cyclohexylamino)carbonyl]amino]sulfonyl]phenyl]ethyl]-2-methoxy- | Glyburide | Benzamide, 5-chloro-N-[2-[4-[[[(cyclohexylamino)carbonyl]amino]sulfonyl]phenyl]ethyl]-2-methoxy-***retired***use Glyburide |
| 9401 | Fluoranthene-1,2,3,4,5,6,7,8,9,10-d10 | Fluoranthene-d10 | Fluoranthene-1,2,3,4,5,6,7,8,9,10-d10***retired***use Fluoranthene-d10 |
| 9402 | Diazinon (Diethyl-D10) | Diazinon-D10 | Diazinon (Diethyl-D10)***retired***use Diazinon-D10 |
| 9403 | cis-(-)-2-[[Dimethylamino)methyl]-1[3-methoxyphenyl]-cyclohexanol | Tramadol | cis-(-)-2-[[Dimethylamino)methyl]-1[3-methoxyphenyl]-cyclohexanol***retired***use Tramadol |
| 9404 | 19-Norpregna-1,3,5(10)-trien-20-yne-3,17-diol,(17.alpha.)- | Ethinyl estradiol | 19-Norpregna-1,3,5(10)-trien-20-yne-3,17-diol,(17.alpha.)-***retired***use Ethinyl estradiol |
| 9405 | 2,3,5-Trimethylnaphthalene | 1,6,7-Trimethylnaphthalene | 2,3,5-Trimethylnaphthalene***retired***use 1,6,7-Trimethylnaphthalene |
| 9406 | 1H-Pyrazole-3-carbonitrile, 5-amino-1-[2,6-dichloro-4-(trifluoromethyl)phenyl]-4-(trifluoromethyl) | Fipronil Desulfinyl | 1H-Pyrazole-3-carbonitrile, 5-amino-1-[2,6-dichloro-4-(trifluoromethyl)phenyl]-4-(trifluoromethyl)***retired***use Fipronil Desulfinyl |
| 9407 | 2,4,6-Trinitrophenylmethylnitramine | Tetryl | 2,4,6-Trinitrophenylmethylnitramine***retired***use Tetryl |
| 9589 | 4-Terphenyl-d14 | p-Terphenyl-d14 | 4-Terphenyl-d14***retired***use p-Terphenyl-d14 |
| 9590 | Octylphenol monoethoxylate | 2-(4-Octylphenoxy)ethanol | Octylphenol monoethoxylate***retired***use 2-(4-Octylphenoxy)ethanol |
| 9591 | Total Particulate Organic Nitrogen | TOTAL NITROGEN, MIXED FORMS with speciation AS N and fraction SUSPENDED | Total Particulate Organic Nitrogen***retired***use TOTAL NITROGEN, MIXED FORMS with speciation AS N and fraction SUSPENDED |
| 9592 | pH, lab | pH | pH, lab***retired***use pH |
| 9593 | C1-Fluorenes | Methylfluorene | C1-Fluorenes***retired***use Methylfluorene |
| 9635 | Parlar 62 | Toxaphene Parlar 62 | Parlar 62***retired***use Toxaphene Parlar 62 |
| 9636 | Parlar 50 | Toxaphene Parlar 50 | Parlar 50***retired***use Toxaphene Parlar 50 |
| 9637 | Species Relative Density | Relative Density Species | Species Relative Density***retired***use Relative Density Species |
| 9638 | Pseudomonas syringae 742RS | Pseudomonas | Pseudomonas syringae 742RS***retired***use Pseudomonas |
| 9639 | Gage height | Height, gage | Gage height***retired***use Height, gage |
| 9670 | Tributyltin | Tributyltin | Tributyltin***retired***use Tributyltin |

| | | | |
|------|------------------------------------------|-------------------------------|-----------------------------------------------------------------------------|
| 9684 | p-Bromophenyl phenyl ether | BDE-003 | p-Bromophenyl phenyl ether***retired***use BDE-003 |
| 9685 | Nitrogen-15/14 ratio | Nitrogen-15/Nitrogen-14 ratio | Nitrogen-15/14 ratio***retired***use Nitrogen-15/Nitrogen-14 ratio |
| 9686 | Inorganic nitrogen (nitrate and nitrite) | Nitrate + Nitrite | Inorganic nitrogen (nitrate and nitrite) ***retired***use Nitrate + Nitrite |
| 9687 | meta & para Xylene mix | m,p-Xylene | meta & para Xylene mix***retired***use m,p-Xylene |

Example SRS Search/Keywords: (duplicate records by SRS name)

[1\(2H\)-Naphthalenone, 3,4-dihydro-7-nitro-2-\[2,2,2-trifluoro-1-hydroxy-1-\(trifluoromethyl\)ethyl\]-](#)

CAS Numbers: 35443-90-4, 35443-89-1

Example Taxon domains: duplicate domain ITIS names are resolved using Kingdom, Parent Taxa, Author and Year

| Kingdom | Rank* | Name | Status | Group | Description | ExternalID | LastChangeDate |
|----------|---------|----------------------|----------|--------------|----------------------------------------------------------------------------------------------------------|------------|-----------------|
| Animalia | Genus | Mimulus (Epilidae) | Accepted | Not Assigned | (Stimpson 1860)~http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=98432 | 98432 | 9/9/2014 0:00 |
| Plantae | Genus | Mimulus (Phrymaceae) | Accepted | Not Assigned | (L.)~http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=33233 | 33233 | 9/9/2014 0:00 |
| Plantae | Genus | Aster | Accepted | Not Assigned | (L.)~https://itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=35510#null | 35410 | 10/26/2022 0:00 |
| Plantae | Species | Bromus japonicus | Accepted | Not Assigned | (Thunb. ex Murray)~https://itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=40479#null | 40479 | 10/19/2022 0:00 |

Note on WQP vs WQX domain tables

- <https://www.epa.gov/waterdata/storage-and-retrieval-and-water-quality-exchange-domain-services-and-downloads>
 - o All domains here are WQX only (except char – we added USGS names), USGS has their own domains that are similar but not exact (they should be closer in the future, summer 2023 USGS full migration to WQX 3.0)
 - o Others like fraction and speciation are just WQX, so if you see something come out of the portal not in the list, it's probably from USGS
- Endpoints with unique query parameters in addition to common query parameters, see: https://www.waterqualitydata.us/webservices_documentation/

Endpoints with unique query parameters in addition to common query parameters

| | | | | |
|--------------------|-------------|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| countrycode | | | FIPS country codes | |
| statecode | countrycode | A FIPS country code (e.g. US) | FIPS state codes. A FIPS country code argument is appended so that the URL ends as /statecode?countrycode=US | https://www.waterqualitydata.us/Codes/statecode?countrycode=US |
| countycode | statecode | A FIPS statecode (e.g. statecode=US:01;US:04) | FIPS county codes. A FIPS statecode argument is appended so that the URL ends as /countycode?statecode=US:01;US:04 | https://www.waterqualitydata.us/Codes/countycode?statecode=US:01;US:04 |
| Sitetype | | | Available site types | https://www.waterqualitydata.us/Codes/Sitetype?mimeType=json |
| Organization | | | Available organization IDs | https://www.waterqualitydata.us/Codes/Organization?mimeType=xml |
| Samplemedia | | | Sample media | https://www.waterqualitydata.us/Codes/Samplemedia?mimeType=xml |
| Characteristictype | | | Characteristic types (groups) | https://www.waterqualitydata.us/Codes/Characteristictype?mimeType=xml |
| Characteristicname | | | Characteristic names. A good choice for using paginated results so that hundreds of results are not returned | https://www.waterqualitydata.us/Codes/Characteristicname?mimeType=xml |
| providers | | | The names of the Data Sources for the Water Quality Portal | https://www.waterqualitydata.us/Codes/providers?mimeType=xml |

- Example portal service: (WQP publishes only domains with results or data submissions)
- <https://www.waterqualitydata.us/Codes/Characteristicname?mimeType=xml>

What is "1 on 1" data assistance?

- We provide individualized, in-depth assistance to partners and programs conducting individual or group data monitoring.
- A WQX data advisor will schedule a meeting with you based on your best availability to help you with your project/assignment.
- Open to all WQX/WQX Web users.
- Sessions can last from 15 minutes to 1 hour.
- Sessions can be scheduled within the weekday hours of 8am to 7pm EST by appointment.
- If you had a "1 on 1" session, you may also request follow-up assistance via email to WQX Helpdesk (wqx@epa.gov).
- If you have a basic question, a faster way to get an answer is to chat with us. To speak with a WQX representative, please call [800-424-9067](tel:800-424-9067) (wqx@epa.gov).

3. Open Discussion

- Other topics/questions

High Frequency Data interoperable with OGC Water Quality Interoperability Experiment (IE).

- [opegeospatial/WaterQualityIE \(github.com\)](https://github.com/opegeospatial/WaterQualityIE)
- GitHub - opegeospatial/WaterQualityIE

- Contribute to opengeospatial/WaterQualityIE development by creating an account on GitHub. Join Meeting at 8 am EST Time (contact Candice Hopkins for details)

WQX current guidance and exploratory projects for sharing continuous monitoring data

A. WQX Guidance for continuous monitoring data / high frequency data.

WQX supports a discrete data summary for high frequency data. Our recommendation for continuous monitoring data is to report to WQX a single activity in which you store the actual probe readings using every (4 hours, or 3/6 statistic summary events: **daily average**, **max**, **min**, **median**, **standard deviation**, and **mode** for a given day) intervals and to which you attach at the activity level a binary object formatted as text (".txt") file or compressed (".zip") file format for archiving the complete raw set of probe readings downloaded from the data logger. This works equally well for the fixed data logger and for the so-called CTD cast, when the data logger is deployed off the side of a ship or pier and allowed to freely descend through the water column and report continuously the readings of its probes.

| Basic stats | |
|------------------------------|-----|
| Average: μ | 264 |
| Standard Deviation: σ | 90 |
| Lower Limit: <i>min</i> | 130 |
| Higher Limit: <i>max</i> | 399 |
| Median: <i>M</i> | 296 |
| Mode: | 304 |

Figure d: descriptive statistics

B. Proposed / Exploration (separate schema with compatible WQX schema components – Project monitoring location, domain values, etc...)

Alignment: <https://www.epa.gov/waterdata/continuous-monitoring-data-sharing-strategy>

4. WQP Web Services Guide: https://www.waterqualitydata.us/webservices_documentation/

- Water Quality Portal summary services:
 - **periodOfRecord**: For the queried sites and specific period of record, provides site-level organization and spatial data and annual summaries of total # results (equivalent to total number of records) and total # activities (equivalent to total number of collection events) for each queried characteristicName (i.e. water quality measurement).
 - **summaryMonitoringLocation**: For the queried sites and specific period of record, provides site-level organization and spatial data and the total # results (equivalent to total number of records) and total # activities (equivalent to total number of collection events) for all queried characteristicName's combined. Output is in a GeoJSON format only: be sure to specify *mimeType=geojson* in these queries.