

Overview of WQX Web

WQX/STORET Workshop for Tribes
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What is WQX?



- WQX defines the framework by which EPA compiles water quality monitoring data in the STORET Data Warehouse
- WQX is governed by a standardized format, so all data must comply with this format
- The WQX format allows anybody to share data regardless of what the original source of the data was

WQX schema contents

- The physical conditions in the environment at the time of a site visit
- The chemical and bacteriological make-up of the water sampled
- Chemical analyses of fish tissue collected



WQX schema contents, cont.

- Biological Taxon Abundance data, including population census, frequency class, group summaries, and individual results
- Reference site information
- Toxicity data
- Habitat Assessment scores and their related metric scores
- Biological Index scores and their related metric scores



Glossary of Terms

Exchange Network

- Partnership among States, Tribes, and EPA to exchange environmental information

CDX

- Central Data eXchange – EPA's node on the exchange network

WQX

- Water Quality eXchange – The Water Quality data flow on the exchange network

WQX Web

- Web submission tool that utilizes the WQX data flow and framework

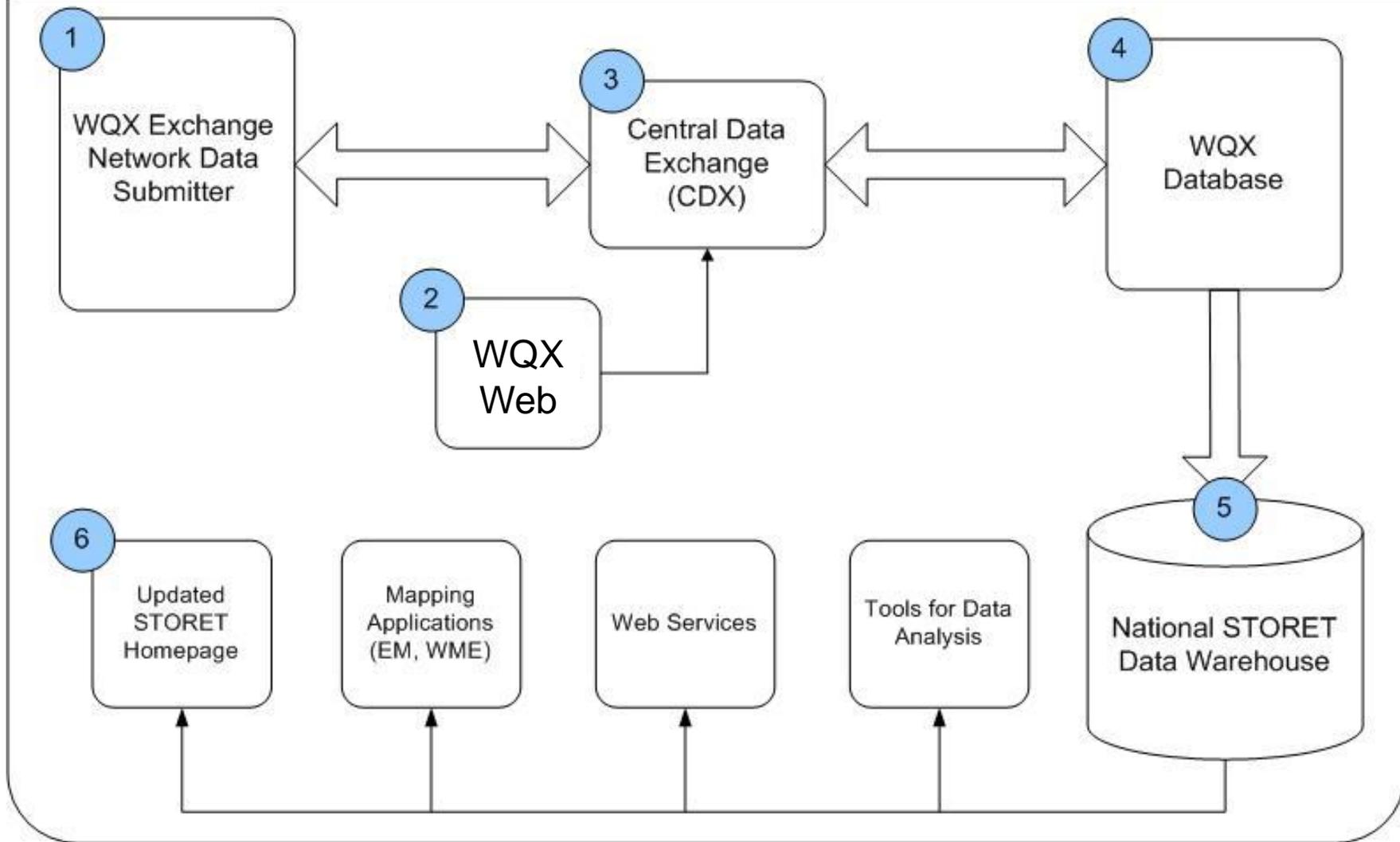
WQX Web Template

- Excel file that includes the standard data elements to be submitted via WQX Web

STORET Warehouse

- The central warehouse for all Water Quality data submitted to the EPA

WQX Data Flow



The WQX Web submission tool

- Accepts basic input formats (i.e. Excel or Text files)
- Has translations for mapping data to WQX domain values or defaults
- Creates a WQX file that a user can send through WQX

The screenshot shows a web browser window displaying the WQX Web submission tool interface. The browser's address bar shows "Home". The page header includes the U.S. Environmental Protection Agency logo and the text "U.S. ENVIRONMENTAL PROTECTION AGENCY". The main content area features a "Welcome!" message and a list of links for "Create or Edit an Import Configuration", "Create a New Dataset", "Continue with an Existing Dataset", and "Review Lookup Values". A sidebar on the left contains navigation links for "Import Configurations", "Create New Dataset", "Datasets", "Lookup Tables", "Event Log", "Organizations", "Preferences", "User Information", and "Logout".

U.S. ENVIRONMENTAL PROTECTION AGENCY

WQX Web
You are here: Home

Home

Welcome!

This tool will assist you with the creation of an XML file compatible with the Water Quality Exchange

The following links will assist you with the most common features of the application:

[Create or Edit an Import Configuration](#): Create a reusable configuration that describes what your import file looks like and how it maps to WQX data elements.

[Create a New Dataset](#): Create a set of data that will be the source for your WQX XML Submission File.

[Continue with an Existing Dataset](#): Continue where you left off on an existing dataset.

[Review Lookup Values](#): Review the list of allowed values for a specific domain or add values to organization-specific lists of values.

WQX
WATER QUALITY EXCHANGE

Import Configurations
Create New Dataset
Datasets
Lookup Tables
Event Log
Organizations
Preferences
User Information
Logout

STORET Home | Privacy and Security Notice | Contact Us

WQX Web, continued

- A web-based tool with a user interface
 - Users use their internet browsers to log into CDX Web then click on the WQX Web link to access the tool
- Contact the EPA to request both a Organization ID and a CDX Web Account
 - Send an email with your contact information to storet@epa.gov
 - The EPA will pass this information on to the CDX Help Desk in order for CDX to set you up with a CDX Web Account

Glossary of Terms

Organizations

- The unique ID and name that identifies data owners in WQX and the STORET Warehouse. Everyone that submits data must have an Organization ID

Projects

- A way to group monitoring locations and monitoring activities based on purpose, goals, standards and methods

Monitoring Locations

- A specific site where monitoring activities occur. A latitude and longitude are required for all monitoring locations

Activities and Results

- Monitoring activities may be water, air, or sediment sample collection, biological specimen catch/trap events, or any measurements or observations obtained at a site. Results are the data measurements.

Submitting data using WQX Web

- The STORET Help Desk sets up you as a user within WQX Web
- You can edit your Organization's details (e.g. Address, e-mail, etc)
- **You submit Project and Monitoring Location information first before submitting Activities and Results**
- If your Projects and Monitoring Locations don't change, you don't have to resubmit them



WQX Web

You are here: [Home](#) >> Create New Dataset

Create New Dataset

Import
Configurations

Create New Dataset

Datasets

Lookup Tables

Event Log

Organizations

Preferences

User Information

Logout

To Insert or Update Data:

[Import a File of Projects](#) ←

[Import a File of Monitoring Locations](#) ←

[Import a File of Monitoring Location Weights](#)

[Import a File of Biological or Habitat Indices](#)

[Import a File of Activities and Results](#) ←

[Import a File of Activities and Metrics](#)

[Import a File of Activity Groups](#)

To Delete Data:

[Import a File of Project Identifiers to be deleted](#)

[Import a File of Monitoring Location Identifiers to be deleted](#)

[Import a File of Activity Identifiers to be deleted](#)

[Import a File of Activity Group Identifiers to be deleted](#)

[Import a File of Index Identifiers to be deleted](#)

To Submit XML:

[Submit an XML file](#)

WQX Web Template

- **An optional tool that can be used if desired**
- **Two Excel files:**
 - Data dictionary file – Outlines the core WQX data elements needed for submittal of physical and chemical data and their associated formats and valid values
 - Data entry file – Provides a place to enter data into these elements using the right formats and valid values
 - Puts data into a text file format that WQX Web can easily import
- The template columns match standard configurations within WQX Web
- Can be downloaded from the STORET website:
 - http://www.epa.gov/storet/wqx/wqxweb_downloads.html

WQX Web Template

- The WQX Web template is broken out into 3 main tabs:
 - Projects
 - Monitoring Locations
 - Results
- This can be useful for then submitting data using WQX Web
- We also have templates for biological and habitat data:
 - http://www.epa.gov/storet/wqx/wqxweb_downloads.html

WQX Web Data Template—Physical and Chemical Results

This document is intended to serve as a guide to assist water quality data providers in the process of formatting their data in a WQX-compatible format. The various tabs in this document provide template sheets and allowable values lists for the types of information which a data owner must include in order for the data to be successfully stored in WQX/STORET. For more information about STORET, see the EPA's STORET website: [About STORET](#). Information regarding how WQX/STORET organizes data into Projects, Monitoring Locations, Results, etc. can be found in the [STORET Concepts](#) page.

There are three types of tabs present in this document. The first tab (highlighted in pink) provides a mechanism for producing text files in a tab delimited format. These text files are prepared automatically to be compatible with the WQX Web tool, which you may use to upload data to the STORET Data Warehouse via EPA's Central Data Exchange (CDX). The export process, contained in this tab, also converts the county name that you refer to in the County field found in the Monitoring Locations tab to the appropriate county code needed by WQX Web.

The tabs in the second group (shaded in light yellow) are intended serve as data formatting templates. That is, these tabs could be shown to a laboratory or other data provider as an example of an Electronic Data Deliverable (EDD). If the lab could format their electronically reported data in a manner similar to the format shown on these tabs then it would be highly likely that the data could be migrated to WQX/STORET with very little intervening data manipulation. Alternatively, these tabs can also be used to enter and format data that is not being provided electronically, such as field data.

The third group of tabs (light green), displays what the appropriate allowable-values are for various fields in WQX/STORET. The listing of acceptable values that WQX/STORET requires for a particular element is highlighted in light green.

All information in this document is accurate as of November 5, 2008.

Please note:

- This template is a guide and may be modified by individual users to include additional information.
- Users should consult the Template Data Dictionary (Template_dictionary_WQX_Web_[Date].xls) for explanations about each data element.

Tab Name	Description
Export	Provides a mechanism to easily export WQX Web compatible tab delimited text files
Projects	A template which can be used to store Project data
Monitoring Locations	A template which can be used to store Monitoring Location data
Results	A template which can be used to store Results data
Allowed Values - Results	Shows what the Allowable Values are for various Result-related data elements

WQX Web – what it does

- A WQX file generation tool
 - Allows you to submit all types of data into WQX (water chemistry, biological, etc)
 - Accepts “flat file” input formats (i.e. Excel Spreadsheets, text files) to generate WQX XML
 - Allows user to set up translations for mapping source data to WQX domain values or defaults
- A WQX submission tool
 - Integrated into the WQX framework for submission and error checking

WQX Web – what it doesn't do

- WQX Web is not a data management tool, it is an WQX file creation and data submission tool
- WQX Web alone doesn't help you manage your data for your own analysis and assessment needs, but you can use the WQX Web template to manage your data
- Tools such as YEDDS, AWQMS, EDAS, imLink, or EQuIS are designed for data management

Why use WQX Web?

- WQX Web provides you with an interface for creating files in the WQX schema format (XML), based on your data
- Once you've set up WQX Web to create XML based on your data, you don't have to set this up again
- Relieves the need to have the expertise needed to create XML
- EPA is continually working to make WQX Web better

Contact information

- Don't be afraid to ask for help:
 - Call the STORET hot line: 1-800-424-9067
 - Send an email to storet@epa.gov
 - Join the STORET list serve:
www.epa.gov/storet/listserv.html

What is XML?

- Nothing more than a text file
- A format for representing data in a flexible, structured way
- Consider a list of permits:

PermitNumber	IssuedDate	PermitStatusText
WA000111	6/23/2003	Expired
WA000222	1/23/2009	In Effect
WA000333	5/12/2010	Pending

What is XML? (cont'd)

- Same list of permits as XML:

```
<?xml version="1.0" encoding="UTF-8"?>
<PermitList>
  <Permit>
    <PermitNumber>WA0000111</PermitNumber>
    <IssuedDate>2003-06-23</IssuedDate>
    <PermitStatusText>Expired</PermitStatusText>
  </Permit>
  <Permit>
    <PermitNumber>WA0000222</PermitNumber>
    <IssuedDate>2009-01-23</IssuedDate>
    <PermitStatusText>In Effect</PermitStatusText>
  </Permit>
  <Permit>
    <PermitNumber>WA0000333</PermitNumber>
    <IssuedDate>2010-05-12</IssuedDate>
    <PermitStatusText>Pending</PermitStatusText>
  </Permit>
</PermitList>
```

- For more background about XML, please visit the Exchange Network Wiki:
 - http://www.exchangenetworkwiki.com/wiki/index.php/2010_Exchange_Network_National_Meeting#Practical_XML
 - http://www.youtube.com/view_play_list?p=801203CFB275D7FA