

WQX Web V.2.0 Tutorial 3

Importing Monitoring Locations



United States Environmental Protection Agency
Office of Water
1200 Pennsylvania Avenue, NW
Washington, DC 20460

WQX Web Tutorial 3: Importing Monitoring Locations

It is important to note that in WQX Web, you must load your Project and Monitoring Location information prior to loading any Results data. The Project and Monitoring Location information will only need to be entered once, unless you need to add additional ones or modify the information associated with ones that you have previously loaded.

Overview

This tutorial provides guidance in uploading Monitoring Location data into WQX Web and submitting them to CDX.

Water Quality Exchange (WQX) and STORET

The Water Quality Exchange (WQX) is a mechanism for transferring data to, and extracting data from the U.S. Environmental Protection Agency's (EPA's) STORage and RETrieval (STORET) Data Warehouse. WQX uses computers as connection points or *nodes* to communicate through EPA's National Environmental Information Exchange Network (NEIEN). Monitoring data files must be formatted in Extensible Markup Language (XML), to be submitted through WQX. XML encompasses a flexible text format for organizing and creating structured computer documents. Prior to import to the WQX/ STORET data warehouse, data files must pass through the Central Data exchange (CDX), a doorway which authorizes submissions. Setting up an NEIEN node to submit XML files can be financially unfeasible and technically challenging for smaller groups. Organizations that are unable to generate XML script on their own can still submit data to CDX with the assistance of WQX Web, a tool that converts formatted text files into XML script (**Figure 1**).

The design of WQX Web allows users to monitor the status of their data files throughout the submission process. Upon import, WQX Web performs an inquiry of submitted data files, checks their formatting and organization against the established WQX structure, or schema. The WQX Web inquiry assesses inconsistencies between the submitted data and established domain values in the STORET system producing a dataset summary page, detailing errors and successful submissions of files.

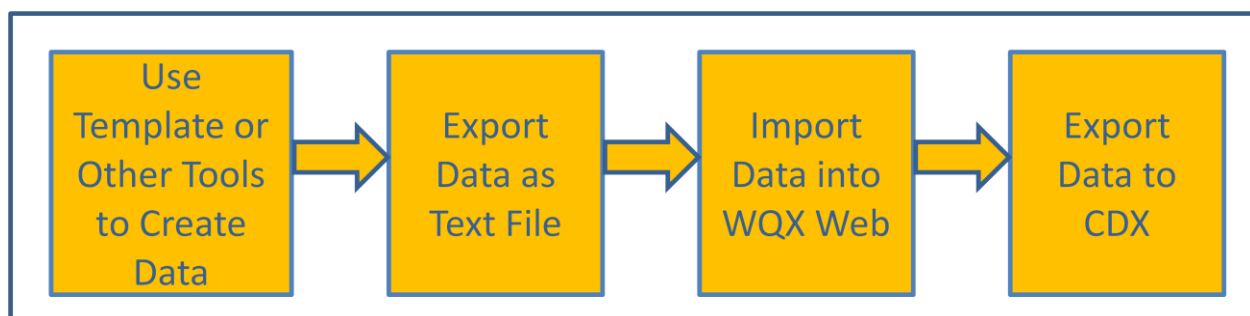


Figure 1. Flow chart outlining the general process for using WQX Web to submit data to the STORET Data Warehouse

WQX Web performs the following functions:

- Converts text files created by an organization's in-house water quality monitoring data storage system, into XML script.
- Submits generated XML file to the WQX Database via the Central Data Exchange (CDX), EPA's electronic reporting system.

Tutorial System Requirements

1. Internet access and a Web browser, such as Microsoft Internet Explorer 7 (IE7) or Firefox
2. Pop-up blockers turned off for this site
3. CDX account

It is important to note that WQX Web will only work with the IE7, IE 8, Safari or Firefox web browser. WQX Web is not compatible with IE6.

Getting Started With WQX Web

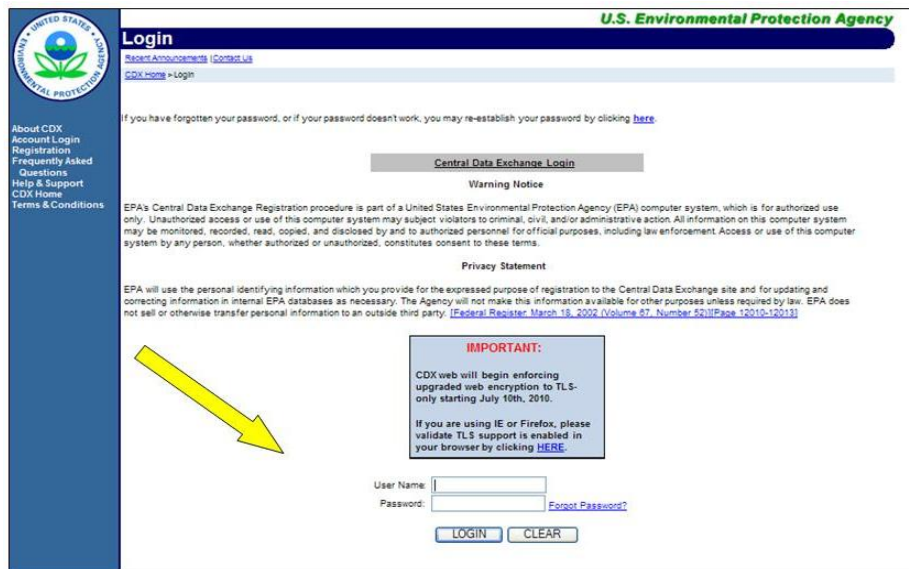
Monitoring data submitted through WQX Web to the STORET Warehouse requires specific fields and formatting for parameters such as Monitoring Locations, methods and project identification (for a brief overview of using WQX Web, view the WQX Web cheat sheet accessible at the following URL: http://www.epa.gov/storet/wqx/products/WQX%20Web%20Cheat%20Sheet_030210.pdf).

The WQX Web tool may be used in a 'Demo' mode, which allows users to practice submitting data to an assigned test organization. The WQX Web Demo environment is purely for training, and any data submitted within this environment is not placed in the STORET Warehouse. New users to WQX Web can contact the STORET Helpdesk (Storet@epa.gov) to obtain a username and password for the WQX Web Demo environment. Users also contact the STORET Helpdesk to obtain a real username and password for submitting data all the way to the STORET Warehouse.

Open up your web browser and enter in the URL

http://www.epa.gov/storet/wqx/wqxweb_downloads.html. Download the WQX Web Excel (.xls) data template, and provided data files by selecting the link labeled **WQX Web Tutorials and Example Data Files**. When using Microsoft Excel 2007, or a later version of Microsoft Excel, files will need to be saved in a macro enabled workbook format (.xlsm). The downloaded materials are for users to start with in importing actual monitoring data into WQX Web.

To access the CDX Website, open your web browser and enter in the URL <https://cdx.epa.gov/SSL/cdx/login.asp>. Enter your training user name (i.e. wqxwebtraining1) and password into the “User Name” and “Password” fields (for information on registering for CDX/ WQX Web enter the following URL into your web browser <http://www.epa.gov/storet/wqx/wqxweb.html>).



U.S. Environmental Protection Agency

Login

[Report Abuse/Comments](#) | [Contact Us](#)

[CDX Home](#) » [Login](#)

If you have forgotten your password, or if your password doesn't work, you may re-establish your password by clicking [here](#).

Central Data Exchange Login

Warning Notice

EPA's Central Data Exchange Registration procedure is part of a United States Environmental Protection Agency (EPA) computer system, which is for authorized use only. Unauthorized access or use of this computer system may subject violators to criminal, civil, and/or administrative action. All information on this computer system may be monitored, recorded, read, copied, and disclosed by and to authorized personnel for official purposes, including law enforcement. Access or use of this computer system by any person, whether authorized or unauthorized, constitutes consent to these terms.

Privacy Statement

EPA will use the personal identifying information which you provide for the expressed purpose of registration to the Central Data Exchange site and for updating and correcting information in internal EPA databases as necessary. The Agency will not make this information available for other purposes unless required by law. EPA does not sell or otherwise transfer personal information to an outside third party. [\[Federal Register March 19, 2002 \(Volume 67, Number 52\)\(Page 12010-12013\)\]](#)

IMPORTANT:

CDXweb will begin enforcing upgraded web encryption to TLS-only starting July 10th, 2010.

If you are using IE or Firefox, please validate TLS support is enabled in your browser by clicking [HERE](#).

User Name:

Password: [Forgot Password?](#)

Viewing a Sample Monitoring Location Text File

On your hard drive, locate where you saved the **WQX Web Tutorials and Example Data Files** package and open the text file labeled, WQXWeb_ MonLocs.txt. *Please refer to the following URL for additional guidance in using the WQX Web Template for submitting monitoring data:* http://www.epa.gov/storet/wqx/products/WQX_Web_template_user_guide.pdf.

The WQXWeb_MonLocs.txt file was created using the WQX Web template, and exported in a form that can be submitted to WQX Web. The provided text file is tab delimited, and contains a Monitoring Location ID, Monitoring Location Name, Monitoring Location Type, and other information such as Longitude and Latitude. Note that this file has a header row, or title columns signifying the content of each column.

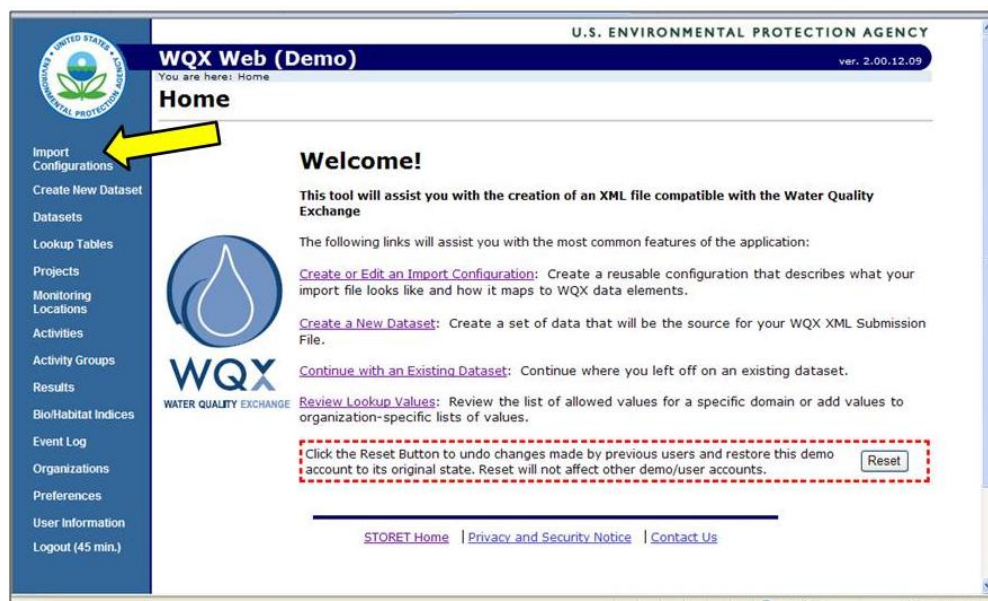
Monitoring Location Identifier (ID)	Monitoring Location Name	Monitoring Location Type	Latitude	Longitude	Collection Method for Lat/Long	State Code	County Code
24601	Twin Peaks	River/Stream	40.594	-111.72	GPS-unspecified NAD83	UT	035
LOPM01	Lone Peak	River/Stream	40.527	-111.755	GPS-unspecified NAD83	UT	035
MOOL01	Mount Olympus	River/Stream	40.657	-111.77	GPS-unspecified NAD83	UT	035
BMCM01	Bingham Canyon Mine	River/Stream	40.522	-112.149	GPS-unspecified NAD83	UT	035
UNIV01	University of Utah	River/Stream	40.765	-111.848	GPS-unspecified NAD83	UT	035
DOWNT01	Downtown	River/Stream	40.771	-111.892	GPS-unspecified NAD83	UT	035
KSLAT01	KSL Radio Tower	River/Stream	40.779	-111.099	GPS-unspecified NAD83	UT	035
SOLPH01	Sundial Peak	River/Stream	40.598	-111.685	GPS-unspecified NAD83	UT	035

Data submissions are required to be in a specific format to be accepted by the STORET database. Notice the county names are listed by numeric codes in the sample data file which is the appropriate coded format to be submitted to WQX. After thoroughly examining your data file, close the Monitoring Location text file.

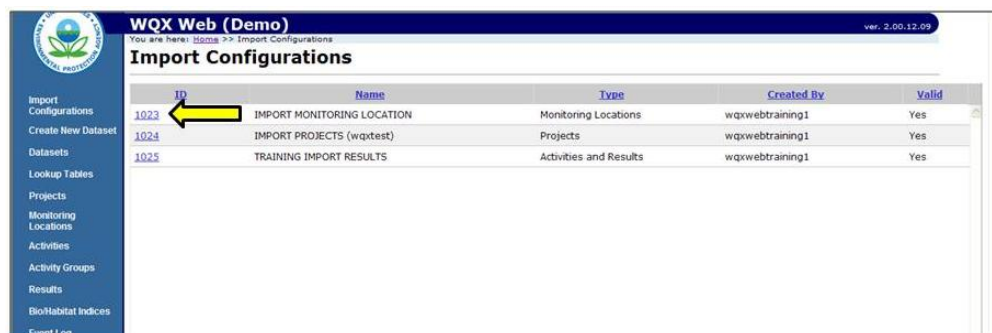
Monitoring Location Identifier (ID)	Monitoring Location Name	Monitoring Location Type	Latitude	Longitude	Collection Method for Lat/Long	State Code	County Code
r/Stream			40.594	-111.72	GPS-unspecified NAD83	UT	035
r/Stream			40.527	-111.755	GPS-unspecified NAD83	UT	035
r/Stream			40.657	-111.77	GPS-unspecified NAD83	UT	035
River/Stream			40.522	-112.149	GPS-unspecified NAD83	UT	035
River/Stream			40.765	-111.848	GPS-unspecified NAD83	UT	035
r/Stream			40.771	-111.892	GPS-unspecified NAD83	UT	035
r/Stream			40.779	-112.099	GPS-unspecified NAD83	UT	035
r/Stream			40.598	-111.685	GPS-unspecified NAD83	UT	035

Working with Import Configurations to Import Monitoring Locations into WQX Web

1. Select “Import Configurations” on the WQX Web homepage. An Import Configuration acts as a blueprint, communicating to WQX the layout or structure of your data file.



2. Notice the several Import Configurations already loaded on the page. The Import Configuration associated with this Monitoring Location data file is named IMPORT MONITORING LOCATION. Click on the ID link next to the data file name view this Import Configuration.



- Notice how the Import Configuration outlines the layout of the location of data columns within the sample data file. Additionally, the Import Configuration indicates the format of Data Elements such as Latitude and Longitude. For more support on working with Import Configurations, please refer to the WQX Web Tutorial 4. Select “Return” twice at the bottom of the page to return to the home page.

WQX Web (Demo) U.S. ENVIRONMENTAL PROTECTION AGENCY ver. 2.00.12.09

You are here: [Home](#) >> [Import Configurations](#) >> [Import Configuration Detail](#)

Import Configuration Detail

Name: [Change Access Rights](#)

Description:

Type:

Column Delimiter:

Element Values to be Generated Automatically:

Data Element	Default Value	Format
Organization ID	WQXWEBTRAINING1	
Monitoring Location Country Code	US	

[Pick Generated Elements](#)

Map Import Columns to Data Elements:

Column	Pick	Data Element	Default Value	Format	Translation Count
Remove 1	<input type="checkbox"/>	Monitoring Location ID	<input type="text"/>		0 Add/Edit
Remove 2	<input type="checkbox"/>	Monitoring Location Name	<input type="text"/>		0 Add/Edit
Remove 3	<input type="checkbox"/>	Monitoring Location Type	{none}		3 Add/Edit
Remove 4	<input type="checkbox"/>	HUC Eight-Digit Code	<input type="text"/>		0 Add/Edit
Remove 5	<input type="checkbox"/>	Tribal Land Indicator	<input type="text"/>	Yes/No	0 Add/Edit
Remove 6	<input type="checkbox"/>	Tribal Land Name	<input type="text"/>		0 Add/Edit
Remove 7	<input type="checkbox"/>	Monitoring Location Latitude	<input type="text"/>	DD.DDDDDDDDD	0 Add/Edit
Remove 8	<input type="checkbox"/>	Monitoring Location Longitude	<input type="text"/>	-DDD.DDDDDDDDDDD	0 Add/Edit
Remove 9	<input type="checkbox"/>	Monitoring Location Source Map Scale	<input type="text"/>		0 Add/Edit
Remove 10	<input type="checkbox"/>	Monitoring Location Horizontal Collection Method	{none}		6 Add/Edit
Remove 11	<input type="checkbox"/>	Monitoring Location Horizontal Coordinate Reference System	{none}		1 Add/Edit
Remove 12	<input type="checkbox"/>	Monitoring Location State	{none}		0 Add/Edit

[Double click to change security settings](#)

Loading Monitoring Location Files into WQX Web

- Select the “Create New Dataset” link on the left side of the page, to load Monitoring Location data.

WQX Web (Demo) U.S. ENVIRONMENTAL PROTECTION AGENCY ver. 2.00.12.09

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.

Click the Reset Button to undo changes made by previous users and restore this demo account to its original state. Reset will not affect other demo/user accounts. [Reset](#)

[STORET Home](#) | [Privacy and Security Notice](#) | [Contact Us](#)

2. Select the hyperlink labeled “*Import a File of Monitoring Locations.*”

WQX Web (Demo)
You are here: [Home](#) >> [Create New Dataset](#) ver. 2.00.12.09

Create New Dataset

To Insert or Update Data:
[Import a File of Projects](#)
[Import a File of Monitoring Locations](#)
[Import a File of Monitoring Location Visuals](#)
[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](#)

Datasets are Temporary
Datasets are temporary and must be submitted to CDX to become permanent.
You will have up to 15 days to export and submit this dataset to CDX before it will be automatically deleted from this system.

[STORET Home](#) | [Privacy and Security Notice](#) | [Contact Us](#)

3. Select the “*Import Configuration*” dropdown box, “*Import File*” field, and the correct *Delimiter* dropdown box to complete this import.

WQX Web (Demo)
You are here: [Home](#) >> [Create New Dataset](#) >> [Import File](#) ver. 2.00.12.09

Import File

Import Configuration: Monitoring Locations

Type: Monitoring Locations

Import File: [Browse...](#) *.txt, *.csv, *.zip

Attachments File: [Browse...](#) *.zip

Delimiter: Comma

☒ Ignore First Row of Import File?

[Continue](#) [Cancel](#)

[STORET Home](#) | [Privacy and Security Notice](#) | [Contact Us](#)


4. Select the Import Configuration “*IMPORT MONITORING LOCATION*” that corresponds with this tutorial from the “*Import Configuration*” dropdown menu. Note that the preferences for Import Configurations can be automatically set by selecting the “Preferences” link on the left side of the page.

U.S. ENVIRONMENTAL PROTECTION AGENCY

WQX Web (Demo) ver. 2.00.12.09

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

Import File

Import Configuration: 

Type:

Import File: [Browse...](#) *.txt, *.csv, *.zip

Attachments File: [Browse...](#) *.zip

Delimiter:

☒ Ignore First Row of Import File?

[Continue](#) [Cancel](#)

[STORET Home](#) | [Privacy and Security Notice](#) | [Contact Us](#)

5. Select the “*Browse*” button to select your import file. Navigate on your hard drive to the file called “WQX Web_MonLocs.txt” and select the “*Open*” button.

U.S. ENVIRONMENTAL PROTECTION AGENCY

WQX Web ver. 2.00.11.03

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

Import File

Import Configuration:

Type:

Import File: [Browse...](#) *.txt, *.csv, *.zip 

Attachments File: [Browse...](#) *.zip

Delimiter:

☒ Ignore First Row of Import File?

[Continue](#) [Cancel](#)

[STORET Home](#) | [Privacy and Security Notice](#) | [Contact Us](#)

6. Also recall that there was a header row in the sample Monitoring Location data file; therefore, to submit the data file successfully, select the “Ignore First Row of Import File?” box.



The screenshot shows the 'Import File' page in the WQX Web (Demo) application. The page has a blue sidebar on the left with navigation links: Import Configurations, Create New Dataset, Datasets, Lookup Tables, Projects, Monitoring Locations, Activities, Activity Groups, Results, BioHabitat Indices, Event Log, Organizations, Preferences, User Information, and Logout (45 min.). The main content area is titled 'Import File' and includes the following fields:

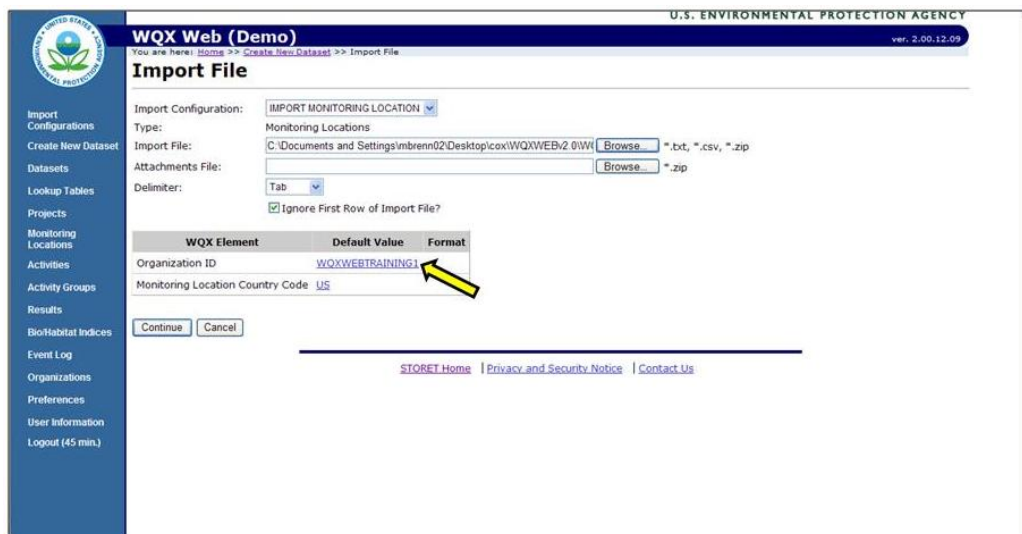
- Import Configuration: **IMPORT MONITORING LOCATION** (dropdown)
- Type: **Monitoring Locations**
- Import File: **C:\Documents and Settings\mbrenn02\Desktop\cox\WQXWEB\2 0\W** (text) with a **Browse...** button. Supported formats: *.txt, *.csv, *.zip
- Attachments File: (text) with a **Browse...** button. Supported format: *.zip
- Delimiter: **Tab** (dropdown)
- ☒ **Ignore First Row of Import File?**

Below these fields is a table with the following data:

WQX Element	Default Value	Format
Organization ID	WQXWEBTRAINING1	
Monitoring Location Country Code	US	

At the bottom of the form are **Continue** and **Cancel** buttons. Below the form is a horizontal line with links: [STORET Home](#), [Privacy and Security Notice](#), and [Contact Us](#).

7. Specify the Organization ID associated with the data file by clicking on the link under Default Value labeled WQXWEBTRAINING1. Note that this tutorial will continue to use WQXWEBTRAINING1 for demonstration purposes.



This screenshot is identical to the one above, but with a yellow arrow pointing to the link [WQXWEBTRAINING1](#) in the 'Default Value' column for the 'Organization ID' row in the table.

8. Click the “Continue” button to import the file.

U.S. ENVIRONMENTAL PROTECTION AGENCY
ver. 2.00.12.09

WQX Web (Demo)
You are here: [Home](#) >> [Create New Dataset](#) >> Import File

Import File

Import Configuration: **IMPORT MONITORING LOCATION** ▼
Type: Monitoring Locations
Import File: C:\Documents and Settings\mbrenn02\Desktop\cox\WQXWEB\2 01W [Browse...] *.txt, *.csv, *.zip
Attachments File: [Browse...] *.zip
Delimiter: Tab ▼
☒ Ignore First Row of Import File?

WQX Element	Default Value	Format
Organization ID	WQXWEBTRAINING1	
Monitoring Location Country Code	US	

[Continue](#) [Cancel](#)

[STORET Home](#) | [Privacy and Security Notice](#) | [Contact Us](#)

9. A message box will appear stating “The first row of your import file will be ignored.” The first row of the import file contains column titles. Select “OK.”



10. Note the status of the dataset summary says “*Imported*,” indicating that the imported Monitoring Location file did not have any errors during the import. Errors and invalid monitoring locations are items that must be fixed before the file may be submitted to CDX. Note the number of total “*Errors/Warnings*” and “*Invalid*” monitoring locations in the file is displayed as 0. Select the “View Log” link for a summary of the processes and errors that occurred during the file import. Submit your file by clicking on the “Export/Submit File(s)” button.

WQX Web (Demo)
U.S. ENVIRONMENTAL PROTECTION AGENCY
ver. 2.00.12.09

You are here: [Home](#) >> [Datasets](#) >> [Dataset Summary](#)

Dataset Summary

Type: Monitoring Locations
Import Configuration: [IMPORT MONITORING LOCATION](#)
Status: Imported

Datasets are Temporary
Datasets are temporary and must be submitted to CDX to become permanent.
To keep this system clean, please delete datasets that have been processed successfully at CDX or are no longer needed. The system will automatically delete this dataset in 15 days.

Import
Error/Warning/Message: 0 / 0 / 6 [View Log](#)
Start Time: 01-28-2011 01:06:46 AM
End Time: 01-28-2011 01:07:30 PM
File/Transaction ID: WQXWeb_Sample_MonLocs.txt

Record Counts	Valid	Invalid
Monitoring Location	8	0

[Return](#) [Delete](#) [Export/Submit File\(s\)](#)

[STORET Home](#) | [Privacy and Security Notice](#) | [Contact Us](#)

11. Under the WQX XML File heading, click the “Export and Submit to CDX” radio button. Make sure corresponding information is filled in for “Author”, “Organization” and “Contact Info” (email address). Click the “Continue” button on the left side of the screen.

WQX Web (Demo)
U.S. ENVIRONMENTAL PROTECTION AGENCY
ver. 2.00.12.09

You are here: [Home](#) >> [Datasets](#) >> [Dataset Summary](#) >> [Export](#)

Export

WQX XML File:
☐ Export Only
☒ Export and Submit to CDX

Additional File (optional):
☐ Apply the following stylesheet: [Monitoring Locations Flat File](#)

Header Information:

Author:*
Organization:*
Contact Info:*
Comment:

[Continue](#) [Cancel](#)

[STORET Home](#) | [Privacy and Security Notice](#) | [Contact Us](#)

12. Notice that the page automatically refreshes, however, click on your web browser's refresh button after a few seconds if you want to update the status of your uploaded file faster and to see if there are any errors or warnings.



13. Note the “*Submission Completed!*” box and the status of the dataset summary says “*Completed at CDX,*” indicating that the imported project file did not have any errors during the import. Locate the CDX “*Documents (available for download)*” box on the bottom left side of the page for the following four reports: “*WQX Submission*”, “*Validation Results*”, “*Notify*”, and “*Processing Report*”. Click on the “*View in Browser*” link next to the “*ProcessingReport.zip*” file. The “*View in Browser*” link opens the report in your browser window. After reviewing the *Processing Report* select the back button of your web browser to return to WQX Web.



Note: Users can go in and see their Monitoring Locations by clicking Monitoring Locations on the left side of the screen.

If you receive the error “connection was forcibly closed by the remote host.” Submit your data again after a few moments. This error often comes due to high amounts of traffic.

14. To save this XML file to your hard drive, select the “WQXSubmissions_1058_Update.zip” file, unzip the file, open the report itself, and then save it to the computer’s hard drive. After receiving the “Completed at CDX” status, select the Delete button to remove this submission from the WQX Web.



Note: excessive traffic in the site from multiple organizations uploading simultaneously sometimes may affect the success of your upload.

Summary

This tutorial has shown the basics of using WQX Web to submit a Monitoring Location data file to the STORET Data Warehouse. Please refer to the additional tutorials for guidance on Importing project, or results data and working with import configurations. For a more detailed description on using WQX Web, please refer to the WQX Web user guide accessible at the following URL http://www.epa.gov/storet/wqx/products/WQX_Web_User_Guide_v2.0.pdf.