WQX Web V.2.0 Tutorial 2

Importing Project Files

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WQX Web Tutorial 2: Importing Project Files

It is important to note that in WQX Web, you must load your Project and Monitoring Location information prior to loading any monitoring results. 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 Projects 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.
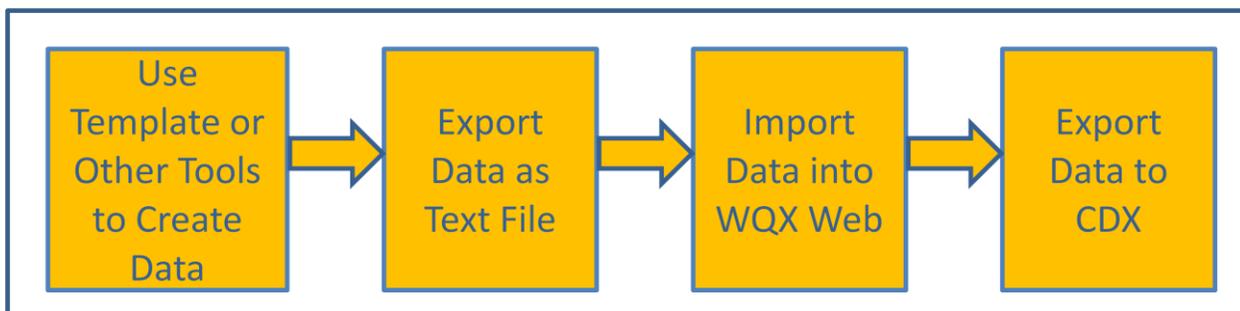
Figure 1. Flow chart outlining the general process for using WQX Web to submit data to the STORET Data Warehouse

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).
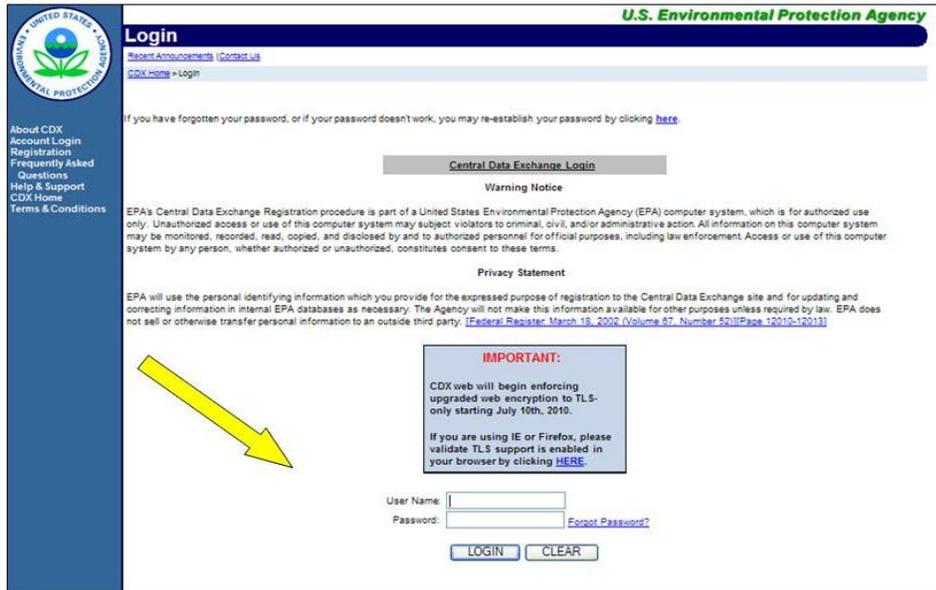
Viewing Sample Project Data Text Files

On your hard drive, locate where you saved the **WQX Web Tutorials and Example Data Files** package
and open the text file labeled WQXWeb_Project.txt. Notice that this file contains a header row and one
line of data, in a tab delimited format. Close the file after examining it. *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).*
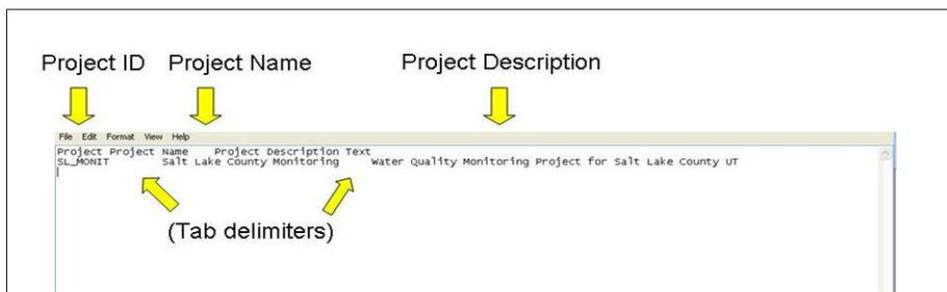
Working with Import Configurations to Import Projects into WQX Web

WQX Web provides users with the functionality to import data into the STORET Data Warehouse. WQX Web requires submitted data files to be in a delimited format (tab delimited is the default format) and accompanied by an Import Configuration. Import Configurations provide WQX Web with the layout and content of your incoming Project data.

1. Select Import Configurations on the WQX Web homepage. An Import Configuration acts as a blueprint, communicating to WQX Web the layout or structure of your data file.
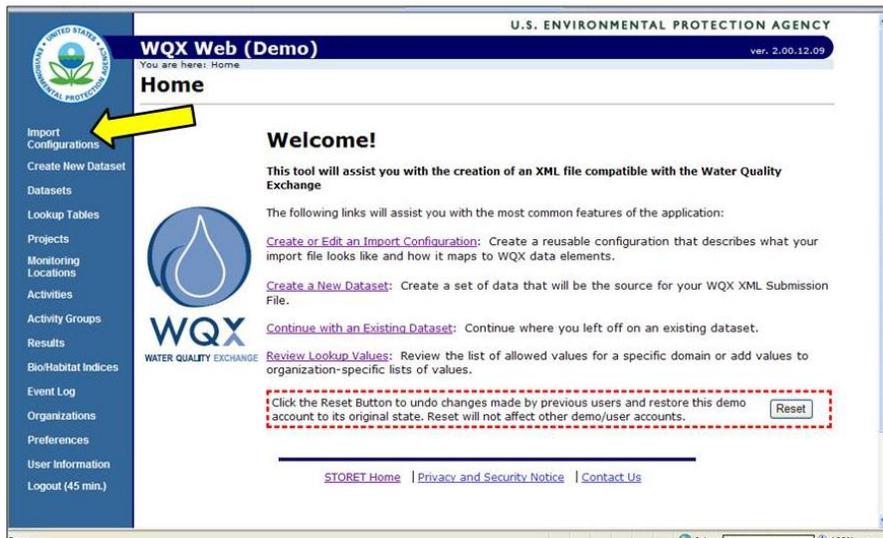
2. Notice that several Import Configurations are already loaded on the page. The Import Configuration provided, IMPORT PROJECTS, maps to the sample project data file WQXWeb_Project.txt. Click on the ID next to the IMPORT PROJECTS to view this Import Configuration.

3. Notice how the Import Configuration outlines the layout of the location of data columns within the sample data file. For more support on working with Import Configurations, please refer to the Import Configuration tutorial, WQXWeb_ImportConfigurations_Tutorial4. Select "Return" twice at the bottom of the page to return to the home page.
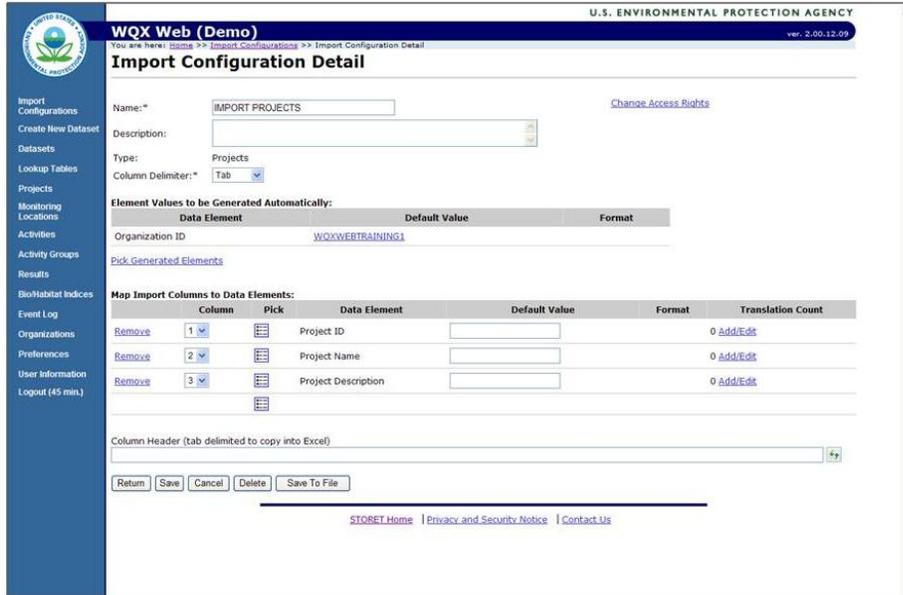
Loading Project Data Text Files into WQX Web

1. Select the "Create New Dataset" link on the left side of the page, to load a Projects data file.
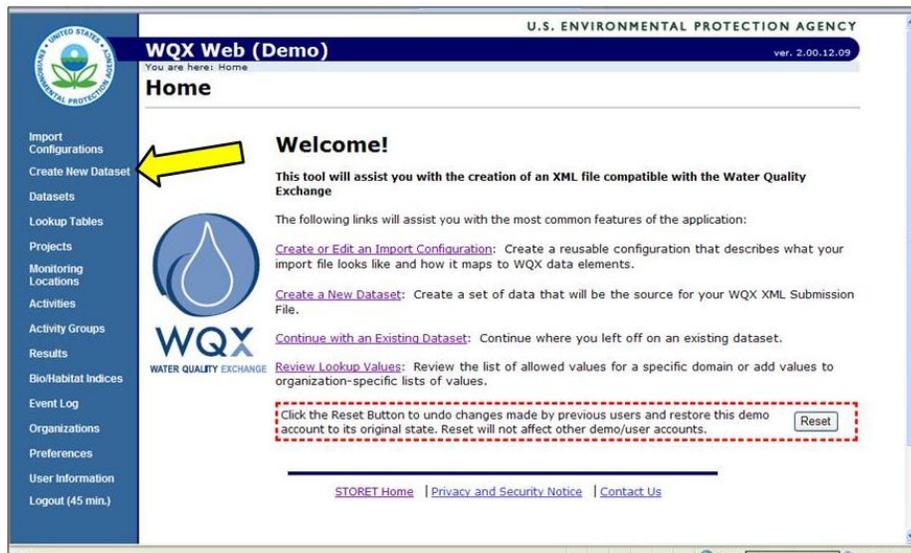
2. Select "Import a File of Projects".

3. Ensure that the appropriate "Import Configuration", "Import File", and "Delimiter" are selected, prior to importing your data.

4. Select the Import Configuration "IMPORT PROJECTS" from the "*Import Configuration*" dropdown menu. Attributes of Import Configurations, such as the delimiter to use, can be automatically set by selecting Preferences on the home page.
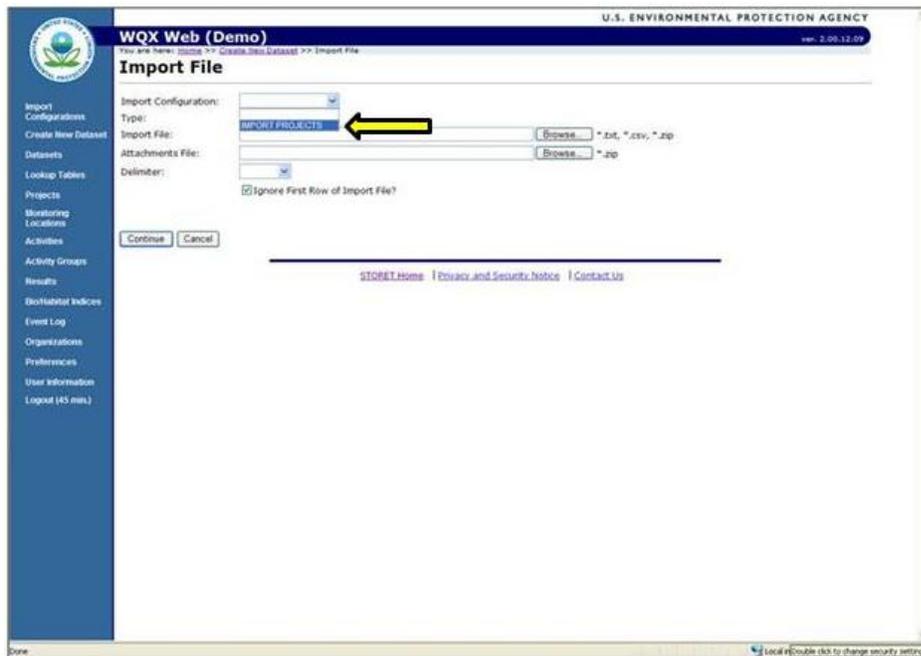
5. Click on the "*Browse*" button to select your import file. Navigate on your hard drive to the file called "WQXWeb_Project.txt" and select the "*Open*" button
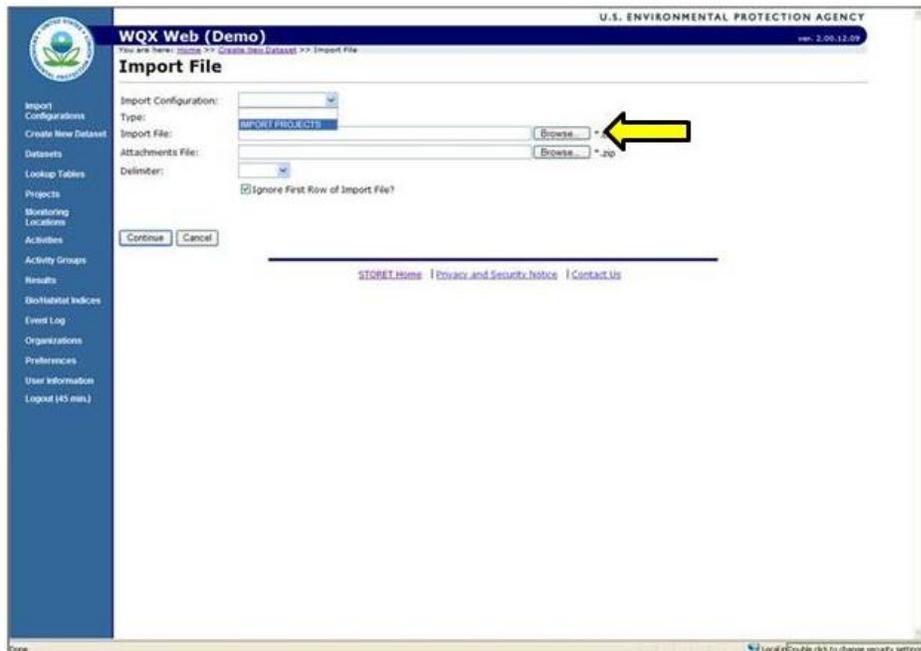
6. Indicate that the file is tab delimited and select the "*Ignore First Row of Import File?*" check box. Since the first row of the sample Projects text file is header information, it is necessary to instruct WQX not to treat this row as data.
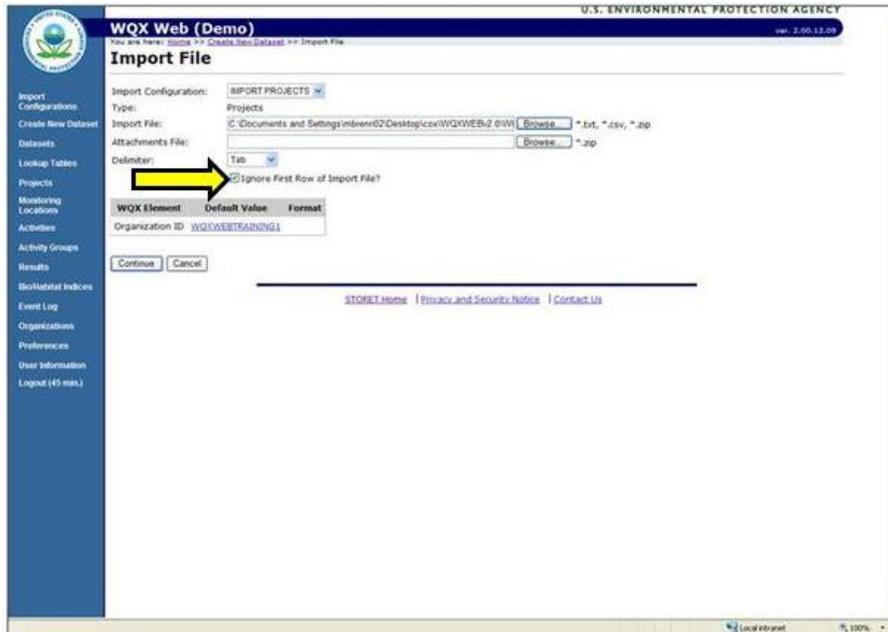
7. Specify the Organization ID that is associated with the dataset by clicking on the link in the box labeled WQXWEBTRAINING1. Note that the organization ID can be changed by clicking on the link, this tutorial will continue to refer to WQXWEBTRAINING1 for demonstration purposes.
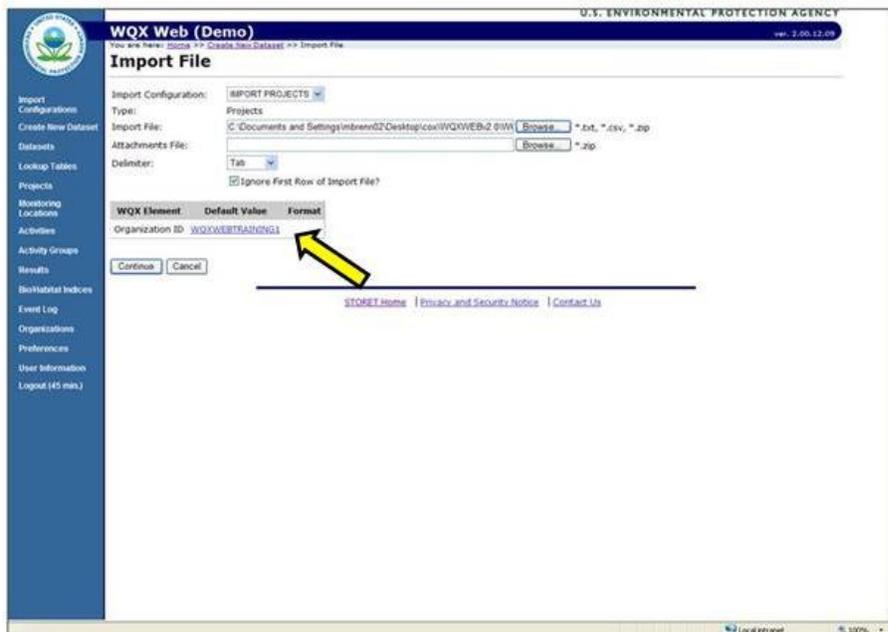
8. Click the "*Continue"* button to import the file.
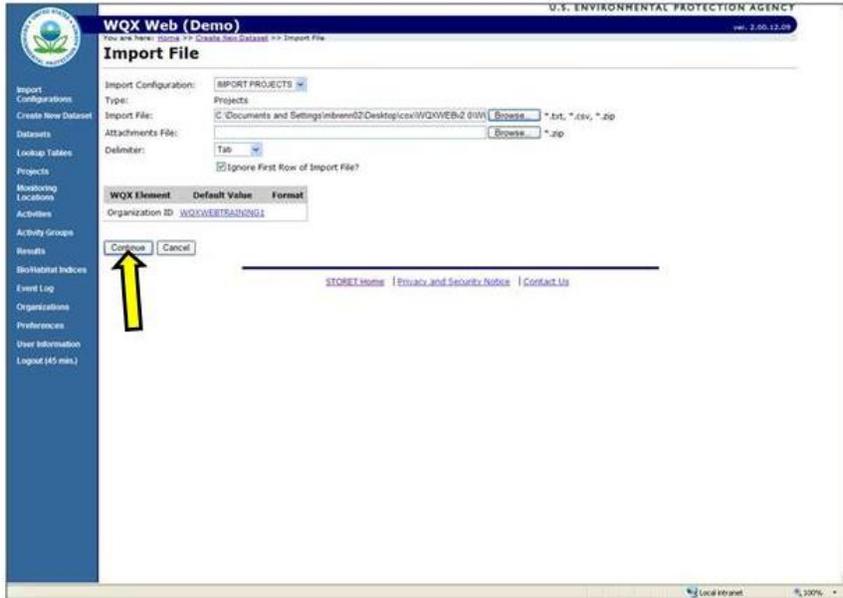
9. A message box will appear stating "*The first row of your import file will be ignored"*. The first row of the import file contains column titles. Select "OK".

10. The status of your submitted file, and details on the number of errors and warnings reported will be displayed on the Dataset Summary page.
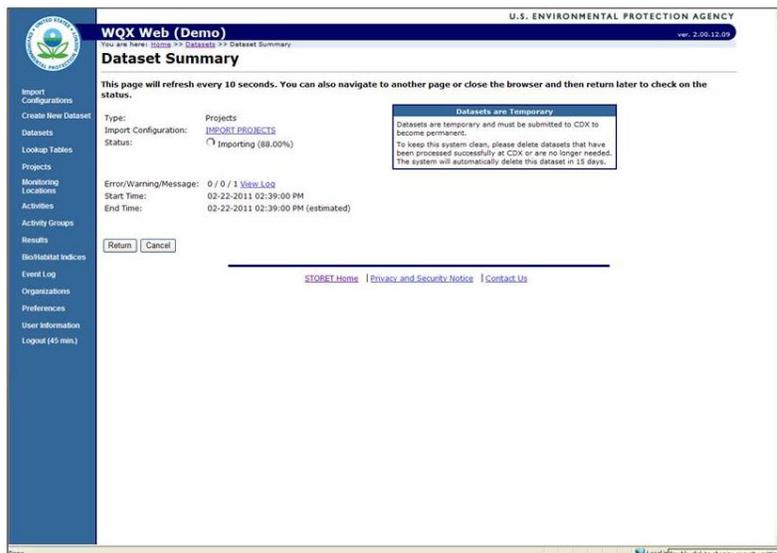
11. Note the status of the dataset summary says "*Imported*," indicting that the imported project file did not have any errors during the import. Errors and invalid projects are items that must be fixed before the file is submitted to CDX. Note the number of total "*Errors/Warnings*" and "*Invalid*" projects 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. Because the Project file is valid, click on the "Export/Submit File(s)" button to submit your file.
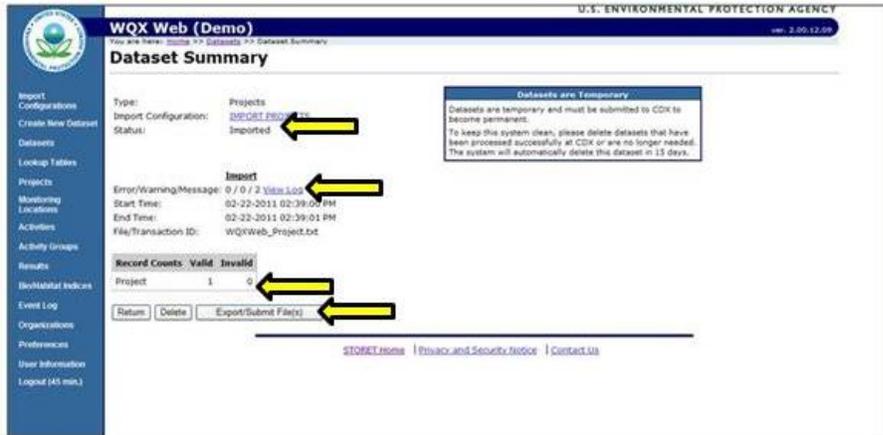
12. **Under the "WQX XML File" heading, select the "Export and Submit to CDX" radio button.** This choice will submit your file to CDX, in addition to creating an XML file, which you can save on your hard drive. It is important to note that if you clicked the "Export Only" radio button, then this would produce an XML file for you to save on your hard drive, but it would not submit the file to CDX. **Make sure corresponding information is filled in for "Author", "Organization" and "Contact Info" (email address). Click the Continue button on the bottom.**
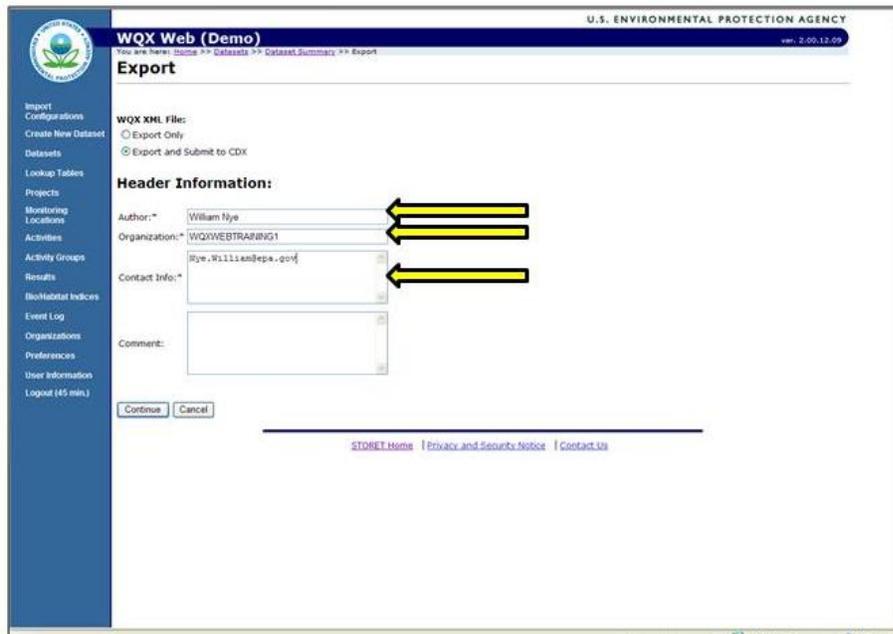
13. The status of your submitted file and details on the number of errors and warnings reported will be displayed on the Dataset Summary page.

14. 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.

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

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.

****Please note that if you view the processing report in your browser, in order to come back to WQX Web, you must click your browser's back button. Clicking to close the window will close your WQX Web session

Specific errors are listed in the Processing Log section at the bottom of the report. These are items that must be fixed before the file is submitted to the CDX. In this example, the projects file did not have any errors.

15. To save this XML file containing your data to your hard drive, select the
     "WQXSubmissions_12011_Update.zip" file, unzip the file, open the report itself, and
     then save it to the computer's hard drive.

16. After receiving the "Completed at CDX" status, select the "Delete" button to remove this
     submission from WQX Web. The data file has now been submitted to the STORET Data
     Warehouse. Submitted data can be viewed by selecting the Projects link on the left side of
   the page.

16. For a record of dataset submission, select "*Event Log*" on the Left side of the page.

17. Review the record of exports and deleted datasets provided in the "*Event Log*".

Summary

This tutorial has shown the basics of using WQX Web to submit a project data file to the STORET Data Warehouse. Please refer to the additional tutorials for guidance on importing Monitoring Locations, 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.