

WQX Web

User Guide

Version 3.0

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

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1. Glossary

The following is a glossary of some of the acronyms or terms used in this document (and the WQX Web Application). If a definition includes a term that is also in the glossary, it is displayed like [this](#).

Acronym/Term	Definition
Activity	A general term for a field sampling event that produces one or more Result or Metric . In WQX, an Activity tracks the location, date, and time of the sample or field measurement, as well as the equipment and methods used to collect, transport and store the sample.
Activity ID	<p>Each Activity must have its own Activity ID which is used to identify it in the system. An Activity ID must be unique (within your Organization). Accidentally reusing an Activity ID would result in data being overwritten in the system, so it's important to follow a standard that guarantees that each Activity ID is unique.</p> <p>One simple approach to creating your Activity ID is to combine several pieces of information about your Activity (such as the location, date, and type of activity). For example, a lab sample collected on 05/04/2013 at the "BearRiver1" Monitoring Location might have an ID of "BearRiver1-20130504-L" (where L represents lab data). Field Measurements & Observations at the same location might have an ID of "BearRiver1-20130504-F" (where F represents field data).</p> <p>If you collect several samples at a location, you might need to include the "Activity Start Time" (or something else) as part of your Activity ID to make sure that it is unique.</p>
Activity Group	<p>A collection of Activities that are related to each other. Each Activity Group must have an ID, a Type and include at least two Activities. The following types are currently supported:</p> <p><i>Field Set</i>: groups all of the field observations, measurements, and samples collected at a monitoring location on a specific date.</p> <p><i>QC Sample</i>: groups the samples and their related QC sample(s). For example, you might group a "Trip Blank" with all the samples from the trip.</p> <p><i>Replicate</i>: links a replicate sample with the original sample (that it would be compared against)</p> <p><i>Subsample</i>: groups composites, splits, or subsamples with their respective parent or related samples.</p>
Attachment	<p>Also known as an Attached Object (in WQX). This is an external computer file that is attached to a record in the database. The attachment may be a photo, a document, a spreadsheet, etc. The following entities allow attachments: Project, Monitoring Location, Activity, and Result.</p> <p>A common attachment on a Project might be your QAPP Document.</p>

	<p>A Monitoring Location or Activity might include a photo of the location.</p> <p>In locations where you collect continuous monitoring Results, EPA recommends that you create a summary Result (such as a 12-hour mean value) and then provide an attachment with the complete set of result values.</p>
Biological Intent	<p>An indicator of the type of biological results being provided. The following values are allowed:</p> <ul style="list-style-type: none"> • "Population Census" is for providing the total number of a species found in a sample or collection effort. • "Frequency Class" is for providing the number of a species that have certain attributes. One or more frequency class descriptors and, optionally, a lower and upper bound determine the class being counted. <ul style="list-style-type: none"> ○ Examples: <ul style="list-style-type: none"> ▪ the count of all Adult Males ▪ the count of those with tumors ▪ the count of those with a length between 5 and 10 cm • "Group Summary" is for providing summary information about all of a particular species that were collected. <ul style="list-style-type: none"> ○ For example: The Maximum, Minimum, and Mean Weight of a particular species of fish. • "Individual" is for reporting measurements for one individual. • "Tissue" is for reporting analysis results of a tissue sample. • "Toxicity" is for reporting the results of toxicity testing on a species.
CDX	<p>[The] <i>Central Data Exchange</i>. EPA's name for their node on the Exchange Network. Software, like WQX Web, communicates with CDX when it submits data to EPA and checks on the status of a data submission.</p> <p>CDX has two types of accounts that can be created:</p> <p style="padding-left: 2em;">CDX-Web Account: this account is used to log into the CDX web site and is required for every WQX Web User.</p> <p style="padding-left: 2em;">NAAS Account: this account is used by a Node (or Node Client) to communicate directly with CDX. WQX Web Users do not need a NAAS Account.</p> <p>The CDX Help Desk can be reached at: (888) 890-1995 or helpdesk@epacdx.net</p>
Characteristic	<p>The WQX element that identifies "what is being measured" in a field or lab result. This is sometimes called the analyte or parameter name in other systems.</p> <p>For example, if you collected a Dissolved Oxygen measurement of 8.27 mg/l and then wanted to load this result into WQX Web, then the Characteristic would be</p>

	"Dissolved oxygen (DO)". Also, the Result Value would be "8.27" and the Result Unit would be "mg/l".
Characteristic Pick List or Choice List	<p>The list of result values that are allowed for a specific characteristic. Only a small number of characteristics include a "Pick List".</p> <p>For example, when the characteristic is set to "Turbidity severity (choice list)" the result value must be one of the following:</p> <p>NONE, MILD, MODERATE, SERIOUS, EXTREME</p> <p>Most characteristics with a pick list, include "(choice list)" in their name. The WQX Web "Lookup Tables" page includes a link to the list of "Characteristics with [a] Pick List" and a link to the "Characteristic Pick List Value[s]" for each of those characteristics.</p>
Conducting Organization	<p>This is the name of the organization that collects a field sample or measurement.</p> <p>It's useful to understand that there are two organizations that can be referenced on an activity record in WQX.</p> <p>The [WQX] Organization (defined separately), is an official organization created in the WQX system. It's the organization that manages a set of data and submits it to EPA. When the term "organization" is used, it generally refers to a WQX Organization.</p> <p>In cases where the organization that performs the field work is not the same as the official WQX Organization, you are allowed to list one or more "Conducting Organization" for your activity. This might be the name of a contractor or external group that collected the sample. These organizations do not have unique IDs and are not validated in any way.</p> <p>Most smaller organizations do not use the Conducting Organization element, because they do their own field work.</p>
Context	<p>In WQX Web, context often refers to the bounds within which an identifier must be unique.</p> <p>For example, an "Analytical Method Context" is used to identify the organization that manages a set of Analytical Methods. This may be a WQX Organization (like "UTAHDWQ") or an external organization (like "IDEXX"). For example, the IDEXX context includes an Analytical Method ID of "Colilert". This does not prevent the "UTAHDWQ" context from also having an Analytical Method ID of "Colilert".</p> <p>When you reference an Analytical Method ID (in an import file, for example) you must also provide an Analytical Method Context.</p> <p>Most IDs, however, do not have an explicitly named "context". Instead, the WQX Organization is the context for entities that are imported and for some organization-specific domain values. For all other domain values, the context is the entire WQX System</p>
Crosstab File	In WQX Web, a crosstab file is a special type of spreadsheet or flat file format where column headers contain data that relates to all the rows of the file. A crosstab file is more concise than a standard file, because it avoids some of the

	<p>repetition that occurs in a standard file and typically includes many of the same type of entities on a single row of the file. For example, you could include many results on a single row (rather than just one). Many crosstab formats are supported in WQX Web, but the import configurations for them are quite a bit more difficult to set up.</p> <p>Here is an example of a standard file (with one Activity and one Result per row):</p> <table border="1"> <thead> <tr> <th>Activity ID</th><th>Activity Type</th><th>Activity Start Date</th><th>Monitoring Location ID</th><th>Characteristic</th><th>Result</th><th>Unit</th></tr> </thead> <tbody> <tr> <td>A1</td><td>Field Msr/Obs</td><td>5/4/1999</td><td>ML1</td><td>Temperature, water</td><td>1.5</td><td>deg C</td></tr> <tr> <td>A1</td><td>Field Msr/Obs</td><td>5/4/1999</td><td>ML1</td><td>Turbidity</td><td>-0.21</td><td>NTU</td></tr> <tr> <td>A1</td><td>Field Msr/Obs</td><td>5/4/1999</td><td>ML1</td><td>DO</td><td>6.5</td><td>mg/l</td></tr> <tr> <td>A2</td><td>Field Msr/Obs</td><td>8/8/1999</td><td>ML3</td><td>Temperature, water</td><td>15</td><td>deg C</td></tr> <tr> <td>A2</td><td>Field Msr/Obs</td><td>8/8/1999</td><td>ML3</td><td>Turbidity</td><td>4.3</td><td>NTU</td></tr> <tr> <td>A2</td><td>Field Msr/Obs</td><td>8/8/1999</td><td>ML3</td><td>DO</td><td>12</td><td>mg/l</td></tr> </tbody> </table> <p>And an example of the equivalent crosstab file (with one Activity and many Results per row):</p> <table border="1"> <thead> <tr> <th colspan="4"></th><th>Temperature, water</th><th>Turbidity</th><th>DO</th></tr> <tr> <th>Activity ID</th><th>Activity Type</th><th>Activity Start Date</th><th>Monitoring Location ID</th><th>deg C</th><th>NTU</th><th>mg/l</th></tr> </thead> <tbody> <tr> <td>A1</td><td>Field Msr/Obs</td><td>5/4/1999</td><td>ML1</td><td>1.5</td><td>-0.21</td><td>6.5</td></tr> <tr> <td>A2</td><td>Field Msr/Obs</td><td>8/8/1999</td><td>ML3</td><td>15</td><td>4.3</td><td>12</td></tr> </tbody> </table>	Activity ID	Activity Type	Activity Start Date	Monitoring Location ID	Characteristic	Result	Unit	A1	Field Msr/Obs	5/4/1999	ML1	Temperature, water	1.5	deg C	A1	Field Msr/Obs	5/4/1999	ML1	Turbidity	-0.21	NTU	A1	Field Msr/Obs	5/4/1999	ML1	DO	6.5	mg/l	A2	Field Msr/Obs	8/8/1999	ML3	Temperature, water	15	deg C	A2	Field Msr/Obs	8/8/1999	ML3	Turbidity	4.3	NTU	A2	Field Msr/Obs	8/8/1999	ML3	DO	12	mg/l					Temperature, water	Turbidity	DO	Activity ID	Activity Type	Activity Start Date	Monitoring Location ID	deg C	NTU	mg/l	A1	Field Msr/Obs	5/4/1999	ML1	1.5	-0.21	6.5	A2	Field Msr/Obs	8/8/1999	ML3	15	4.3	12
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CSV	<p><i>Comma Separated Value.</i> A computer file format for a table where each piece of information is separated by a comma.</p> <p>Files in this format can be imported into WQX Web.</p> <p>Microsoft Excel has a "Save As" menu that allows you to convert your spreadsheet to other computer file formats. If you choose the "CSV" type, then your file will be stored in a format where each column is separated by a comma character and each row is separated by a carriage return character.</p>																																																																													
Data	<p>In computing, data is information that is stored in a format that is convenient to process.</p> <p>Data may come from a probe, a lab, or be hand entered into software. Data is often stored in a flat file, spreadsheet, or database. The purpose of WQX Web is to convert this data into the format that is required for WQX.</p>																																																																													
Data Flow	<p>A named standard for a specific type of data available on the Exchange Network. Each data flow has a documented format (based on XML) that must be used when submitting that type of data to a node. WQX is the only data flow that is used by the WQX Web application</p>																																																																													
Dataset	<p>A dataset is a copy of the original data (from your spreadsheet or flat file) that has been imported into the WQX Web application. A dataset is temporary and</p>																																																																													

	<p>only becomes permanent once it has been exported and submitted to CDX (and receives a status of "Completed at CDX").</p> <p>A dataset should be deleted once it has been successfully submitted to CDX. If it is not deleted manually, it will be automatically deleted from the system (after a defined expiration period). This prevents the system from getting overloaded with temporary data that is no longer used.</p>
Domain Value or Lookup Value	<p>A value within the list of allowed values for a specific element. Each allowed value is unique (within a certain context)</p> <p>For example, "Water" is a domain value for "Activity Media". "Kick Net" is a domain value for "Sample Collection Equipment".</p>
Domain Value List or Lookup Table	<p>The list of allowed values for a specific element (or domain).</p> <p>For example, the domain value list for "Activity Media" includes: Air, Sediment, Soil, Water, etc.</p>
Element or Data Element	<p>In WQX Web, an element is a piece of information stored in the database. Examples of data elements are "Latitude", "Longitude", "Project Name" and "Activity Start Date".</p> <p>See also: Entity and Import Configuration.</p>
Entity	<p>A concept represented by a record in the database.</p> <p>Projects, Monitoring Locations, and Results are examples of entities.</p> <p>Each entity has a set of elements whose values describe it.</p> <p>For example: each Project (entity) has Project ID, Project Name, and Project Description (elements) whose values describe that specific project.</p> <p>Entities and Elements are particularly relevant when working with Import Configurations</p>
EPA	<i>[United States] Environmental Protection Agency</i>
Exchange Network	<p>Short for the National Environmental Information Exchange Network (NEIEN). The Exchange Network is an Internet-based system used by states, tribes, and other public/private organizations to securely share environmental data with one another and the EPA. Partners exchange data using a software application known as a node. The largest trading partner on the Exchange Network is the EPA. Their node is known by the acronym CDX.</p>
Flat File or Text File	<p>"Flat File" refers to a computer file that is organized into rows and columns. The term "flat" is used to differentiate it from file formats, like XML, that are hierarchical. "Text File" refers to a file that is plain text (i.e. no formatting or styling information, like fonts or colors, is included in the file). These two terms are often used interchangeably to refer to a file that contains plain text (data) and just a few specific formatting characters, which are used to mark the columns and rows in the file.</p>

	<p>These files often use tabs, pipes () or tildes (~) as delimiters (see Tab-delimited) and typically their file names end in ".txt". When commas are used as a delimiter, the files typically end in ".csv" (see CSV).</p> <p>WQX Web can only read flat files, so spreadsheets must be converted to one of these formats before they can be imported.</p>
IBI	<p><i>Index of Biological Integrity</i> (or <i>Index of Biotic Integrity</i>). An IBI uses the results of fish assemblage surveys to assess the ecological quality of waters. An IBI Score is the assessment score for a particular monitoring location on a particular date. An IBI is one type of index that is supported by WQX and WQX Web.</p>
ID, Identifier , or Unique Identifier	<p>A series of letters, numbers and/or other characters that serve as a unique label for an entity or concept. In WQX, IDs are not case-sensitive (e.g. "ABC-1" would be considered identical to "abc-1").</p> <p>Most entities that you import have an element that is its ID (e.g. Project ID, Monitoring Location ID, Activity ID, Activity Group ID, Index ID, and Metric ID). Many other elements are constrained to a list of allowed values (i.e. lookup table), which are referenced by their ID (although the element may not include "ID" in its name). Examples include: Sample Collection Method ID, Metric Type ID, Characteristic Name, and Result Laboratory Comment Code.</p> <p>In WQX Web, uniqueness is enforced within a specific context (see "Context")</p>
Index	<p>Each occurrence of a biological or habitat assessment record within the system. For example, if a habitat assessment is performed each year, for 3 years, on each of 5 monitoring locations, then there will be 15 Index records in the system. Each one will store the habitat assessment score for a particular monitoring location on a particular date.</p> <p>An Index Score is generally determined by totaling or averaging a group of Metric Scores for a particular monitoring location on a particular date.</p>
Index Type	<p>This element describes the type of index being evaluated.</p> <p>Before an organization can import their [Biological or Habitat] Index data, they must manually enter their list of Index Types into WQX Web.</p> <p>For example: Before importing your IBI data, you must first create an Index Type for your organization. The Index Type ID could be "IBI" and the Index Type Name could be "Index of Biotic Integrity". Each organization can create as many Index Types as they wish.</p>
Import Configuration	<p>A definition or map for each type of file that is imported into WQX Web.</p> <p>WQX Web provides a web page where a user can create their own import configurations. Import Configurations allow you to list each column that you have in your import file and map it to data elements that exist in WQX. You can create (and save) an unlimited number of Import Configurations, and you can share them with others, as needed. When you import a file into WQX Web, you must select an import configuration (by its name). This tells WQX Web what type</p>

	<p>of data you are importing and how it should interpret the data in your file.</p> <p>WQX Web includes a handful of import configurations that have been created and shared with all users. There are also some <i>example</i> Excel Spreadsheets that can create files that match these shared import configurations. These Excel Spreadsheets are referred to as Templates (see also "Templates")</p> <p>If a user relies entirely on templates, then they do not need to create their own import configurations. However, creating your own import configurations may reduce the work needed (in the long run) to get your data imported into WQX Web.</p>
Metric	<p>Each instance of a quantifiable component used in a biological or habitat assessment. A Metric has a score and a value (which is optional).</p> <p>For example: a metric for "Riparian Vegetation Zone Width" may have a value of "12.5 ft." and a score of "4".</p> <p>A metric is not required to be, but generally is, part of a biological or habitat assessment (whose final assessment score is stored in an index record).</p> <p>For example: the total of all the metric scores for an IBI determines the overall IBI score.</p> <p>Like Results, each Metric in WQX must be part of an Activity. Metrics do not have a [Unique] ID. Because of this, there is no way to add, update, or delete an individual Metric via an import file. You must always import an entire Activity and all of its Metrics, even when only one metric has changed.</p>
Metric Type	<p>This element describes the type of metric that is being evaluated.</p> <p>Before an organization can begin importing their Metric data, they must first create the list of Metric Types that they will be using.</p> <p>Examples of habitat metric types are "Riparian Veg Zone Width" and "Bank Stability".</p> <p>Examples of biological metric types are "Percent of Tolerant Species" and "Percent of Hybrids".</p>
Monitoring Location	<p>Also known as a site or station. This is the location (on a water body) where samples or field measurements and observations are collected.</p> <p>Before an organization's Activities, Results, Metrics or Indexes can be imported, their Monitoring Locations List must be imported and submitted to CDX.</p> <p>Updating a Monitoring Location will not affect the Activities, Metrics, or Results below it. However, deleting a Monitoring Location will delete the Activities, Metrics and Results below it.</p>
NAAS	<p><i>Network Authentication and Authorization Services</i>. The NAAS is used on the Exchange Network to validate a user before gaining access to a node.</p> <p>WQX Web uses a single NAAS Account when it communicates with CDX, so WQX</p>

	Web Users do not need to have their own individual NAAS Account.
<u>Node or Node Client</u>	Software used to send or receive data on the <u>Exchange Network</u> . Nodes can submit data to, and request data from, other nodes as well as receive data and respond to requests for data from other nodes. The most significant node on the <u>Exchange Network</u> is <u>CDX</u> (operated by the EPA). A limited node, known as a Node Client, is built into WQX Web, so that it can submit data to <u>CDX</u> .
<u>Organization</u> <u>or</u> <u>WQX Organization</u>	A state, tribe, volunteer monitoring group, or other public/private organization that manages water monitoring data. A physical organization may have multiple Organization records in WQX. For example, a state or tribe may choose to have separate Organizations [in WQX] for their beach monitoring program and their other monitoring programs. In WQX, an Organization is the <u>entity</u> that is the parent of all other <u>entities</u> (e.g. Projects, Monitoring Locations, Activities, etc.). Each Organization has a unique ID (which is approved by the EPA). Likewise, a user must be assigned rights to an Organization before he/she is allowed to import data belonging to it.
<u>Pick List</u>	A list of allowed values. In the WQX Web Application, a pick list may be displayed in a dropdown list, or a full-page list (also called the "Pick List"). The user can then select their choice from the list to complete the input operation.
<u>Probe or Sonde</u>	A water quality monitoring instrument, that may be stationary or may move up and down a water column, measuring, but not limited to, the following water characteristics: temperature, conductivity, salinity, dissolved oxygen, pH, turbidity, and depth Sonde is French for probe
<u>Project</u>	Typically refers to a water monitoring project with specific objectives and procedures. However, in WQX Web, a project is an <u>entity</u> created to group monitoring data for a variety of reasons. A project may represent an actual monitoring project, a source of funding (or program), or a department or group within the organization who is interested in a specific set of data. Before an <u>organization</u>'s <u>Activities</u>, <u>Results</u>, <u>Metrics</u> or <u>Indexes</u> can be imported, their Projects List must be imported and submitted to <u>CDX</u>. Updating a Project will not affect the <u>Activities</u> , <u>Metrics</u> , or <u>Results</u> below it. However, deleting a Project will delete the <u>Activities</u> , <u>Metrics</u> , and <u>Results</u> below it (unless the <u>Activity</u> relates to more than one Project). A Project must include a Project ID, Project Name, and either a Project Description or Project <u>Attachment</u> (often for the <u>QAPP</u>). Each <u>Activity</u> in WQX must be linked to a Project, and can, optionally, be linked to multiple Projects.
<u>QAPP</u>	<i>Quality Assurance Project Plan.</i> Documents the planning, implementation, and assessment procedures for a particular <u>project</u> , as well as any specific quality assurance and quality control activities. All work performed or funded by EPA,

	that involves the acquisition of environmental data, must have an approved <i>Quality Assurance Project Plan</i> .
QA/QC	<i>Quality Assurance/Quality Control</i>
Result	<p>This entity describes the results of a field measurement, sampling event, observation, or laboratory analysis.</p> <p>Each result in WQX, must be part of an Activity. Unlike most other entities in WQX, Results do not have a Unique ID. Because of this, there is no way to add, update, or delete an individual Result via an import file. You must always import an entire Activity and all of its Results.</p> <p>Example: You collect five Results from your multi-parameter probe at a site. You import and then submit these Results to CDX as part of a <i>single Activity</i>. You then discover a correction that needs to be made to one of the Results. To avoid any data being dropped from WQX, you need to import and resubmit the entire Activity including all five Results, rather than just the one result that changed.</p>
Spreadsheet	<p>A computer file for data in tabular form (i.e. rows and columns). Rows are often referenced with numbers and columns are often referenced with letters. The file can also include functions, formatting information, charts, comments, etc.</p> <p>The most common spreadsheet software is Microsoft Excel. Others include OpenOffice Calc and Google Docs Spreadsheets.</p> <p>Before a spreadsheet's data can be used by WQX Web, it must be converted to a simpler, flat file format.</p>
STORET	<p>STOrage and RETrieval [System]. The original name for the software and database [system], created by the EPA in the late 1960's, to hold ambient water monitoring data throughout the country. In 1999, EPA created a new system, Modernized STORET, which it provided freely for organization to manage their own data. They also created a national database known as the STORET Data Warehouse. At that time the original STORET system became known as Legacy STORET. In 2006, EPA released WQX and a few years later retired the [Modernized] STORET System.</p> <p>Today, STORET refers to the STORET Data Warehouse that holds data from the Modernized STORET System and from WQX.</p> <p>STORET is also the name for the helpdesk, at the EPA, which supports WQX, WQX Web and the STORET Data Warehouse. The helpdesk can be reached at: (800) 424-9067 or STORET@epa.gov</p>
System	Another term for a software application (and database). For example, the "WQX Web" System.
Tab-Delimited File	<p>A computer file format for a table where each piece of information is separated by a tab character.</p> <p>Files in this format can be imported into WQX Web.</p>

	Microsoft Excel has a "Save As" menu that allows you to convert your spreadsheet to other computer file formats. If you choose the "Text (tab delimited)" type, then your file will be stored in a format where each column is separated by a tab character and each row is separated by a carriage return character.
Template	An Excel Spreadsheet that EPA provides to users of WQX Web. Users can enter their data into one of these spreadsheets and use it to create a file that can be imported into WQX Web. WQX Web Templates are just one way to build a data file that can be imported into WQX Web. WQX Web can import files in a wide variety of formats, but if you use your own format, you will also need to create your own import configuration to match it (or modify an existing import configuration).
User	An individual who uses a system (i.e. software). Someone with a CDX -Web Account who has been granted access to the WQX Web System is a WQX Web User. A user must provide their login name and password before gaining access to WQX Web. EPA must grant a user with rights to a specific Organization before the user is allowed to view, import, or submit data for that Organization .
WQX	<i>Water Quality Exchange.</i> The data flow (at CDX) and the system at the EPA which receives ambient water monitoring data from organizations throughout the United States. WQX was developed by Gold Systems in 2006. It replaced the STORET System .
WQX Web	Software created for the EPA, by Gold Systems, to assist users with converting their electronic data files into the format that is required for WQX .
XML	<i>Extensible Markup Language.</i> A common standard for formatting data for computer systems to read. XML is a hierarchical format where child data can be nested within parent data. This is the basis for all data exchanged on the Exchange Network (including WQX). It is more difficult for humans to create and/or read than a spreadsheet (such as the WQX Web Templates) or a flat file . WQX Web Users should not generally need to work with XML documents directly.

2. Introduction

The Water Quality Exchange (WQX) has been implemented to support the exchange of ambient water-quality data between EPA and its partners. WQX version 1.0 supported physical, chemical and fish tissue results. WQX version 2.0 incorporated biological and habitat data elements into the standard. WQX version 3.0 was designed to further enhance features built into 1.0/2.0.

The WQX data standard is based on XML – a widely supported format for electronic data communication. Adopting the WQX standard frees a data provider from a dependency on any specific system, such as STORET, for managing and submitting data to EPA. However, this also means that a data provider must format their data in compliance with the WQX standard before it can be accepted by the EPA.

In the transition from STORET to WQX (and the Exchange Network), the EPA recognizes that new challenges have been presented for some of their data providers. In particular, many of the smaller

organizations such as the nations' tribes, volunteer monitoring groups, and superfund programs may need support to produce the XML file required by WQX. Additionally, many of these organizations may not be familiar with, or have access to, the exchange network node software required to submit WQX files to the EPA.

WQX Web is a web-based application designed to assist organizations with these specific needs.

3. WQX Web Overview

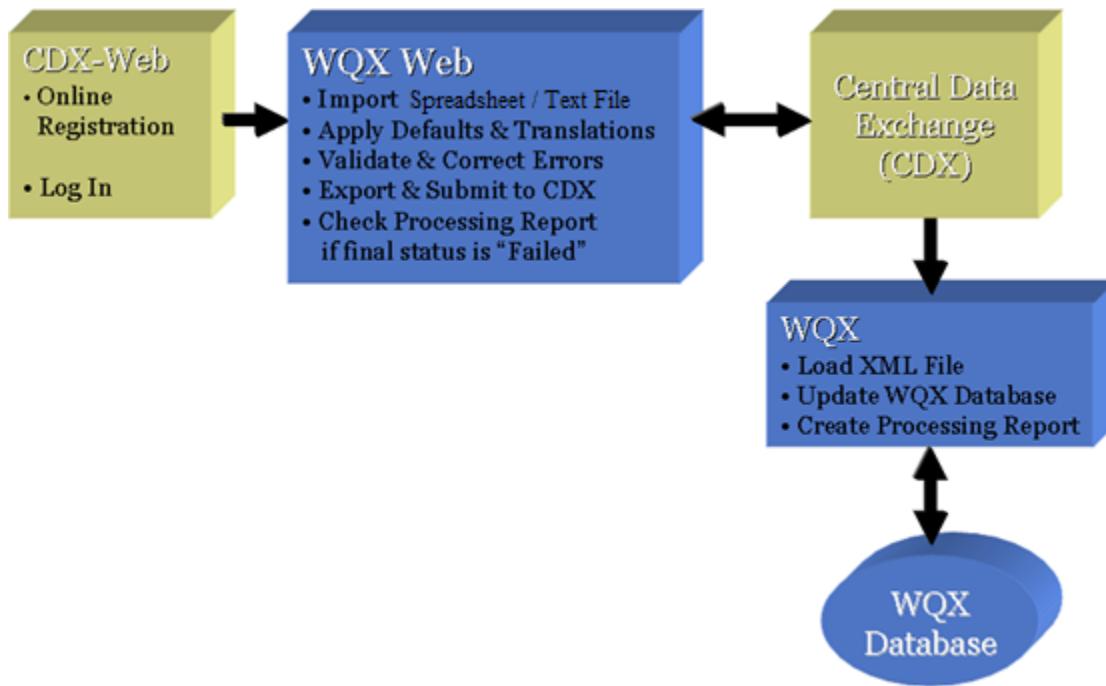
3.1 What does WQX Web do?

WQX Web is a tool for converting tabular data files (such as data from a spreadsheet) into an XML file that complies with the WQX Data Standard. WQX Web also interacts with the Central Data Exchange (CDX), which is the EPA's portal through which all environmental data is expected to flow. WQX Web is also a data conversion and validation tool, providing support for user-defined file formats and user-defined translations to WQX domain values for Characteristics, Taxonomic Names, Analytical Methods, etc.

3.2 How does WQX Web fit into the big picture?

WQX Web integrates into a set of products and services provided by the EPA, as shown in figure 1 below. This set includes the following items:

- i. CDX-Web: This is CDX's web portal, providing access to applications and data flows within CDX that are accessible via a web browser. Before a user can use WQX Web, they must first register with CDX-Web, be given an Organization ID and granted access to the WQX Web application. Once you log into CDX-Web, you will see a link to the WQX Web application.
- ii. WQX Web: The tool that will assist a user in converting a flat file into a WQX-compatible submission file.
- iii. CDX: Central Data Exchange (EPA's Node on the Exchange Network). Once a WQX Submission File is created in WQX Web, it can be submitted directly to CDX.
- iv. WQX: This is the backend system that processes a WQX Submission File and loads it into the WQX Database. This data is also loaded into the STORET Data Warehouse on a regular basis.



With the addition of WQX Web in January 2009, an organization had two options for submitting ambient water quality monitoring data to the EPA:

1. XML file sent directly to CDX:

This method requires a node on the Exchange Network and the ability to create a WQX-compatible XML file. This is the method commonly used by states and other large organizations with their own Information Technology support staff.

2. Tabular data file imported into WQX Web, converted to a WQX-compatible XML file and then submitted to CDX:

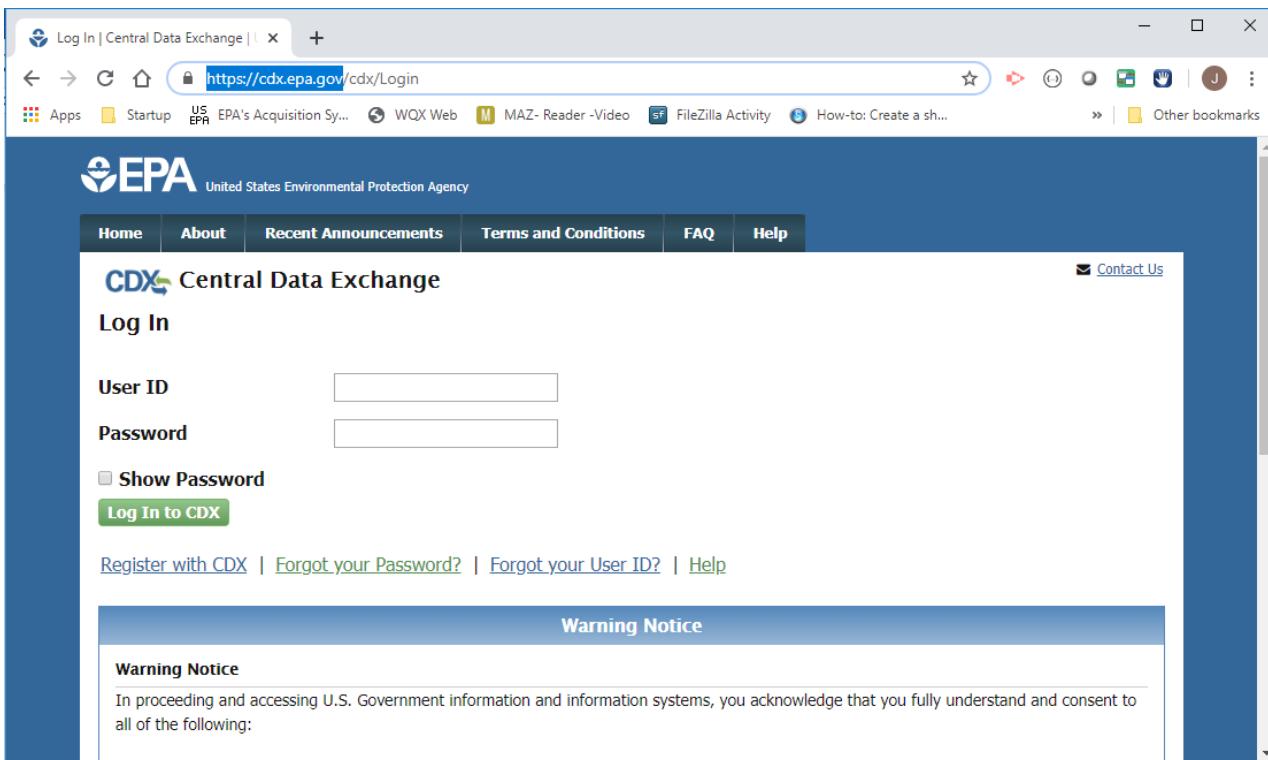
This method requires an Excel spreadsheet or text file (such as a CSV or TXT file created from products like Microsoft Excel or Access). This is the method anticipated to be used by smaller organizations without IT support staff or their own Exchange Network Node. Files that may not initially comply with the WQX standard can be converted to the standard.

3. A third, hybrid option for submitting data to EPA could be to use WQX Web to create a WQX-compatible submission file, then download the file and submit it CDX via your state or tribe's node. This may be appropriate if you have your own node on the Exchange Network, but don't have the ability to create a WQX-compatible XML File.

3.3 Overview of WQX Web Security

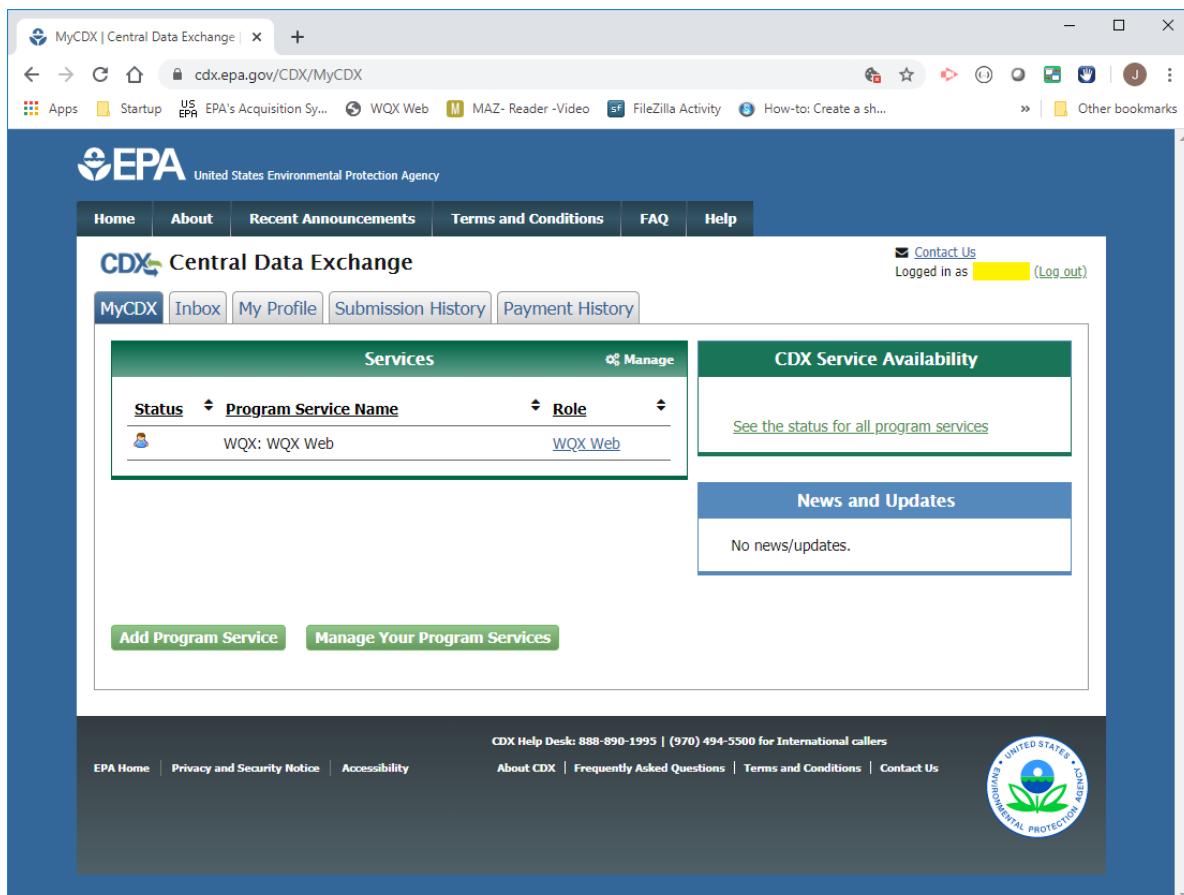
In order to access the WQX Web application, you must log into CDX-Web, as shown in Figure 2 below.

WQX Web User Guide



(Figure 2)

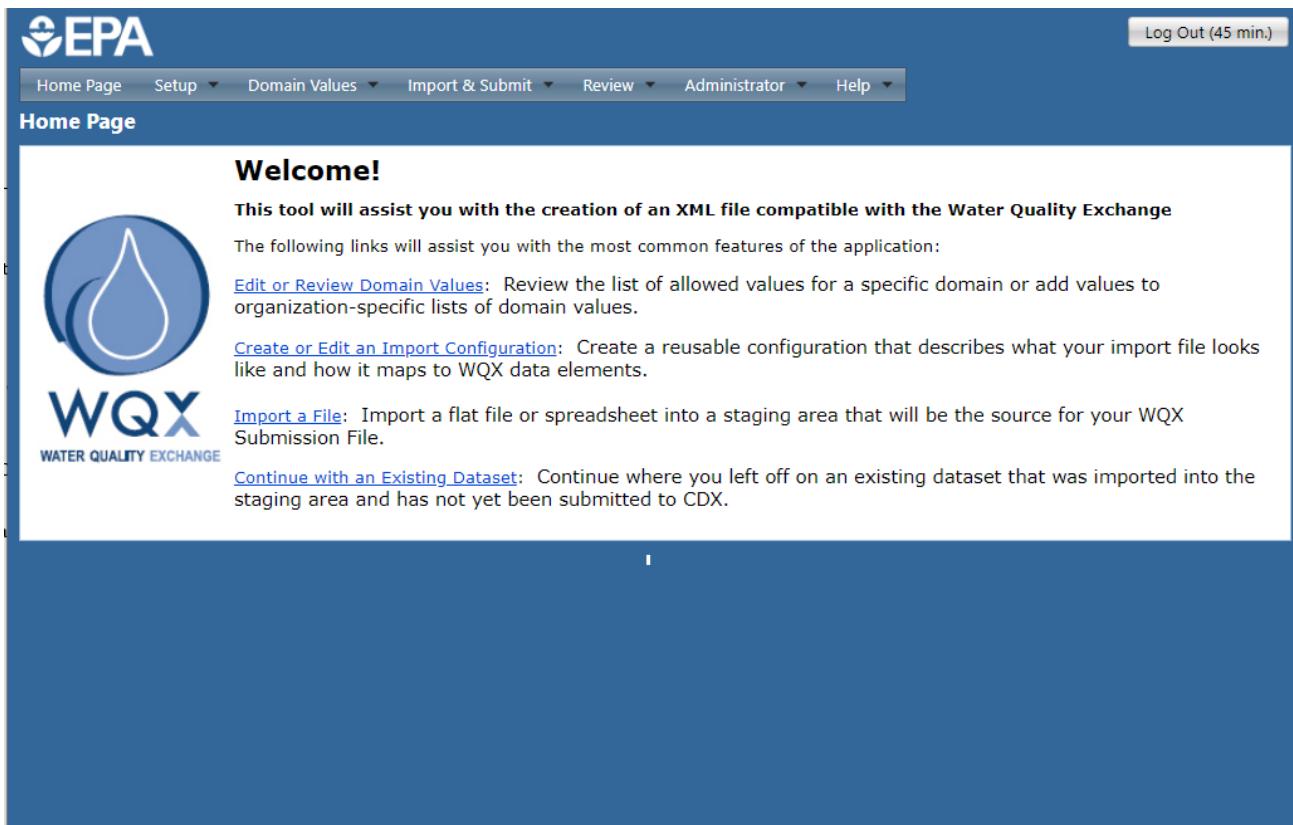
After successfully logging in, you will be placed on the My CDX Page. If you've been granted access to the WQX Web System, you will see a link to it on the My CDX Page (see figure 3 below).



(Figure 3)

WQX Web User Guide

Clicking on the "WQX Web" link will redirect you to the WQX Web Home Page below:



(Figure 4)

The following is a summary of the security features in WQX Web:

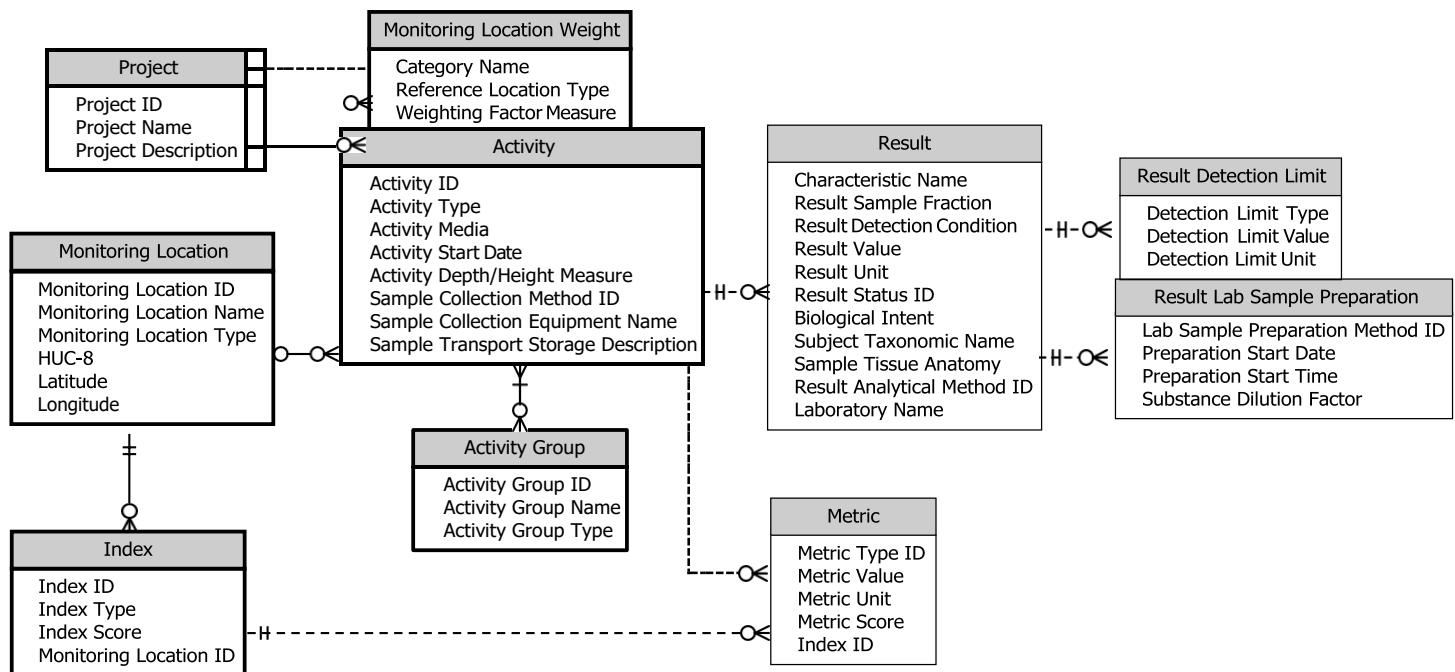
- v. **Users:** Each user must have an account in the system and must log into CDX Web with his/her password in order to access the system.
- vi. **Roles:** Each user is assigned to a role which will determine their access rights to certain pages or features within the system. Roles are not, for the most part, used to assign rights to data. See "Access Rights" below to understand how users gain access to data. Most users are assigned the "Standard User" role. There are also roles for "Administrator", "Support User" and "Training User" which have different access rights. Administrators are allowed to manage users, organizations and rights to those organizations. Administrators and Support Users are allowed to view some "admin" pages in WQX Web that are used to review logs, check on status of transactions, etc.
- vii. **Access Rights:** A user must be granted access to an organization before they can view, import, or submit data (relating to that organization). A user can be assigned "Read-Only" rights or "Administrator" rights on an organization. Only an organization administrator can manage that organization's lookup table values.
- viii. **Lookup tables:** Most lookup tables are read-only and are managed by EPA staff. However, WQX has a couple of tables (e.g. "Analytical Method" and "Metric Type") which support organization-specific values as well as EPA managed values. WQX Web also supports a number of additional lookup tables that do not exist in WQX. These tables are used to simplify import files by allowing a file to reference a set of related fields by their ID. For example: A Sample Collection Method in WQX includes the following fields: Method ID, Context, Name, Qualifier Type, and Description. Rather

than repeating all of this information on every sample in the import file, once you set up the Sample Collection Method in WQX Web's lookup table, you can reference it in your import file by its ID and all the details will be automatically inserted into your submission file when you export it. The WQX tables, Analytical Method and Metric Type work similarly. However, you must reference the ID and Context in your import file to identify one of these.

- > **ix. Import Configurations:** An import configuration is used to describe what an import file looks like. You can create as many import configurations as you like. By default, the import configuration is only accessible by the user who created it. However, you can assign rights to any additional users. You can also restrict access to be "Read-only", if you wish to allow someone to use it or create copies of it, but not be able to modify it.
- x. Datasets:** a collection of data that has been imported for an organization is accessible by anyone who has been granted at least "read-only" rights to the organization.

3.4 Understanding the WQX Data Structure

To fully understand how to use WQX Web, it is necessary to first understand the types of data WQX supports and how they relate to one another. Below is a simplified model of the entities and elements that exist in WQX (as well as the relationships between them).

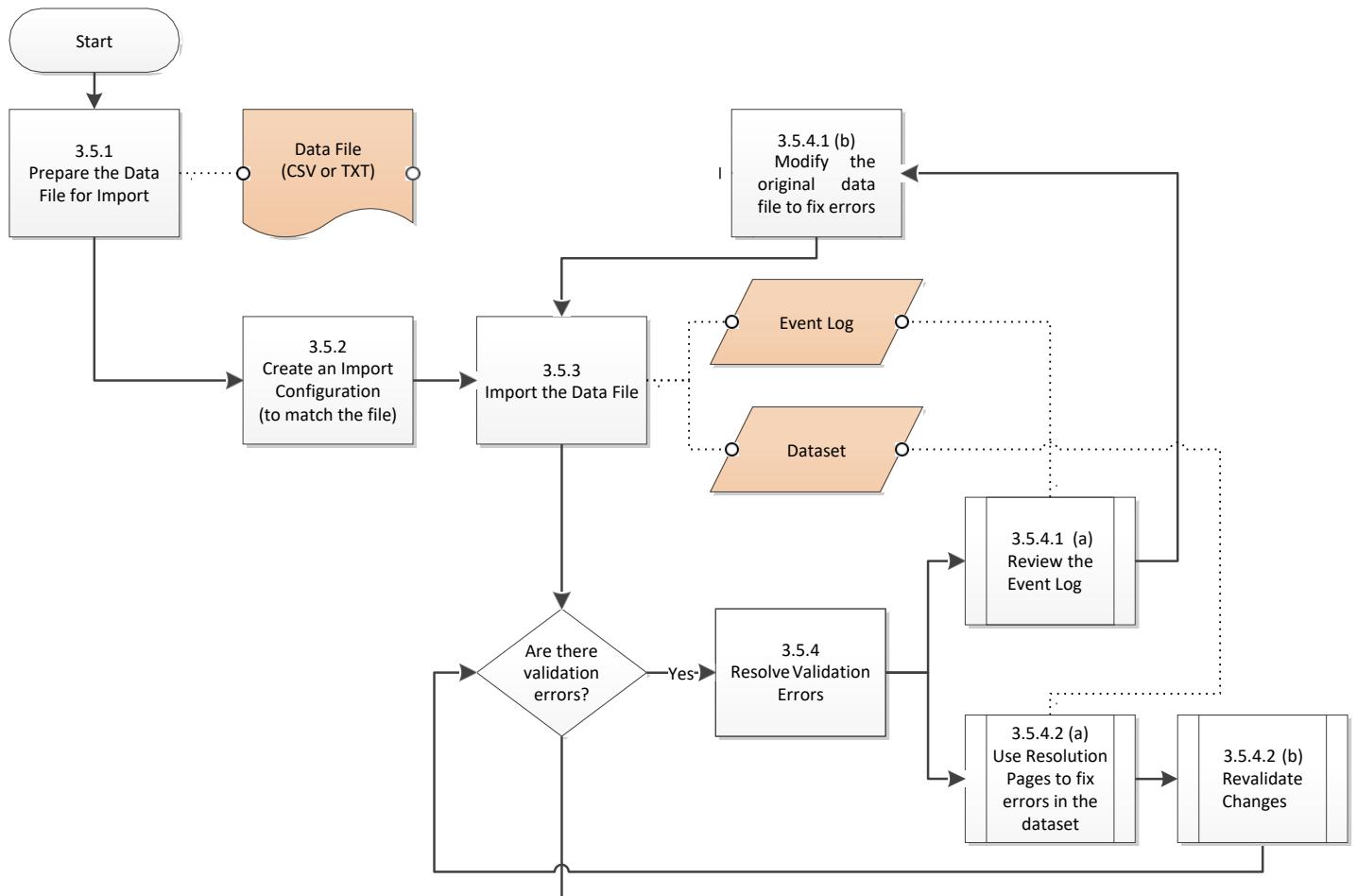


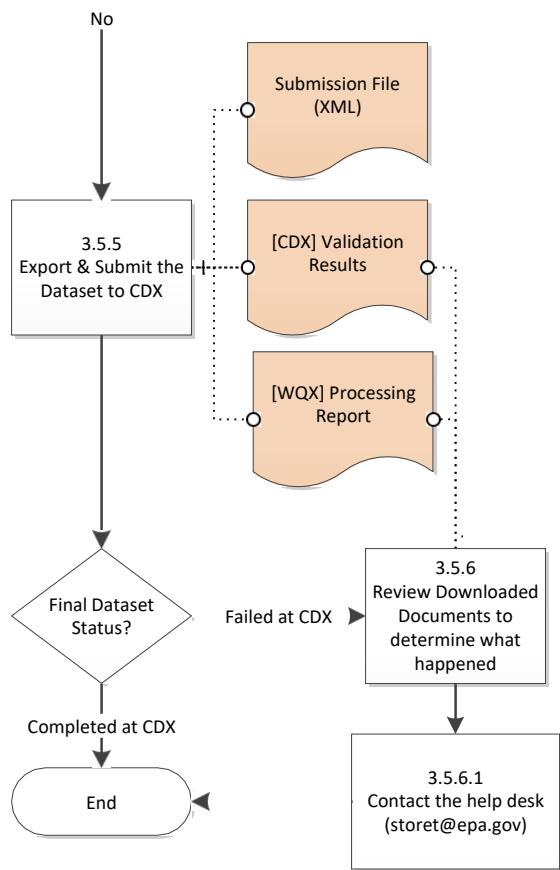
See Section 1 for a description of each of the entities (i.e. boxes) in the model above.

A box of related elements is known as an "entity". Lines connecting boxes represent relationships between entities. A three-pronged symbol (known as a crow's foot) on one end of a line, indicates that the entity on the other end of the line can relate to more than one of the entities with the crow's foot. For example, an Activity (e.g. a water sample) can relate to more than one [Lab] Result and a Result can have more than one Result Detection Limit.

3.5 Overview of WQX Web Workflow

The diagram below outlines the basic workflow for importing a data file into WQX Web and submitting it to CDX (for final processing).





3.5.1 Prepare the Data File for Import

The user gathers their water quality monitoring data into a series of Excel spreadsheets or text files that are organized into rows and columns, with the columns delimited by a character such as a comma or a tab. Microsoft Excel supports comma and tab-delimited files from its "Save As" menu. This is convenient for hand-entered data that is already in a spreadsheet. Lab data or probe data is often in a format supported by WQX Web. However, you may need to load it into a spreadsheet to do clean up or to add additional values required by WQX.

The following types of import files are supported by WQX Web:

- Projects
- Monitoring Locations
- Monitoring Location Weights
- Biological/Habitat Indices
- Activities and Results
- Activities and Metrics
- Activity Groups
- IDs for Projects to be Deleted
- IDs for Monitoring Locations to be Deleted
- IDs for Biological/Habitat Indices to be Deleted
- IDs for Activities to be Deleted

IDs for Activity Groups to be Deleted

3.5.2 Create an Import Configuration

Before importing a file, a matching import configuration must be defined. An import configuration describes the columns in your import file and maps them to data elements in WQX. You can provide default values for elements that may not have a value or that are not included in the file. Additionally, you can define translations to convert values in your files to valid values in WQX. You may leverage existing import configurations that have been shared with you (if you belong to a group that follows a standard format for your import files), or you can create import configurations from scratch to match your own proprietary file format.

3.5.3 Import the Data File

To import a file, you will need to indicate the import configuration that describes your import file format. Then browse to your file and begin the import process. As the file is being processed, the system will load your data into a temporary table in the database. This will be called a "Dataset" by the system. The system will also log any warnings or errors that it encounters into an "Event Log". Once the import has completed, a "Dataset Summary Page" will display the following:

- the number of valid and invalid records
- the number of each type of validation error and, in some cases, a link to a page where that type of error can be corrected.
- a link to the Event Log where you can review all errors and warnings encountered while processing the file.

3.5.4 Resolve Validation Errors

There are two approaches to resolving errors with your import file (or dataset).

1. Review the errors in the event log, modify the original data file, then reimport the file.
2. Use "Resolution Pages" to fix errors in the dataset and then revalidate the changes.

3.5.4.1

a) Review the Event Log

The Event Log lists the messages, warnings, and errors that occurred with your file while it was being processed. The page can provide a list of each individual error (and the row it occurred on) or a summary of each error (with the number of times it occurred). You can also export the log if you wish to review it offline.

b) Modify the Original Data File to Fix Errors

Using the list of errors from the Event Log, you can then correct your original data file, using a tool like Microsoft Excel, and then reimport your file to confirm that all of the errors have been corrected.

3.5.4.2

a) Use Resolution Pages to Fix Errors in the Dataset

An alternative to correcting your import file, is to make corrections to your imported dataset within WQX Web. You can click on the links next to a specific type of validation error to navigate to a page where you

can resolve the error. For example, if a value from your import file did not match a valid domain value in WQX, a resolution page will let you correct the value, by picking a valid value from a list, and, if you wish, create a translation so you will not have to make the same correction in the future (which can be a big time-saver). Not all validation errors can be corrected. If an error is one of these "other" errors, which only show up in the Event Log, then you may be required to correct your original file and then re-import it (as explained previously).

b) Revalidated Changes

When any changes have been made to your dataset, it must be revalidated. This is done, after all changes have been completed, by clicking on the "Revalidate Changes" button (on the Dataset Summary Page). When the button is clicked, all rules will be rechecked against your modified dataset to determine what validation rules, if any, are still broken. The Dataset Summary Page will then provide updated counts of the number of validation errors that originally occurred and the number that are still unresolved.

3.5.5 Export & Submit the Dataset to CDX

Once the validation errors have been resolved, you should export and submit your data file to CDX to make the data final. Technically, you are allowed to submit your data when there are still unresolved validation errors, but any invalid records will be excluded. It is strongly recommended to submit your data only after all your validation errors have been resolved to avoid data gaps or other potential issues with your submission file. Once your data has been exported from WQX Web, the Dataset Summary Page will provide a link to the submission file that was created and then the file will be submitted to CDX. CDX will then validate that the file is in the correct XML format and send the file to the backend WQX System, which will load it into the official WQX Database. While the file is being processed by CDX and WQX, your dataset status will be "Processing at CDX". For large submission files, this could take more than an hour to process. WQX Web doesn't currently have access to the progress on this step (at CDX and WQX), so it just displays a fixed "% Complete" (e.g. "60% complete") until it receives notification that the file has completed processing by the WQX System. At that point your dataset's status will change to reflect the final outcome by WQX. If the file was processed without any errors, which should generally be the case, then the dataset's status will change to "Completed at CDX". In this case, no further steps are required. Otherwise, the status will change to "Failed at CDX".

3.5.6 Review Downloaded Documents (to determine what happened)

WQX Web should have checked all the WQX rules before sending your file to CDX (and WQX), so it should be rare for a submission to fail. When the final status of your dataset is "Failed at CDX", then you should review the documents that were downloaded from CDX, to try to determine what happened.

There are two files to review:

ValidationResults.xml: this file indicates whether the submission file was formatted correctly and was considered valid by CDX before it passed the file to the backend WQX System to be loaded.

ProcessingReport.xml: this is the processing report created by WQX when it attempted to load your submission file. There are two ways to view this report: As XML or as a web report (in the browser). Generally, the web report is much simpler to read (although it only provides a summary of the errors).

3.5.6.1 Contact the Help Desk

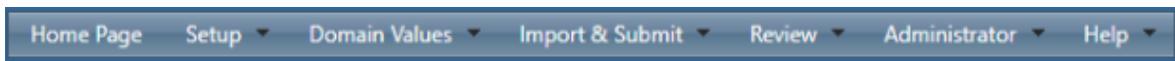
If, after reviewing these files, it appears that an error occurred at CDX or in the WQX System, then you should contact the WQX/STORET Help Desk for further assistance. You can do this by sending an email to storet@epa.gov. You should provide them with the Dataset ID # and the error message from the downloaded file.

3.6 Standard Page Features

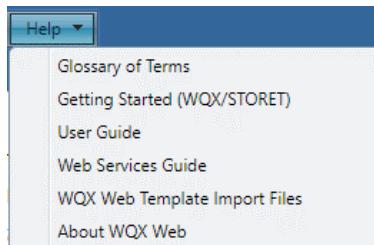
There are many features within WQX Web that are common to all pages or to a group of pages. These sections describe those common features.

3.6.1 General Page Features

- All dates in the system will be formatted as "MM-DD-YYYY".
- Pages are designed for screens that are least 1,280 pixels wide (the size of a typical modern laptop).
- A navigation menu bar will be available at the top of the page to facilitate navigation to higher-level pages in a hierarchy (see below):



- Each page will have links at the top via the help menu to access the WQX Home page, view the user guide documentation or contact the WQX Support. Note: these links navigate out of the application. Each help menu item will open as a new tab or new page (see below):



- The "Logout" button is a special case that deserves some explanation. When you click the link, your session will be closed, and you will return to the Login Page at CDX. This is a good practice when you are done using the application because it frees up resources that are used by your application session

Also, the Logout link will display the time remaining before you will be automatically logged out (due to inactivity). The time is refreshed every 5 minutes. Any time you perform an action that causes a page to be accessed, the time will reset to its default(45 minutes).

3.6.2 List Page Features

All pages whose purpose is to display a list/table of data will have the following standard features:

- Tables will display a user-specified number of rows (e.g. 500) as defined in your user preferences.
- Row numbers will be displayed to indicate what portion of the total rows you are viewing (e.g. Row 1 - 500 of 29072).
- Arrows are available at the bottom left hand corner for paging through the list (when there are more than one page of data)

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- Column headings can be clicked to sort the list by the selected column. One click will sort in ascending order. A second click will sort in descending order. A third click will turn off the sorting for that column.
- The page will only display data which you have been granted access to.
- Return button – Returns you to the previous page or the page above it in the hierarchy and saves any work done on the current page you are on.
- Cancel button – Returns you to the previous page or the page above it in the hierarchy without saving any work done on the current page you are on.
- Save button – Saves your work and keeps you on the same page.
- Add New button – Initiates the process of creating a new record for the type of list you are viewing (in most cases this takes you to a detail page where you can add a new record).

Pages with search criteria may also include the following:

- Search button – this will initiate the query and return the results to the page.
- Clear search criteria button – this will clear the search criteria and previous results.
- Search Criteria – the following types of controls are used for search criteria:
 - Dropdown List (see example below)

Organization ID:

The dropdown provides you a list of allowed values for the criteria. If there is a blank row in the list, then the criteria is optional.

- Link (see example below)

Characteristic: [{none}](#)

Click the link “{none}” to view a full-page list of allowed values. Some lists (like Taxon or Characteristic) may include search criteria to find the value you are looking for). If so, enter a partial name and click the Show Values button.

This screenshot shows a user interface for managing taxonomic names. At the top, there is a dropdown menu labeled "Organization ID" with the value "WQXTEST ~ Test Organization sup". Below this, a list of taxonomic names is displayed in a table. The table has columns for "Element" (Subject Taxonomic Name) and "Value" (which shows "(None)"). A tooltip at the top of the table area states: "This is a list of required values that were not provided in your import file. Provide a value for each one and then save your changes." To the right of the table, a search dialog is open titled "TAXON". It contains a search bar with the placeholder "Taxon Name (contains):* salmon" and two buttons: "Search" and "Cancel". The search results table shows various taxonomic names like "Americorophium salmonis", "Arctopora salmon", etc., along with their ranks (Species, Family, Order, Subfamily) and status (Accepted, Deprecated, Not Assigned).

Column	Row	Element	Value
All	5th Sheet, Row 19	Subject Taxonomic Name	(None)

TAXON			
Taxon Name (contains):* salmon			
Search Cancel			
Name	Rank		
(none)			
Americorophium salmonis	Species	Not Assigned	Accepted
Arctopora salmon	Species	Not Assigned	Accepted
Conocara salmoneum	Species	Not Assigned	Accepted
Ericara salmonaea***retired***use Conocara salmoneum	Species	Not Assigned	Deprecated
Ericara salmonicum***retired***use Conocara salmoneum	Species	Not Assigned	Deprecated
Prionotus salmonicolor***retired***use Prionotus rubio	Species	Not Assigned	Deprecated
Salmonidae	Family	Not Assigned	Accepted
Salmoniformes	Order	Not Assigned	Accepted
Salmoninae	Subfamily	Not Assigned	Accepted
Salmoidei***retired***use Salmoniformes	Order	Not Assigned	Deprecated
Trachipterus rexsalmonorum***retired***use Trachipterus altivelis	Species	Not Assigned	Deprecated

Then click the value you are interested in to select it.

A value of **{none}** indicates the criteria should be ignored

- Date (see example below)

Activity Date (min):

  max: 

You may enter a date in the box (with the keyboard) or click on the calendar icon to view a calendar, where you can select a date.

If there is a date range for criteria

- entering just a beginning date, will find all values on or after that date
 - entering just an end date will find all values before or on that date
 - entering both dates will find a value between (and including) those dates.
- Text Box (see example below)

Activity ID:	<input type="text"/> Contains 
Sampling Component:	<input type="text"/> Equals
Biological Intent(s):	<input type="text"/> Starts With
Characteristic:	<input type="text"/> Ends With
	<input type="text"/> Contains

Utilize the drop-down menu in front of the text box to select if your text “equals”, “starts with”, “ends with” or “contains” the value you are searching for.

3.6.3 Detail Page Features

All pages whose purpose is to serve as a form for viewing and editing records will have the following standard features:

- The **Save** button – will validate the data that has changed and then save any changes made to data in the form and then refresh the page. If validation errors are found, the record will be redisplayed (and not saved) and the errors messages will be listed on the page. On exception exists: The Import Configuration Page will save your changes and mark the record invalid if there are validation errors, so you can return and correct them later.
- The **Return** button – will save your changes (if any) and will return you to the previous page, as long as there were no errors while saving.
- The **Cancel** button – will abort any changes made to data on the page since the data was last saved (or since it was retrieved) and then return you to the previous page.
- The **Delete** button – will delete the record displayed on the page. The system will prompt you for confirmation before the record is deleted.
- An **asterisk** at the end of a field label will indicate that the field is always required. However, some fields will be conditionally required based on the existence/non-existence of other values and will not necessarily have an asterisk on their label. The system will notify you of these conditionally required fields when you save the record.

3.6.4 Hybrid Pages

Organization-specific lookup tables are hybrid pages that share most of the features of list pages and detail pages. See section 11 Managing Lookup Tables for more details.

4. Import Configurations

Before proceeding, it is useful to have a basic understanding of the WQX data model. *See Section 3.4 for a simplified model of the data elements that exist in WQX.*

WQX Web provides a way for a user to import data that are commonly stored in spreadsheets or text files and send that data to the WQX System. The way that you tell the system how it should interpret your import file is with an "Import Configuration". Import Configurations allow you to list each column that you have in your import file and map it to data elements that exist in WQX. You can create (and save) an unlimited number of Import Configurations, and you can share them with others, as needed.

Only certain combinations of entities (from the model above) can be imported in an individual import file. For example, Project data must be imported separately from Monitoring Location data. However, Activities, Activity Groups, Results, Result Detection Limit, and Result Lab Sample Preparation data can all be included in a single import file. The following types of imports (and Import Configurations) are supported by the system:

Projects

Monitoring Locations

Monitoring Location Weights

Biological/Habitat Indexes

Activities and Results

This includes: Activities, Activity Groups, Results, Result Detection Limits, and Result Lab Sample Preparation

Activities and Metrics

This includes: Activities, Activity Groups, and Metrics

Activity Groups

There are three methods for creating an Import Configuration:

- Create a new import configuration from scratch.
- Copy an existing import configuration or template.
- Create an import configuration from a saved file.

4.1 Creating a New Import Configuration

Click on the “Import Configurations” link on the navigation panel to display the Import Configurations List Page.

Import Configurations				
Search Clear Search Criteria Add New				
Search Criteria		Configurations		
ID ▲	Type	Name	Default Organization	Owner
3129	Projects	Import Projects	MIAMITRIBEOFOKLAHO	Heather Renee Webb
3130	Monitoring Locations	Import Monitoring Locations	MIAMITRIBEOFOKLAHO	Heather Renee Webb
3131	Results & Activities	Import Results	MIAMITRIBEOFOKLAHO	Heather Renee Webb
3132	Results & Activities	R10DUWAMISH ActivityResults 3	R10DUWAMISH	Matt Gubitosa
3133	Monitoring Locations	MFA Import Monitoring Locations	MAULFOSTER_WQX	Andrew Riddell
3136	Results & Activities	MFA IMPORT RESULTS	MAULFOSTER_WQX	Andrew Riddell
3137	Projects	MFA Import Projects	MAULFOSTER_WQX	Andrew Riddell
3138	Monitoring Locations	PAUMA MONITORING LOCATION	PAUMATRIBE	Mark Robe
3139	Results & Activities	PAUMA RESULTS	PAUMATRIBE	Mark Robe
3140	Results & Activities	PAUMA RESULTS	PAUMATRIBE	Mark Robe
3142	Results & Activities	DecIMPORT RESULTS Configuration	THCOENVHWA_WQX	Cathy Hansen

Click the “Add New” button.

The New Import Configuration Page will display.

Select which method to use to create a new import configuration.

- From Scratch

Choose the “from scratch” radio button and then select the import configuration type from the drop-down menu. Then click “continue” to build your configuration.

Add New Import Configuration

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

Create:

from scratch

from an existing configuration or template

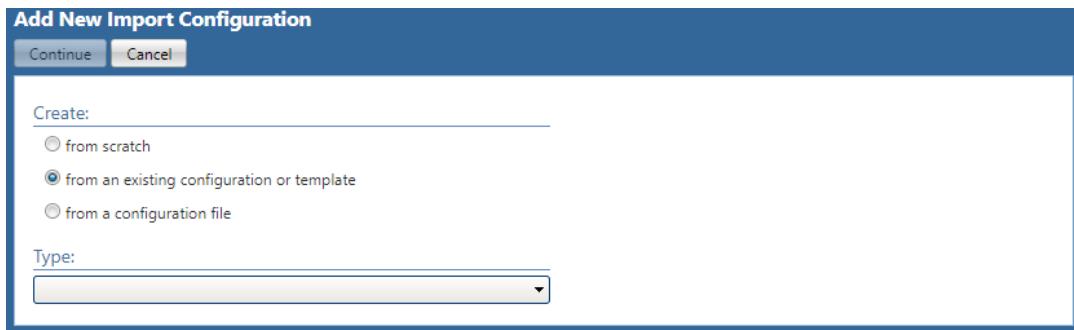
from a configuration file

Type:

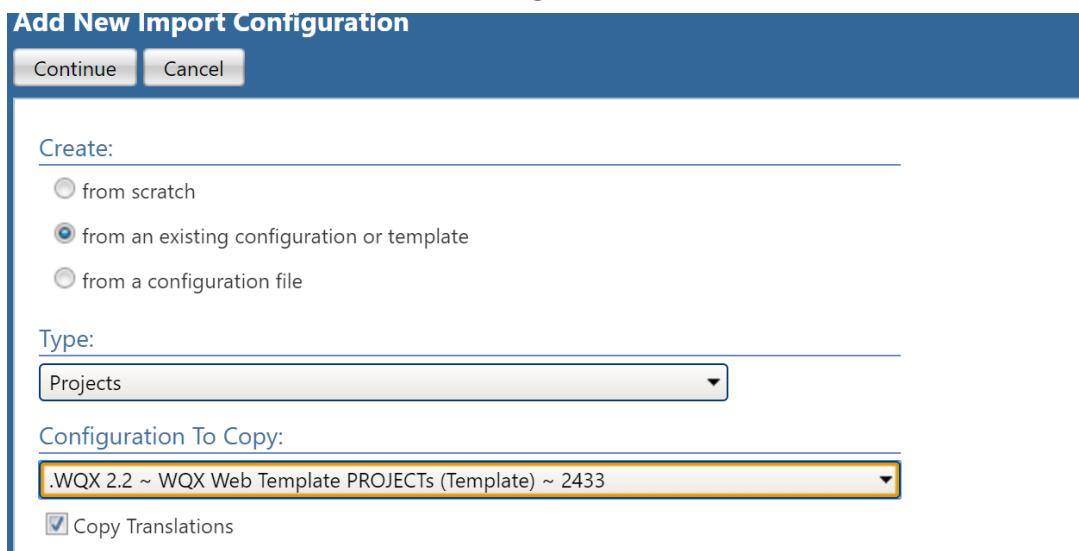
- From an existing configuration or template

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Choose the “from an existing configuration or template” radio button and then select the import configuration type from the drop-down menu.

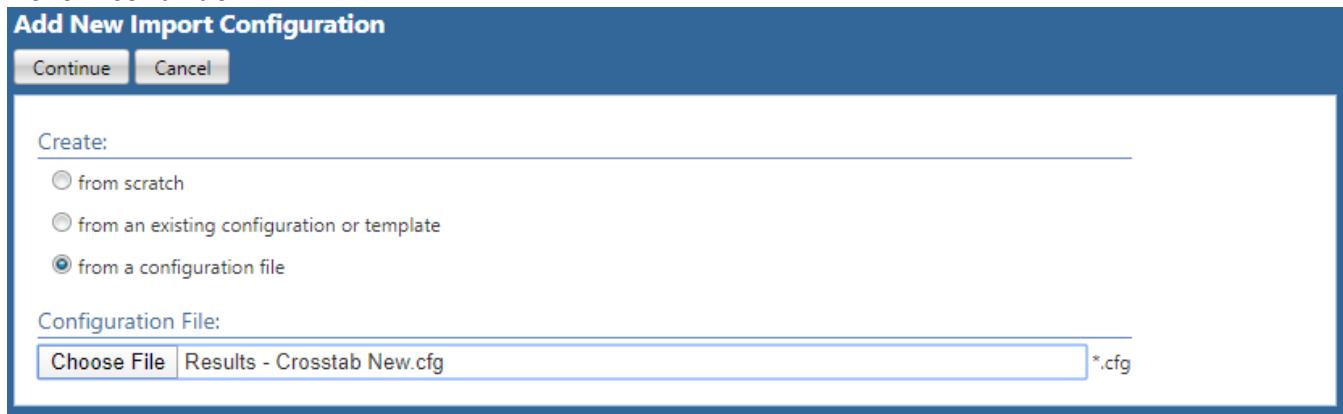


Then select the configuration to copy. If you wish to also copy the translations from that import configuration, select the “Copy Translations” check box before clicking “Continue.”



- From a configuration file

Choose the “from a configuration file” radio button. If you have previously saved an import configuration (as a file), then you can click the Browse button and select an import configuration file. Then click “continue”.



4.1.1 Import Configuration Detail Information and Generated Values (not in your import file)

Import Configuration Detail Information

Now you can modify the import configuration to match your import file.

Name: This is the name that will be displayed on all other pages, when you select an import configuration.

Description: This is optional if you wish to provide more information about the use of this import configuration.

Column Delimiter: This is the character you will use in your import file to designate the start of each new column. You can choose from a comma, tab, tilde, or pipe character. A tab or comma are most commonly used, since Microsoft Excel can save a spreadsheet as a "tab-delimited (*.txt)" file or a "CSV (*.csv)" file (comma-separated value).

Generated Values

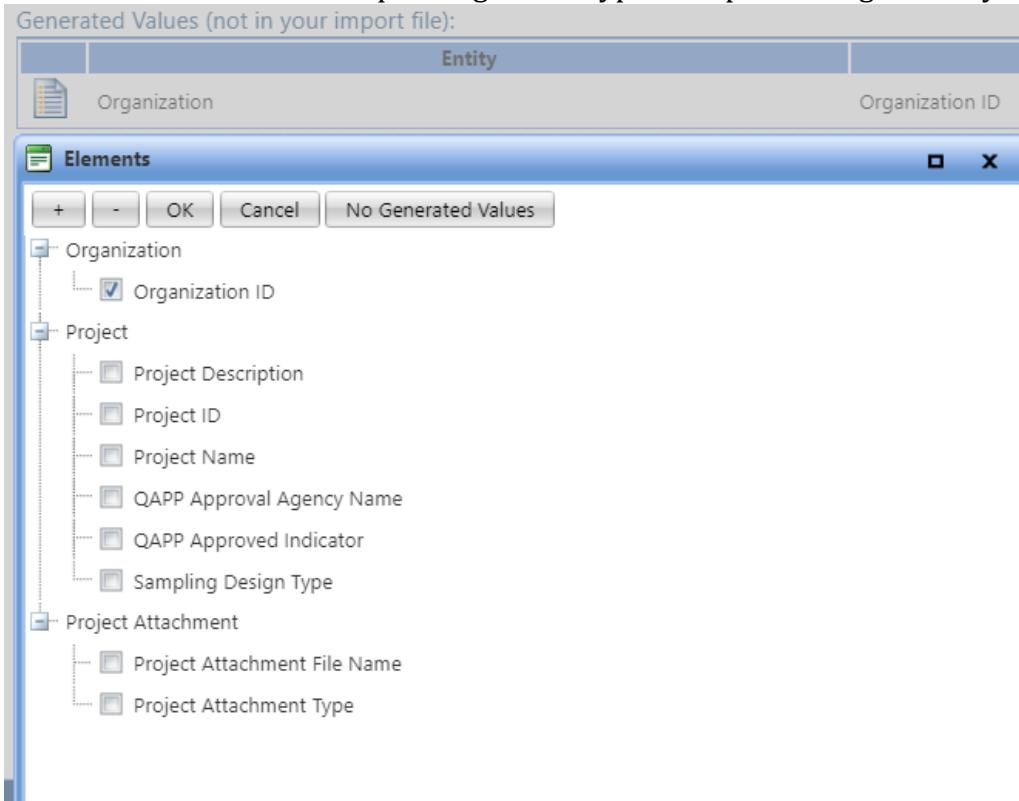
This section of the page is for managing data elements whose values will be generated by the system. This is useful for an element that is not included in your import file and whose value will be the same for every row of the file.

New import configurations include one generated element by default: "Organization ID". Since only one Organization ID is allowed per file, it's simpler to generate the value for Organization ID (for each record), rather than having to provide the same value on every row of your file.

To Add a Generated Value...

Click the Pick List button  to display a list of data elements.

*Note: the list of data elements will differ depending on the type of import configuration you are building.



When you check the box next to an element in the list and click the OK button, the system will add that element to the table of Generated Values.

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In the example below we added the elements Activity Comment and Project ID

Import Configuration

Return Save Save As Save To File Cancel Delete Change User Rights Options Show Columns as Numbers

Type: Results & Activities
Owner: Kevin Christian [Change Owner](#)
Name*: Import REGULAR Results
Description: Physical/Chemical of Activity and Results
File Type*: Microsoft Excel (xlsx)
Worksheet(s) to Import: 5th (note: the "1st" worksheet is the left-most tab of the Excel Workbook)
 This is a template (shared with all users)

Generated Values (not in your import file):

Entity	Element	Value	Format
Organization	Organization ID	{none}	
Activity	Activity Comment		
Activity Project	Project ID	{none}	

Likewise, if you uncheck the box next to an element in the list and click the OK button, then the element will be removed.

Each generated value [row] includes an Entity [name], Element [name], Default Value, and, if appropriate, a Format. The Default Value will be displayed as a link or in a text box:

Link: If the element is constrained by a list of allowed values, then it will be displayed as a link. In the example above, links are displayed for Organization ID and Project ID. Links display “{none}” when no value has been set. When you click the link, a list of allowed values will be displayed. If the list is large, you may also be presented with criteria to find the value you are interested in. For example: clicking on the link for Project ID will display the following:

PROJECT

Organization*: WQXTEST
Project ID (contains): 1
Search Cancel

Once you've entered the Organization [ID], and clicked the Show Values button, the list of matching Projects will be displayed:

PROJECT

Organization*: WQXTEST
Project ID (contains): 1
Search Cancel

Project ID	Name
(none)	
0010958	R6 Gold King Mine
011	Laboratory - 011
1	River Watch
1024	Miscellaneous ODOT Data Supplied to Ohio EPA
103-93418	Gay Mine
1032	Reference Data - Resampled
1050	Invalid Samples
1056	1056 Project
106 CWA	CWA
106 WQ	Water Quality Study
106SPARKILL 2015	Sparkill 2015 106 Grant
1085	Walhonding River/Muskingum River Tributaries 2010
1087	Walhonding River/Muskingum River Tributaries 2010

Click the link for the desired Project ID, and that value will now be displayed as the Default Value in your import configuration.

Generated Values (not in your import file):				
	Entity	Element	Value	Format
	Organization	Organization ID	{none}	
	Activity	Activity Comment	<input type="text"/>	
	Activity Project	Project ID	1024	

Text Box: If the generated element is not constrained by a list of values, its default value will be displayed in a text box. In this example, Activity Comment's default value is in a text box. The text box allows any value you wish to enter.

Note: Although generated values must have a value when you import a file, it is not mandatory to set their value in your import configuration. You are given another opportunity to set generated values each time you import a file. See *Section 5.2* for more details.

For example, suppose you have a policy of creating data files for each project that you have. You don't want to include the Project ID on every row of your file because it's always the same (within a file), so you set up Project ID as a generated value. Because the value will be different for each import file, you don't set a default value for Project ID in your import configuration. In this case, each time you import a new file you will be asked to provide the Project ID for that import file.

If you had the policy described above, but one particular Project ID was used most of the time, then you might choose to set the Project ID in the import configuration. You will still be allowed to override the default value each time you import a new file.

If you have no generated values in your file...



Click the Pick List button to display a list of data elements.

Then select the option for "No Generated Values".



4.1.2 Columns (in your import file)

This section of the page is used to map the columns in your import file to data elements in WQX.

For a new import configuration, you are provided with an initial set of columns and elements that are commonly used.

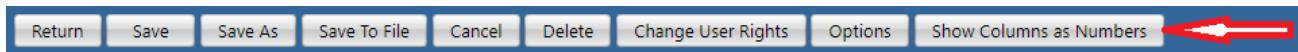
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Import Configuration									
	Column	Entity	Element	User Supplied Element Name	Format	When Column...	Then Use These Values	Translations	
Columns (in your import file)									
	A	Activity	Activity ID						Edit
	B	Activity	Activity Type						Edit
	C	Activity	Activity Media Name						Edit
	D	Activity	Activity Start Date						Edit
	E	Activity Project	Project ID						Edit
	F	Activity	Monitoring Location ID						Edit
	G	Activity	Sample Collection Method ID						Edit
	H	Activity	Sample Collection Equipment Name						Edit
	I	Result	Result Detection Condition						Edit
	J	Result	Characteristic Name						Edit
	K	Result	Method Speciation						Edit
	L	Result	Result Sample Fraction						Edit
	M	Result	Result Value						Edit
	N	Result	Result Unit						Edit

Each row in the table (above) represents a column in your import file and describes how that column maps to one or more elements in WQX.

Each row has the following features.

- **"Remove":** click this link to remove a row (i.e. import column).
- **Column:** this represents the column's position in your import file. Depending on the value in your user preferences, the position will be represented by a number (1, 2, 3...) or a letter (A, B, C...). Likewise, you can temporarily toggle this setting by clicking on the "Show Columns as Numbers" or "Show Column as Letters" link.



If you typically view your import file using a tool like Microsoft Excel, then letters may be preferred (to numbers) because Excel uses letters for each column in a spreadsheet.

If you wish to change a column's position, select a new value from the dropdown list.

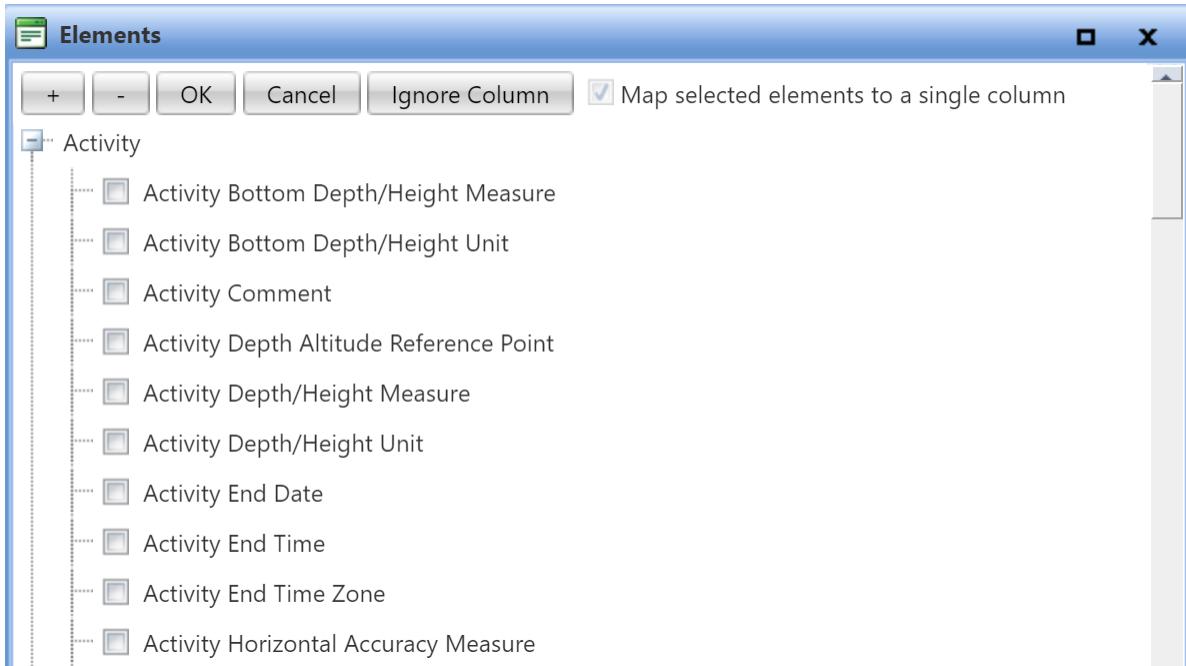
Columns (in your import file)									
	Column	Entity	Element		A	Activity	Activity Type		
	A	Activity	Activity ID		B	Activity	Activity Media Name		
	B	Activity	Activity Type		C	Activity	Activity ID		
	C	Activity	Activity Media Name		D	Activity	Activity Start Date		
	D	Activity	Activity Start Date						
	E								
	F								

After the new position is selected, the column positions update accordingly (i.e. "Activity ID" moves from Column A to Column C, in this example).

- **"Pick":** Click this button to pick/change the data element(s) that are mapped to an import

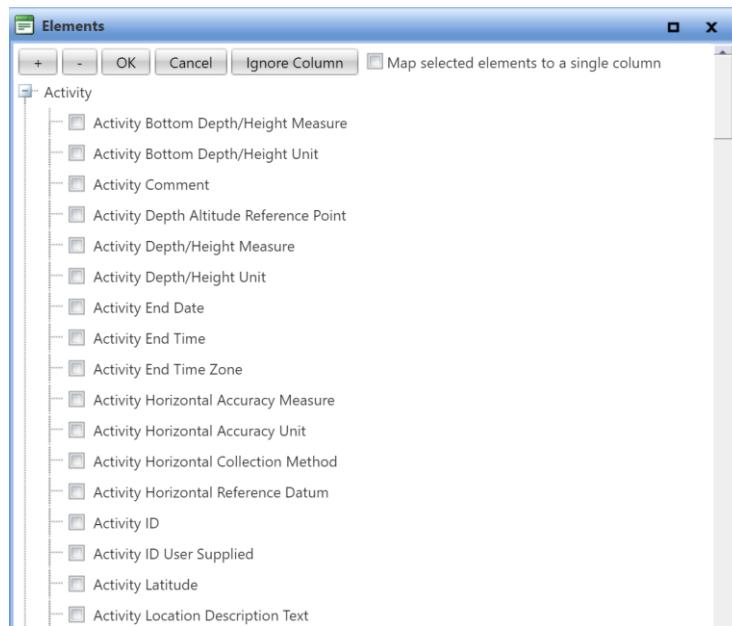
column

Clicking the pick button will allow you to change the element you are mapping to a certain row by checking a new item and unchecking your current item. OR you can select to map multiple elements to a single column (see “add” for more information on this tool)



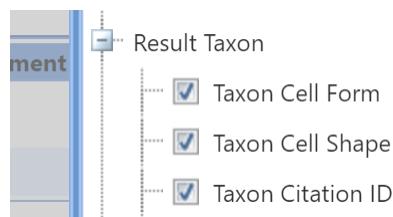
- **“Add”:** Click this button to add another column to be mapped into you import column

After clicking this button a list of elements will display



Elements are grouped by the entity they belong to. For example, Activity-level elements and Result-level elements are group separately.

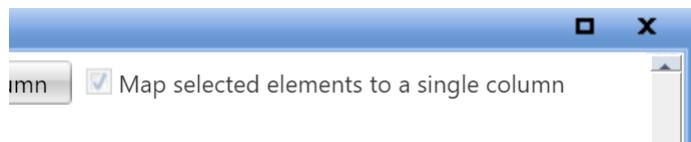
Select one or more elements that you wish to add. The order you select them in is not important at this time...



After you click the OK button, the elements will be added to your import configuration.

			V	Result Taxon	Taxon Citation ID	
			W	Result Taxon	Taxon Cell Shape	
			X	Result Taxon	Taxon Cell Form	

You are allowed to map more than one data element to a single import column. To do this, you need to check the checkbox at the top of the list (titled "Map selected elements to [a] single column").



See Section 4.6 (Advanced Features) for more information.

You are also allowed to have a column mapped to no elements. This tells the system to ignore the column in that position in your import file. A quicker way to do this is to click the "Ignore Column" button on the Elements Pick List



and then the column will be ignored.



- **Entity:** This shows the name of the entity that an element belongs to. If a column is not mapped to any elements, then "{Ignore Column}" will be displayed (which means this column in your import file will be ignored).
- **Element:** This shows the name of the data element(s) that are mapped to a specific import column.
- **User Supplied Element Name:** This text box allows the user to enter an additional descriptor name for this row. This could be useful if the header names in your file differ from the WQX element name
- **Format:** For the system to know how to interpret certain types of data in your import file, a

format may need to be selected. The system requires that you indicate the format you plan to use for the following types of data: dates, times, latitude, longitude, and yes/no fields. For example: below we have indicated that our Activity Start Date will be formatted as "MM/DD/YYYY" (e.g. 05/04/2013, 05-04-2013, or 05.04.2013)

Columns (in your import file)					
	Column	Entity	Element	User Supplied Element Name	Format
	A	Activity	Activity Start Date		MM/DD/YYYY

Although the concept of a Default Value has been removed from an Import Configuration, the equivalent translations are still displayed on the Import Configuration Page. The "Default Value" column of WQX Web 2.5 has been replaced with two new columns:

Columns (in your import file)					
	Column	Entity	Element	Format	Translations
	A	{Ignore Column}			
	B	Activity	Activity Type		0 Edit
	C	Activity	Activity Media Name		1 Edit
	D	Activity	Activity Start Date	MM/DD/YYYY	0 Edit
	E	Activity	Activity Start Time	HH24:MI:SS	Is Not Blank [Use value from import file] 1 Edit
		Activity	Activity Start Time Zone		MDT

When Column...: This is set up using the translations link – this is showing the type of translation being used. You can choose to have a column represent a certain default value when your translation “Equals”, “Is Blank”, “Is Not Blank”. For more, see translations.

Then use these values: ...: This is set up using the translations link – this is showing your default criteria for this column (or the translated value to use). After you choose “when column...” this is the actual default value you are setting for this column. For more, see translations.

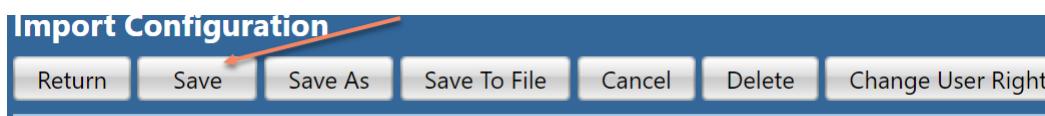
- In some cases, you may see text in this column that is enclosed in brackets or begins with an equal sign ('='). These will be explained in the next section.
- **Translations:** Displays the number of translations that have been created for a specific import column. Also, provides a link to add or edit the list of translations.

Translations

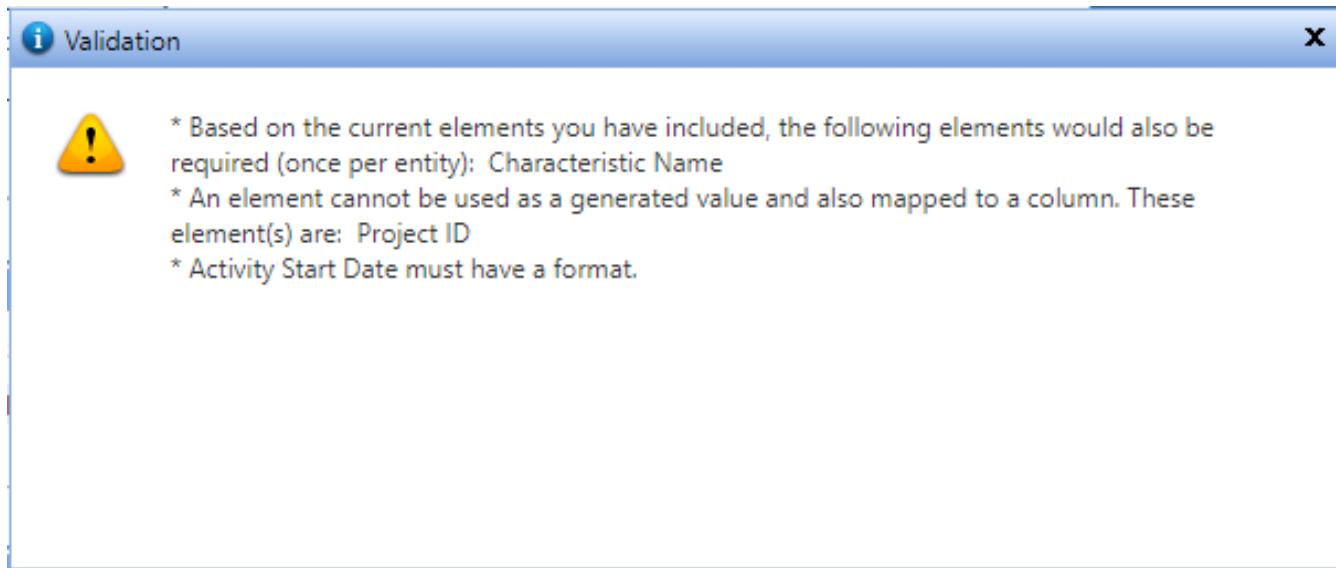
0 [Edit](#)

See the next section for details on managing translations.

Once you have completed the mapping process and filled in defaults and formats, click the Save button (or Return button) to save your changes.



Your import configuration will then be checked to make sure it is valid. If there are any errors, they will be displayed at the top of the page.



In the example above, an element (Characteristic Name) needs to be added to the import configuration and the Activity Start Date needs to have its format indicated. While these issues remain, your import configuration will be flagged as invalid and will not be able to be used when importing a file.

Correct the issues described and save your changes again.

If the import configuration is valid, the errors will disappear, and a message will state that the import configuration was saved successfully in the top right-hand corner.

4.1.3 Automatic Padding of HUC Values with Leading Zeroes, If Needed

When HUCs beginning with a leading zero are imported into Excel, they are often treated as numbers by default and Excel removes any leading zeros. If needed, WQX Web version 3.0 automatically pads HUC 8 and HUC 12 values during import with leading zeroes to restore them to their appropriate length/format.

4.1.4 Generating a Column Header List from your Import Configuration

It may be helpful to have the system generate a list of column headers from your import configuration to line up with your dataset to make sure your configuration matches your file. To access this list, scroll to the bottom of your configuration and choose the option that applies best to you.

You can have WQX Web generate a list of column headers in the WQX headings or using the "User Supplied" list you can populate in your configuration

Audit Information

Created: 03-19-2020 05:48:03 AM (by Kayla Gower) Last Modified: 03-19-2020 03:50:55 PM (by Kayla Gower)

Display column headings using XML schema names

[Create a list of column headings that I can copy and paste into Excel](#)

[Create a list of 'User Supplied' column headings that I can copy and paste into Excel](#)

You can also have the system Display column headings using XML schema names if that is helpful.

4.2 Managing Translations for an Import Column

Translations are used to automatically convert a value in your import file to an alternate value in the dataset that will be sent to EPA. Most often, translations are used to convert a value that is not compatible with WQX into something that is. For example, a translation could be used to convert "DO" in your import file to "Dissolved oxygen (DO)" in your dataset (making the value valid for WQX).

Translations can also be used to convert one value in the import file to multiple values in your dataset. *See Section 4.6 (Advanced Features) for more information.*

Note: WQX Web 2.6 has merged the concept of a "Default Value" into the concept of a "Translation"

The Translations Page now supports creating translations where the import column value...

- "Is Blank"
 - This is equivalent to a "Default Value" (in the previous version of WQX Web) where the column was mapped to a single element.
 - This translation will be selected whenever the value in your import file is blank.
- "Is Not Blank"
 - This is equivalent to a "Default Value" (in the previous version of WQX Web) where the column was mapped to multiple elements.
 - This translation will be selected whenever the value in your import file is not blank (i.e. has any value, no matter what it is)
- "Equals" a specific value
 - This is equivalent to a (regular) translation (in the previous version of WQX Web).
 - This translation will be selected whenever the value in your import file exactly matches the value provided in the translation.

The Translation Page also supports a new "Expert Mode", which adds the following three additional comparison types for a translation:

- "Starts With"
 - This translation will be selected whenever the value in your import file starts with the specific text provided in the translation.
- "Ends With"
 - This translation will be selected whenever the value in your import file ends with the specific text provided in the translation.
- "Contains"
 - This translation will be selected whenever the value in your import file starts with, ends with, or contains the specific text provided in the translation.

This translation will be selected whenever the value in your import file starts with, ends with, or contains the specific text provided in the translation.

4.2.1 Translations Page Layout

The Translation Page is now divided into two sections. The top section includes the list of translations. The bottom section includes the details for the translation row that is selected. All editing is done in the bottom section.

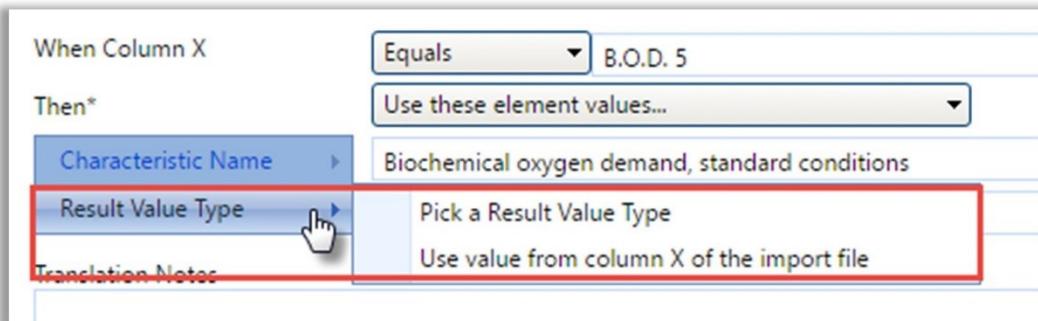
The screenshot shows the WQX Web Translations interface. On the left, there's a vertical sidebar with two sections: 'List' (highlighted with a green border) and 'Detail'. The 'List' section displays a table of translations with columns for Priority, When Column X, Then, Characteristic Name, and Result Value Type. The 'Detail' section shows a specific translation row selected. It includes dropdown menus for 'When Column X' (set to 'Equals B.O.D. 5') and 'Then*' (set to 'Use these element values...'). Below these are fields for 'Characteristic Name' (set to 'Biochemical oxygen demand, standard conditions') and 'Result Value Type' (set to 'Actual'). A 'Translation Notes' field is also present.

Priority	When Column X	Then	Characteristic Name	Result Value Type
1	Equals Alpha, gross	Use these values	Alpha particle	Actual
1	Equals Ammonia as N	Use these values	Ammonia-nitrogen	Actual
1	Equals Arsenic	Use these values	Arsenic	Actual
1	Equals B.O.D. 5	Use these values	Biochemical oxygen demand, standard conditions	Actual
1	Equals Beta, gross	Use these values	Beta particle	Actual
1	Equals Bicarbonate	Use these values	Bicarbonate	Calculated
1	Equals C.O.D.	Use these values	Chemical oxygen demand	Actual
1	Equals Carb. BOD 5	Use these values	Carbonaceous biochemical oxygen	Actual

In WQX Web 2.6, translations include several new dimensions that can make them more complex to use. To help make translations more understandable, the translation details read like a sentence that describes how to find a match and what action to take when a match is found. For example, the translation above states the following:

*When Column X equals "B.O.D. 5" -
Then use these element values [for] -
Characteristic Name: "Biochemical oxygen demand, standard conditions" -
[and] Result Value Type: "Actual" -*

Each translation maps an import column value to one or more element values (e.g. Characteristic Name and Result Value). When editing a translation, each element includes a menu to assist in setting its value. The menu is activated when you hover over the element name, as in the example below:



The menu is context-sensitive and will contain choices that are appropriate for a given column and element. For example, when you hover over the "Result Value Type" element, you are given the choice to "Pick a Result Value Type" or "Use value from column X of the import file".

1. - If you select "Pick a Result Value Type", then you will be provided a list of values for Result Value Type:

Name	Description
{none}	
Actual	existing now; present; current;
Blank Corrected Calc	The data were blank corrected using the recommended procedure detailed in the analytical method.
Calculated	To ascertain by computation or determined by mathematical calculation, evaluating, and reasoning.
Control Adjusted	requirements are determined from the control test data
Estimated	Approximation, educated guess, or projection of a quantity based on experience and/or information available at the time, and the cheapest (and least accurate) type of modeling.

After clicking the link for a specific value, (e.g. "Actual"), that value will be filled in for you. -

When Column X Equals B.O.D. 5

Then*

Characteristic Name Biochemical oxygen demand, standard conditions

Result Value Type Actual

You are allowed to type "Actual" directly into the text box, rather than picking from the list, but it is recommended that you use the menu to select a value from the list (to avoid using a value that is not valid).

2. - If you select "Use value from import file" (from the menu for Result Value Type), then "Actual" will be replaced by "[Use value from the import file]".

When Column X Equals B.O.D. 5

Then*

Characteristic Name Biochemical oxygen demand, standard conditions

Result Value Type [Use value from column X of the import file]

This menu choice is appropriate when you have a column that maps to more than one element (as in the example above) and you want one of those elements (e.g. Result Value Type) to its value from the actual value in the import file, rather than a specific value from the list. *The above scenario is, however, just to demonstrate this feature, and is not a likely scenario to be used.*

Translations include a system-assigned priority to make it clear when one translation will have precedence over another.

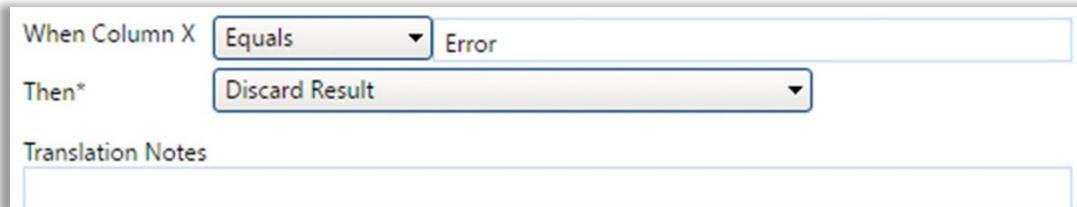
Priority	When Column N		Then	Result Detection Condition	Result Value
1	Equals	ND	Use these values	Not Detected	
2	Starts With	<	Use these values	Present Below Quantification Limit	
2	Starts With	>	Use these values	Present Above Quantification Limit	
4	Is Not Blank		Use these values		=@ImportValue

The comparison type determines the translation's priority:

- Highest priority (1) is assigned to "Equals" and "Is Blank"
- Second priority (2) is assigned to "Starts With" and "Ends With"
- Third priority (3) is assigned to "Contains"
- Lowest priority (4) is assigned to "Is Not Blank"

4.2.2 Translations can define when certain entities should be discarded

Occasionally you need to be able to discard an entire record in your import file. For example: you may wish to discard a Result whenever a dummy value (e.g. 999999) is used. Or you may have header information or other annotations on rows of your spreadsheet other than the top row(s). This new feature allows you to avoid errors when they are caused by data that you do not wish to import.



4.2.3 Expressions

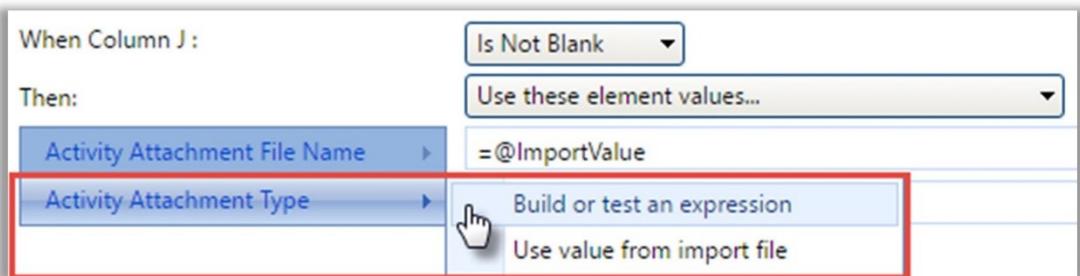
When in "Expert Mode", translations can support a limited number of expressions for additional power and control. Expressions can be useful in certain specific situations where standard translations are insufficient. However, expressions are an advanced feature and are most appropriate for users who are very comfortable creating expressions in other tools, such as Microsoft Excel.

Expressions begin with "=" and then include one or more functions. For example, the following expression would remove the "<" sign from a value like "<0.025" and return only the numeric portion of the value:

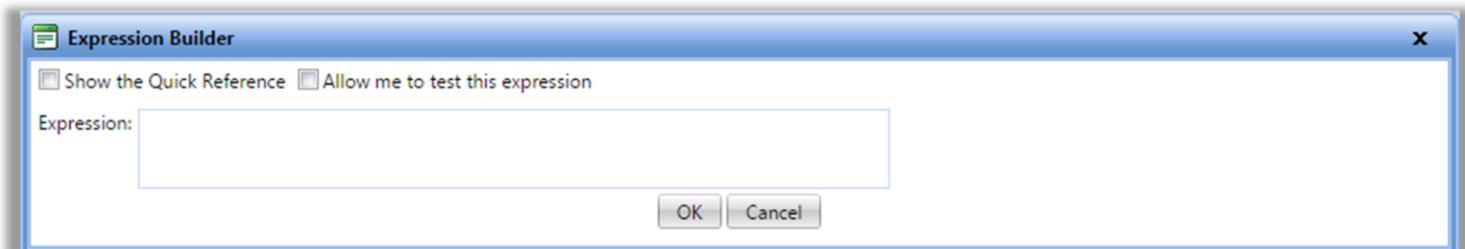
```
=Substitute(@ImportValue, "<", "")
```

Note: A special token "@ImportValue" is used to reference the value from the current column of your import file. WQX Web does not currently support expressions that reference a value from another column. There is only support for a reference to the column which contains the translation expression.

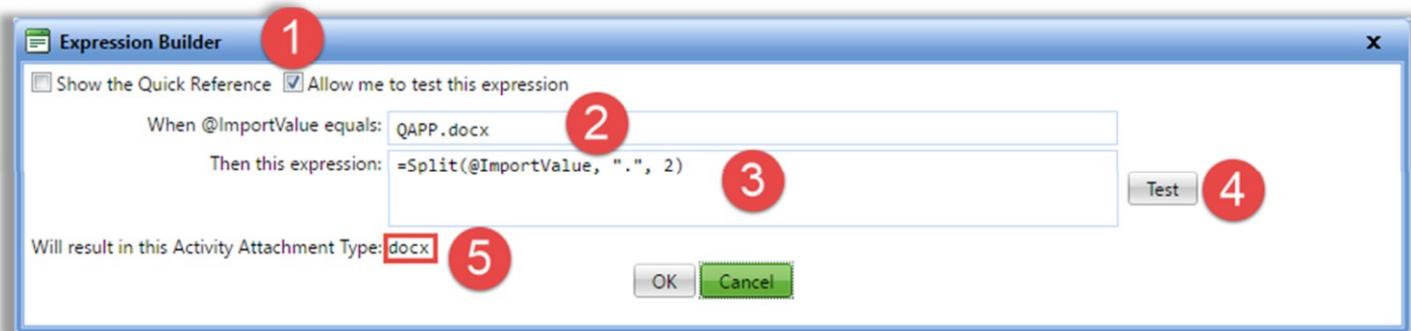
The translation page includes an "Expression Builder" to assist with the creation of expressions. To open the Expression Builder, hover over the element you wish to edit (e.g. Activity Attachment Type) to activate the menu. Then select the menu option "Build or test an expression".



The Expression Builder window will open. -



It can be helpful to test your expression against a specific import value to confirm that it works as expected. The snapshot below outlines the steps.

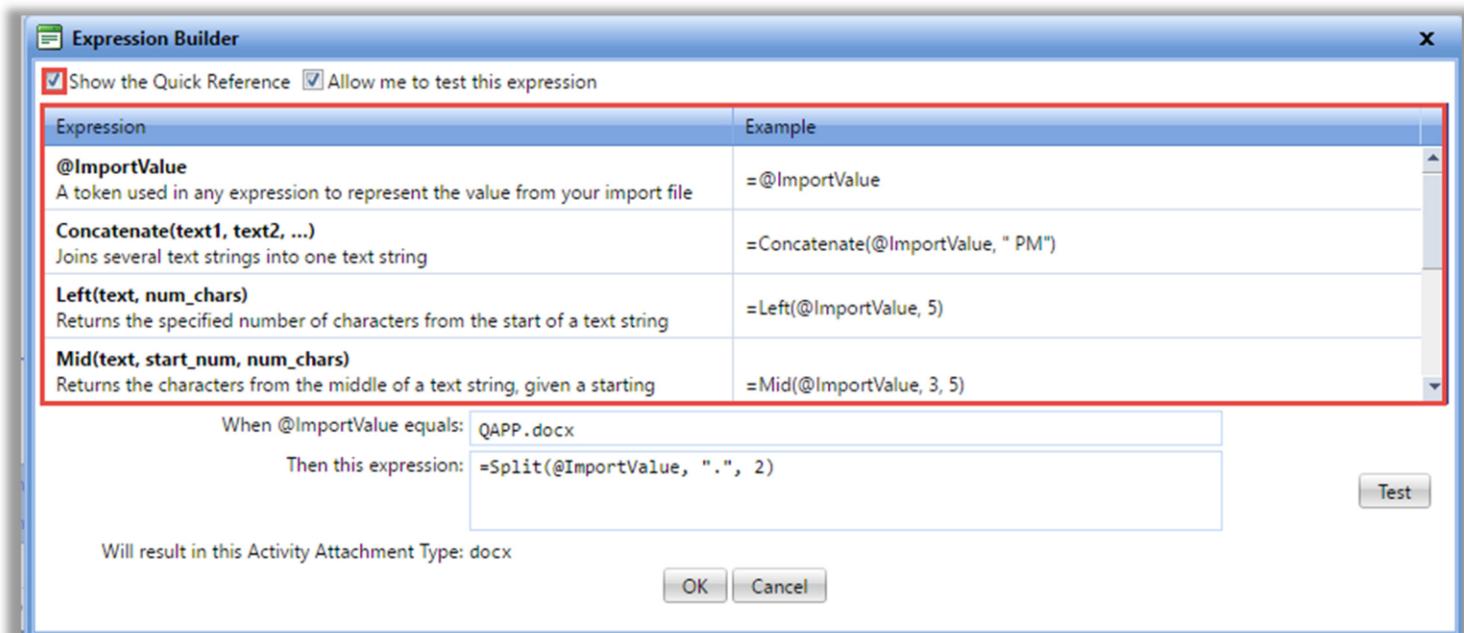


The following is an explanation for each step:

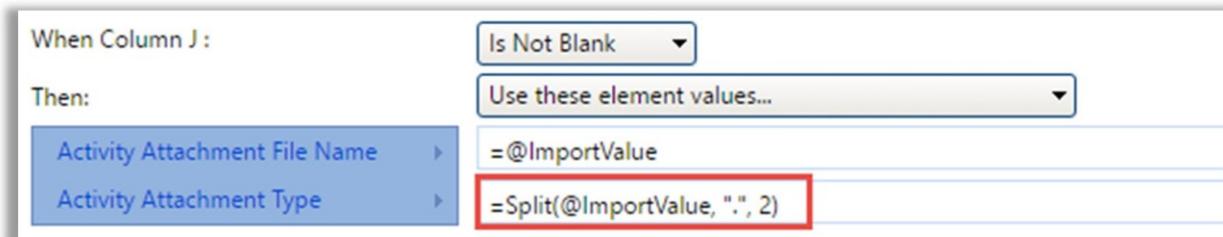
- 1) Check the box labeled "Allow me to test this expression",
- 2) A new text box will appear, where you can type an example value
- 3) Enter your expression
- 4) Then click the "Test" button
- 5) Your expression will be evaluated against the example value, that you provided, and the result will be displayed.

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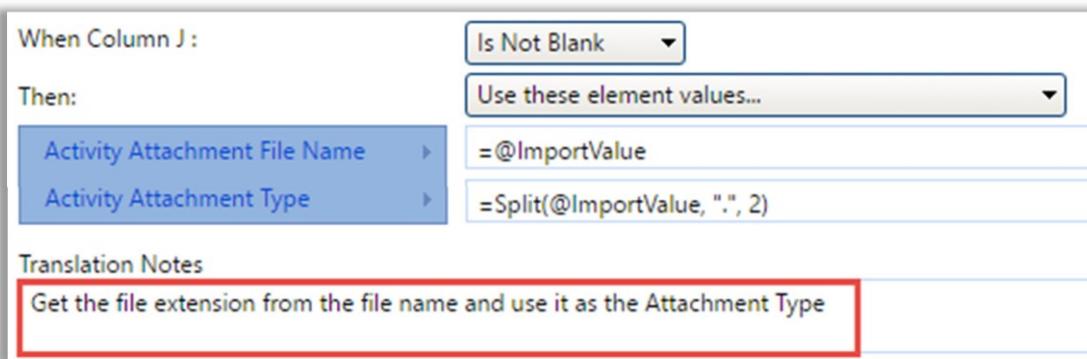
There is also a quick reference that you can view while creating your expression. Just check the box labeled "Show the Quick Reference". This will provide each function/expression that is supported, along with a brief description and an example of its use.



After clicking the OK button, your expression will be added to the translation, under the appropriate element (i.e. Activity Attachment Type)



Each translation includes an optional Translation Notes box. In cases where an expression is used, and may not be intuitive to read, it may be helpful to add notes.



Here are some of the possibilities available with expressions:

- Get the file extension (e.g. "docx") from a file name for an attachment and use it as the Attachment Type.

For Example, if your imported value was: "Qapp.docx", then the following translation would result in the following element values.

Translation		Element Value (outcome)
When Column	Is Not Blank	
Then	Use these element values...	
Attachment File Name	=@ImportValue	Qapp.docx
Attachment Type	=Split(@ImportValue, ".", 2)	docx

- Split an Analytical Method ID and Context that are stored in single column in your import file.

For Example, if your imported value was: "ASTM D1886(C)", then the following translation would result in the following element values.

Translation		Element Value (outcome)
When Column	Is Not Blank	
Then	Use these element values...	
Result Analytical Method Context	=Split(@ImportValue, " ", 1)	ASTM
Result Analytical Method ID	=Split(@ImportValue, " ", 2)	D1886(C)

- Derive an Activity Group Type based on the starting letters in the Activity Group ID.

For Example, if your imported value was: "QC-20160504ML35", then the following translation would result in the following element values.

Translation		Element Value (outcome)
When Column	Starts With QC	
Then	Use these element values...	
Activity Group ID	=@ImportValue	QC-20160504ML35
Activity Group Type	QC Sample	QC Sample

- Convert a Result Value that starts with "<" to an appropriate Detection Condition and Detection Limit

For Example, if your imported value was: "<0.025", then the following translation would result in the following element values.

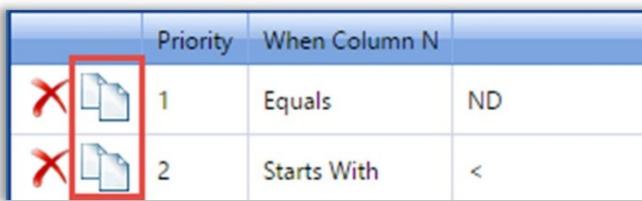
Translation		Element Value (outcome)
When Column	Begins With <	
Then	Use these element values...	
Result Value	[Blank]	

Result Detection Condition	Present Below Quantification Limit	Present Below Quantification Limit
Result Detection Limit Type	Lower Quantitation Limit	Lower Quantitation Limit
Result Detection Limit Value	=Substitute(@ImportValue, "<", "")	0.025

Note: If you enable the option (on an import configuration) to "Generate Detection Condition and Limits from Result Value", then it is unnecessary to create a translation like the one above. The conversion will be handled automatically by WQX Web.

4.2.4 "Copy Translation" button

The Translations Page includes a "Copy" button, which will create a duplicate copy of a translation. This is useful when you wish to create a new translation that is similar to an existing one.



4.3 Viewing/Editing an Import Configuration

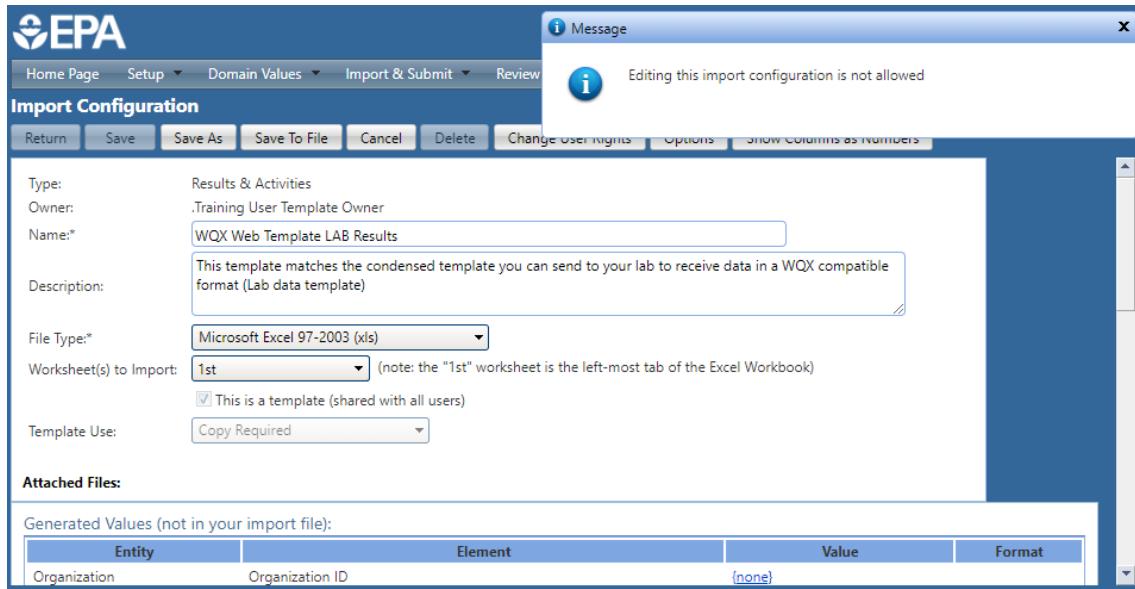
Click on the “Import Configurations” link under the Setup tab on the navigation panel or click on the “Create or Edit an Import Configuration” link on the Home Page to display the Import Configurations list page.

ID	Type	Name	Default Organization	Owner
2527	Results & Activities	Demo for Guide		Kayla Gower
4	Delete Activities	Delete Activities (Template)		System
5	Delete Activity Groups	Delete Activity Groups (Template)		System
3	Delete Biological/Habitat Indices	Delete Indexes (Template)		System
2	Delete Monitoring Locations	Delete Monitoring Locations (Template)		System
1	Delete Projects	Delete Projects (Template)		System
9	Results & Activities	Add Project ID(s) to existing Activities (Template)		System
10	Results & Activities	Update Result Status (Template)		System
2439	Indexes	WQX Web Template BioHabitat INDEX (Template)		.WQX 2.2
2440	Metrics & Activities	WQX Web Template METRIC Results (Template)		.WQX 2.2
2434	Monitoring Locations	WQX Web NEW Template MONITORING LOCATIONS (Template)		.WQX 2.2
2433	Projects	WQX Web Template PROJECTS (Template)		.WQX 2.2
2435	Results & Activities	WQX Web NEW Template REGULAR Results w/o Data Logger Line (Template)		.WQX 2.2
2437	Results & Activities	WQX Web Template BIOLOGICAL Results (Template)		.WQX 2.2
2438	Results & Activities	WQX Web Template CONTINUOUS Logger (Template)		.WQX 2.2
2436	Results & Activities	WQX Web Template HABITAT Results (Template)		.WQX 2.2
2417	Indexes	Template BioHabitat INDEX (Template)		.WQX 3.0
2418	Metrics & Activities	Template METRIC Results (Template)		.WQX 3.0
2233	Monitoring Locations	Template Monitoring Location (Template)		.WQX 3.0
2232	Projects	Template Project (Template)		.WQX 3.0
2416	Results & Activities	Template Biological (Template)		.WQX 3.0

Click on the link for the Import Configuration you wish to view (under “Name”). The Import Configuration Details page will be displayed, where you can view or edit the import configuration.

Note: While you have a dataset in the system that relates to an import configuration, certain types of changes to the import configuration are not allowed (such as changing column positions, data elements that map to them, or deleting the import configuration).

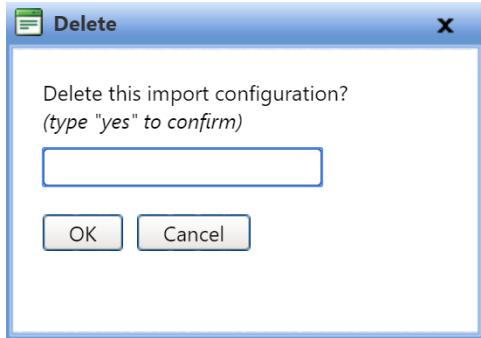
The system will display a message at the top of the Import Configuration Details page for any Import Configuration that has associated datasets. You will have to delete the associated dataset(s) before you will have full access to change the import configuration. *See Section 5 for an explanation of datasets.*



4.4 Saving and Deleting an Import Configuration

Deleting an Import Configuration

You can delete an import configuration by clicking the Delete button on the Import Configuration Detail page.



Confirm the deletion by typing "Yes" in the box and clicking the OK button.

The system will return you to the Import Configuration list page after performing the delete.

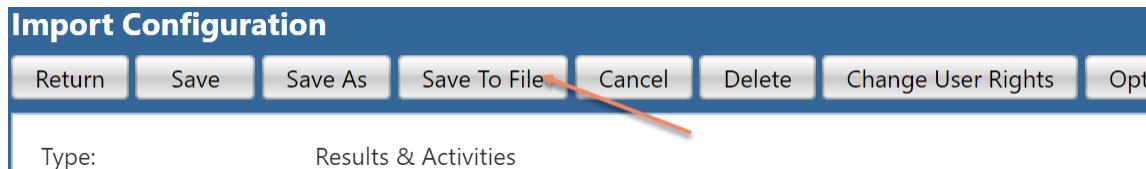
Saving an Import Configuration as a File

WQX Web Import Configurations can be saved to a file and restored from a file for the purposes of:

- backing up import configurations for safe keeping
- archiving old import configurations that are no longer used

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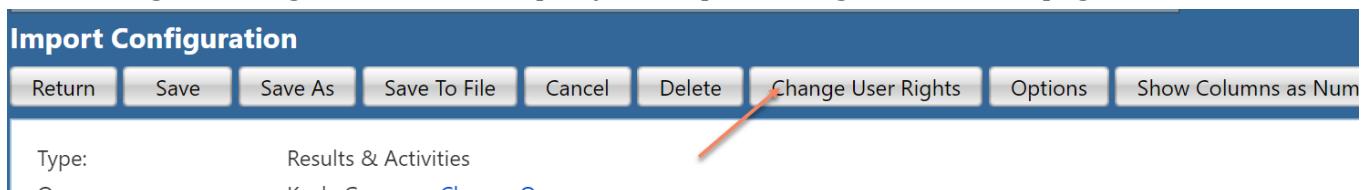
- providing WQX Web template import configuration files that match template data spreadsheet files
- sharing import configurations between users



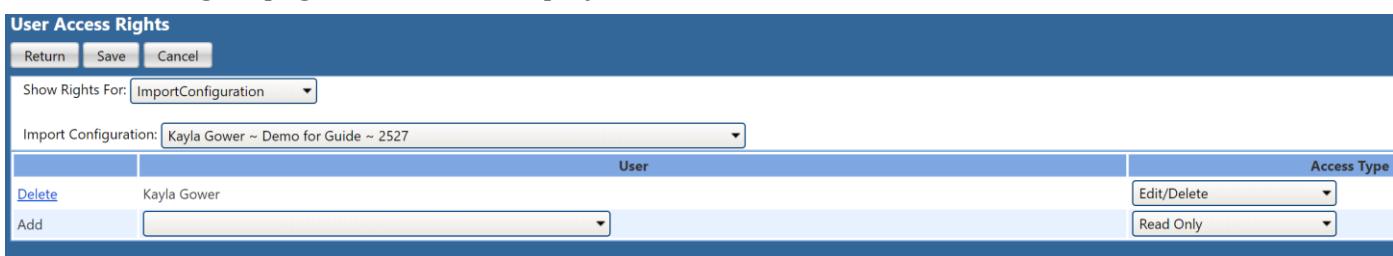
Prior to WQX Web version 3.0, however, the file format created by one version of WQX Web was not guaranteed to be compatible with newer versions of WQX Web, and sometimes restoring an import configuration to the system failed. This unreliability limited their usefulness. Starting with WQX Web 3.0, Import Configurations can be reliably saved as a file and later imported back into the system no matter whether they were created in that version of WQX Web or an earlier version (as long as the earlier version was version 3.0 or later).

4.5 Managing Users' Rights on an Import Configuration

Click the "Change User Rights" link at the top of your import configuration detail page.



... and the User Rights page will then be displayed.



To assign a new user rights to this import configuration:

1. Navigate to the last row of the list labeled "Add".
2. Choose the user from the dropdown menu
3. Choose the access type you wish the user to have:
 - a. Read Only – User can view the import configuration but can't modify or delete it.
 - b. Edit – User can view and edit the import configuration but can't delete it.
 - c. Edit/Delete – User can view, edit, and delete the import configuration.

To remove a user's rights to an organization:

Click the Delete link for the appropriate row.

Click the Save button to save your changes (and remain on the page). Click the Return button to save and return to the previous page.

4.6 Import Configuration – Advanced Features

Import Configurations can be leveraged in a number of powerful ways. However, that power also comes with some extra complexity. This section will highlight some of the powerful features and provide some specific examples of how to solve some problems that you may be faced with.

One of the features of an import configuration is the ability to map one import column to more than one WQX element.

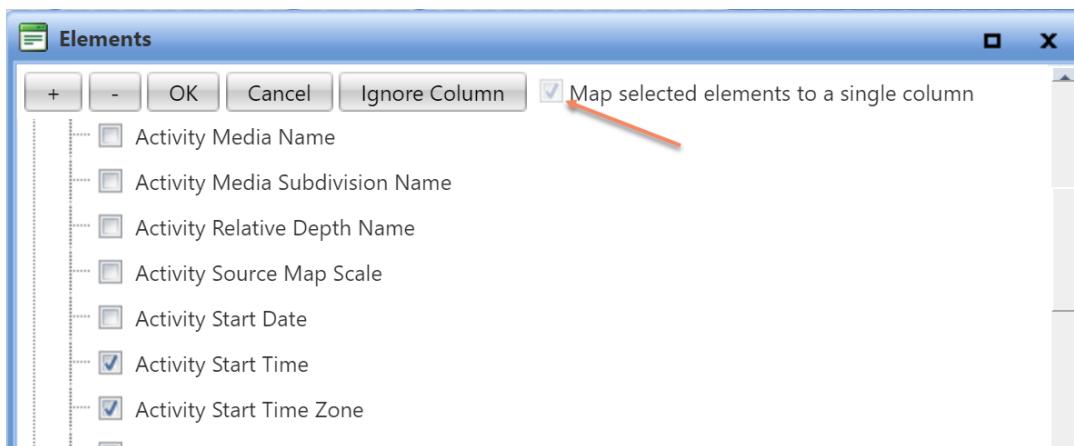


To do this on an existing column, click on the Pick List Button



To do this for a new column you are mapping, click on the Add button

This will open the Elements Pick List. At the top of the page, check the box that says "Map selected elements to a single column". If this is the pick list for an existing import column, rather than a new import column, then this box will be checked automatically.



Now, all elements that are checked (above) will be mapped to a single column (e.g. Column "A" below).

Columns (in your import file)						
	Column	Entity	Element	User Supplied Element Name	Format	Width
	A	Activity	Activity Start Time		HH:MI:SS PM	
		Activity	Activity Start Time Zone			

4.6.1 Consolidated buttons



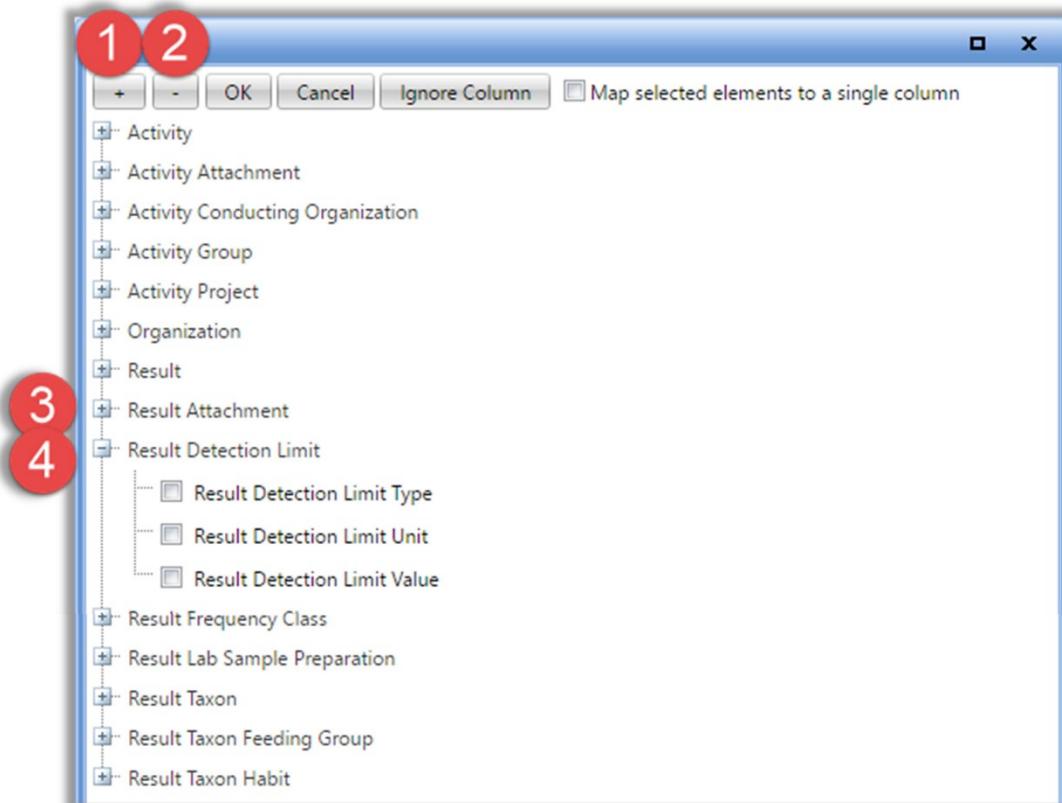
All buttons are consolidated (including the "Element Pick List" button) to the left side of the row in each table on the Import Configuration Detail Page.



To see the "Copy" button, you must enable expert mode (see more information in Expert Mode section).

Regular Columns		Column	Entity	Entity #	Element
		A	(Ignore Column)		
		B	Activity	1	Activity ID

4.6.2 Elements Pick List Organization



When you click the "Elements Pick List" button, you will now see a list of elements that have been grouped by the entity (i.e. type of record) to which they belong. This new layout should facilitate finding an element in a large list of elements and should also aid in understanding the types of data that can be included in a particular import file.

- 1 - Click the button (at the top of the list), if you wish to expand the list to show all entities and all elements.
- 2 - Click the button (at the top of the list), if you wish to shrink the list to only show the list of entities.
- 3 - Click the button next to a specific entity to expand that single entity (and view its elements).
- 4 - Click the button next to a specific entity to minimize that single entity (and hide its elements).

The following sections will describe some specific ways that this feature can be used.

4.6.3 Copying one value from your file to more than one element in WQX

One reason to map a column to more than one element is when you actually want to populate both elements with the same value from your import file. Although this is not common, there may be times

that it is useful. In this case, you would map the column to the data elements and make sure to not set the default values for any of them and to not create any translations on the column (because defaults and translations will change the behavior).

For example: You want to provide a Top and Bottom Depth on an Activity and do not want to have to provide the Units twice. In the example below, we have mapped the Top Depth Measure[ment] to column W, the Bottom Depth Measure[ment] to column X, and the units for both of them to column Y (rather than having to provide the units in columns X and W of our file)

			W ▾	Activity	1	Activity Top Depth/Height Measure		
			X ▾	Activity	1	Activity Bottom Depth/Height Measure		
			Y ▾	Activity	1	Activity Bottom Depth/Height Unit		
				Activity	1	Activity Top Depth/Height Unit		

Keep in mind that this is only appropriate when you know you would always populate both of these element values together. If it were not true that top and bottom depth are always provided together, it wouldn't be appropriate to always populate their measurement units from the same column in the import file (because the system will log an error whenever there are units without its respective measurement). For example, if the import file below was used with this import configuration ...

W	X	Y
Top	Bottom	Units
3	6	ft
2		ft
	5	ft

then the WQX Elements would be populated as follows and would cause errors on rows 2 and 3:

Activity				
Activity Top Depth Measure	Activity Top Depth Units	Activity Bottom Depth Measure	Activity Bottom Depth Units	
3	ft	6	ft	
2	ft		ft	Error: Units cannot be provided without a measurement
	ft	5	ft	Error: Units cannot be provided without a measurement

4.6.4 Generating a Value Conditionally

Remember that Generated Values are used to populate an element with a single default value on every row of your file. For example, if you add the element *Activity Start Time Zone* to the Generated Values Section and set its value to "EST" (Eastern Standard Time), then every row of your imported data will get a generated value of "EST" for its *Activity Start Time Zone*. This would be appropriate if you always include a Start Time on every row. However, if there are activities that have a Start Time and some that do not, then a generated value for the Time Zone would not be appropriate.

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Suppose you have the following import configuration:

Generated Values (not in your import file):

	Entity	Element	Value
	Organization	Organization ID	WQXTEST
	Activity	Activity Start Time Zone	EST

Columns (in your import file)

	Column	Entity	Element	User Supplied Element Name	Format	When Column...	Then Use These Values	Translations
	A	Activity	Activity Start Date		MM/DD/YYYY			
	B	Activity	Activity Start Time		HH:MI:SS PM			

and the following (partial) import file:

A	B
Date	Time
09/05/2013	10:35:12 AM
09/06/2013	

then the WQX Elements would be populated as follows, and would cause an error on row 2:

Activity			
Activity Start Date	Activity Start Time	Activity Start Time Zone	
09/05/2013	10:35:12 AM	EST	
09/06/2013		EST	Error: Activity Start Time is required when Activity Start Time Zone is provided

To avoid this error, we want to only generate a value for Time Zone when there is a value for Time in the import file. You can accomplish this by mapping the Time and Time Zone to the same import column and then providing a default value for the Time Zone, as follows:

Generated Values (not in your import file):

	Entity	Element	Value	Format
	Organization	Organization ID	WQXTEST	

Columns (in your import file)

	Column	Entity	Element	User Supplied Element Name	Format	When Column...	Then Use These Values	Translations
	A	Activity	Activity Start Date		MM/DD/YYYY			0 Edit
	B	Activity	Activity Start Time		HH:MI:SS PM	Is Not Blank	[Use value from import file]	1 Edit
		Activity	Activity Start Time Zone				EST	

With this import configuration, the same import file...

A	B
Date	Time
09/05/2013	10:35:12 AM
09/06/2013	

will populate the WQX Elements as follows (avoiding the previous error on row 2):

Activity

Activity Start Date	Activity Start Time	Activity Start Time Zone
09/05/2013	10:35:12 AM	EST
09/06/2013		

There are many other cases where you may wish to generate a value conditionally. Here are a few examples:

- Generate the value for Horizontal Collection Method and Coordinate Reference System Datum on an Activity whenever latitude or longitude is provided on an Activity.
- Generate the value for a Measurement Unit whenever the related Value is provided.
- Generate the value for Activity Group Type whenever an Activity Group ID is provided (this special case is described in more detail in a subsequent section)

It is important to note that there are three distinct behaviors for a Default Value (depending on context).

- When a Default Value exists for an element in the Generated Values section...

That element receives the default value 100% of the time.

- When a Default Value exists for an element that is the only element mapped to an import column...

That element receives the default value only when there is no value in your import file (in that column position) IF the translation is to add the value if the cell 'is blank'

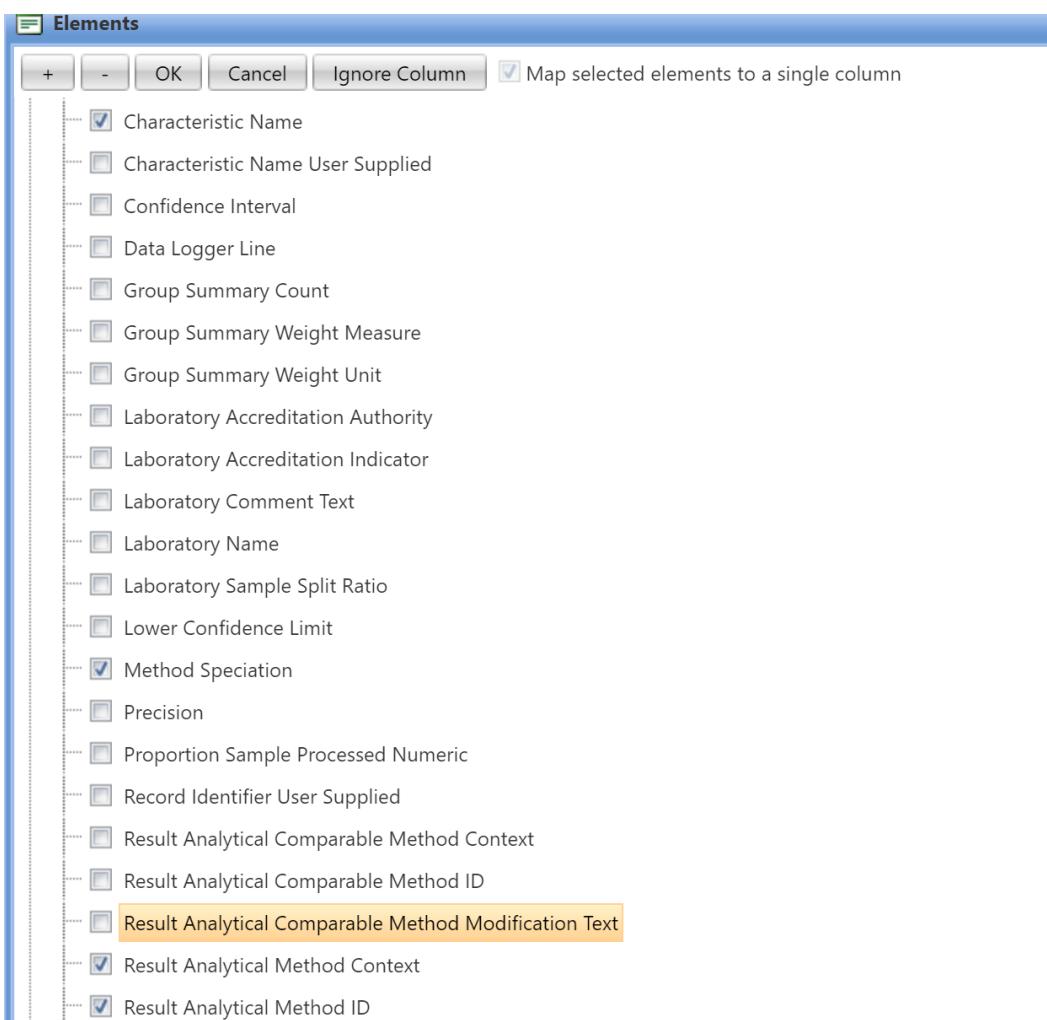
Otherwise, that element receives the value from the import file

IF the translation is to add the value 'is not blank' the element will receive the value not in the import file but whatever is in your translation.

4.6.5 Using Translations to Populate Many Related Elements

One common reason to map one column to more than one element is when the value in your file contains more than one piece of information. Using translations, you can break the value into its relevant components. For example: Your lab provides you with a file that includes a parameter code from which you can derive the analyte, sample fraction, units, and analytical method used for a particular result. You could open the file with Microsoft Excel, create four new columns, and manually type in the values for each of these items on every row, or you could map that one import column to the data elements you want to populate and then create translations to document how you want them to be populated. The advantage of this approach is that you only have to do it once in your import configuration and the system will perform the conversion every time you import a file.

For example, if you selected following elements from the Elements Pick List and checked the box to "Map selected elements to a single column" ...



Then these elements would all be mapped to a single column (e.g. Column K below):

			Result	Characteristic Name						0 Edit
			Result	Method Speciation						
			Result	Result Analytical Method Context						
			Result	Result Analytical Method ID						
			Result	Result Sample Fraction						
			Result	Result Unit						

Now, click the Edit link for Column K to add translations (far left). The Translations page will open.

Notice that there is a text box under "Translate From" where you can place the value that will be in your import file. Under "Translate To" there are six fields (one for each element this import column maps to). These are the values you want to populate in your dataset when the value in "Translate From" shows up in your import file.

Fill in the appropriate values for the translations.

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Translations

Return Save Cancel Add New **Enable Expert Mode**

Priority	When Column K ..	Then	Characteristic Name	Method Speciation
1	Equals NO3	Use these values	Nitrate	as NO3

When Column K : Equals NO3
Then: Use these element values...

Characteristic Name
Method Speciation
Result Analytical Method Context
Result Analytical Method ID
Result Sample Fraction
Result Unit

Select the Return button to save your translation

Then, if you imported a file like this...

J	K	L
Activity ID	Parameter	Value
M192-2013-05-04F	NO3	.183

then the WQX Elements would be populated as follows:

Activity	Result						
Activity ID	Characteristic Name	Method Speciation	Result Analytical Method Context	Result Analytical Method ID	Result Sample Fraction	Result Unit	Result Value
M192-2013-05-04F	Nitrate	as NO3	USEPA	353.3	Unfiltered	mg/l	.183

This is a powerful feature for minimizing unnecessary data in your import file (when values can be derived).

Note: It is important to recognize that when you have a translation on a column that maps to more than one element, you typically need to provide translations for every value that might be used in your import file. If the system does not find a translation to match a value in your import file, it will apply the value from the import file to all elements that are mapped to the column (as described in section 4.5).

Note: When you map a column to multiple elements you will typically use defaults or translations (as

described in the previous sections). Mixing Default Values and Translations can be done but is not generally needed and can create more confusing import configurations. If you chose to mix these two methods, be aware of the following rule (when a column maps to more than one data element): **Translations have precedence over default values. (I.E: The Priority level you see on the translations page).** When your file is imported, the system will check whether a value in your file matches a translation. If there's a match, it will populate the element values from values in your translation. If there is no match, then it will copy the value from your file into the elements without a default and will populate the rest of the elements with the default values in your import configuration.

4.6.6 Using a Data Element Multiple Times in an Import Configuration

There are places in the Data Model where an element or entity (i.e. set of elements) can have more than one value. Think of this as an element that has more than one value per row in your import file. Here are some examples:

- A Monitoring Location can have multiple Alternate IDs
- An Activity can have multiple...

Project IDs

Conducting Organizations

- A Metric can have multiple Index IDs
- A Result can have multiple sets of...

Frequency Class Information

Detection Limit Information

Lab Sample Preparation Information

- A Taxon (within a Result) can have multiple...

Habits

Functional Feeding Groups

To model these scenarios in an import configuration, you should add the repeating elements as many times as needed (each to their own import column). For example: If you know that, in your situation, an Activity can relate to up to two projects, you should add the Project ID twice.

Regular Columns (starting at row 2 of your import file)

	Column	Entity	Entity #	Element	User Supplied Element Name	Format	When
	A	Activity Project	1.1	Project ID			
	B	Activity Project	1.2	Project ID			

In this case, column A and B of your import file will be used for the Project IDs on an Activity. If an Activity in your import file has only one project, then put the Project ID value in column A or B and leave the other column blank. If it has two projects, then put them in column A and B of your file.

Note, in the image above, that when you include an element more than once in your import configuration, the Entity [Name] includes a #. For example, when you only have one Project ID, the entity is "1" but when you add a second Project ID, the entities change to "1.1" and "1.2" respectively. This highlights the fact that up to two Project references can be made per row of your import file.

There are limitations to which elements can be used more than once, unless you enable "Expert Mode" (described in section 4.7).

A more complex example of repeating elements might be something like Frequency Class Information, which is used to classify a group of taxa that are being counted in a biological survey. Frequency Classes include a descriptor, and for certain types of classes, an upper and lower bound and units. For example: You may be conducting a fish survey and counting the number of fish (of a particular species) and grouping your counts by sex and weight. In this case, sex and weight are each Frequency Class Descriptors and the weight needs a lower/upper bound with a measurement unit. Your import file would need two Frequency Class Descriptors and might contain values, as shown in the table below:

A	B	C	D	E	F
Descriptor 1	Descriptor 2	Lower Bound	Upper Bound	Units	Count
Male	Weight	0	100	g	3
Male	Weight	101	300	g	6
Female	Weight	0	100	g	1
Female	Weight	101	300	g	5

To support this data, your import configuration would look something like the following:

Regular Columns (starting at row 2 of your import file)

	Column	Entity	Entity #	Element	User Supplied Element Name	Format
	A	Result Frequency Class	1.1.1	Frequency Class Descriptor		
	B	Result Frequency Class	1.1.2	Frequency Class Descriptor		
	C	Result Frequency Class	1.1.2	Frequency Class Lower Bound		
	D	Result Frequency Class	1.1.2	Frequency Class Upper Bound		
	E	Result Frequency Class	1.1.2	Frequency Class Unit		

This allows a Result, in your import file, to have two sets of Frequency Class Information: the first set (#1) starting at Column A and the second set (#2) starting at Column B. In this example, the first set of Frequency Class Information does not need a Lower/Upper Bound or Units, so they are not included. Otherwise, they could be added (after Column A).

It's useful to understand that, when an import configuration contains an element more than once, the entity # that's assigned is based on the column it is mapped to. Once an element is reused, a new entity # is started, and all elements mapped to subsequent columns will relate to that new entity #.

In the previous example, Column B includes a second Frequency Class Descriptor, which starts "Result Frequency Class #2". All other frequency-class elements (Lower Bound, Upper Bound, and Unit) on Columns C, D, and E, all relate to #2.

If your Frequency Class Lower Bound, Frequency Class Upper Bound, and Frequency Class Unit apply to both Frequency Class Descriptors you can utilize the dropdown option to allow for the items to be used not just for one of the descriptors but both (see image below) *expert mode.

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Regular Columns (starting at row 2 of your import file)							
	Column	Entity	Entity #	Element	User Supplied Element Name	Format	When Colu
X	A	Result Frequency Class	1.1.1	Frequency Class Descriptor			
X	B	Result Frequency Class	1.1.2	Frequency Class Descriptor			
X	C	Result Frequency Class	All	Frequency Class Lower Bound			
X	D	Result Frequency Class	All	Frequency Class Upper Bound			
X	E	Result Frequency Class	All	Frequency Class Unit			
X	F	Activity Project	1.1.2	Project ID			

What if we wanted to change our column order in our file like this (with the second "Frequency Class Descriptor" in column E)?

A	B	C	D	E	F
Descriptor 1	Lower Bound	Upper Bound	Units	Descriptor 2	Count
Male	0	100	g	Weight	3
Male	101	300	g	Weight	6
Female	0	100	g	Weight	1
Female	101	300	g	Weight	5

Our intention is to have the Lower Bound, Upper Bound, and Units (in columns B, C, and D) to be part of the Frequency Class that includes the Descriptor in Column E. However, because of the entity # assignment rule, mentioned previously, that does not happen:

Regular Columns (starting at row 2 of your import file)							
	Column	Entity	Entity #	Element	User Supplied Element Name	Format	When Colu
X	A	Result Frequency Class	1.1.1	Frequency Class Descriptor			
X	B	Result Frequency Class	1.1.1	Frequency Class Lower Bound			
X	C	Result Frequency Class	1.1.1	Frequency Class Upper Bound			
X	D	Result Frequency Class	1.1.1	Frequency Class Unit			
X	E	Result Frequency Class	1.1.2	Frequency Class Descriptor			

Because the Descriptor is the first [Frequency Class] Element to be repeated, that marks the beginning of Frequency Class #2. This highlights the importance of checking the entity # when you repeat elements in your import configuration, to make sure your file will be interpreted the way you intend.

4.6.7 Special Case: Activity Groups in a file of Activities and Results

Activity Groups are useful when you have a collection of related Activities that you wish to group together for various purposes which include (Field Sets, Replicates, grouping Samples and Subsamples, and grouping Routine Samples with their related Quality Control Samples). In data-modeling terms, the relationship between Activities and Activity Groups is referred to as "many to many" which means that an Activity can belong to many Activity Groups and an Activity Group can contain many Activities.

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Addressing this complex relationship in a flat file could be challenging, but with the support of some specific features in WQX Web, there are ways to address this that are simple.

An Activity Group contains the following elements: Activity Group ID, Type, Name (optional), and two or more Activity IDs. WQX Web understands the relationship between Activities and Activity Groups and does not require that you indicate the Activity ID (for the Activity Group), because you've already provided it for the Activity on that row. So, at a minimum, you will need a way to provide the Activity Group ID and Type (and optionally Activity Group Name) on a row of your import file.

One way to address this in your import configuration is to map one column to the Activity Group ID and another column to the Type.

Regular Columns (starting at row 2 of your import file)

	Column	Entity	Entity #	Element	User Supplied Element Name	Format
	A	Activity Group	1	Activity Group ID		
	B	Activity Group	1	Activity Group Type		
	C	Activity	1	Activity ID		

In this example, if you wanted to include a specific Activity in an Activity Group, you would list the Activity Group's ID in column A and its Type in column B. For example:

A	B	C	D	E
Group ID	Group Type	Activity ID	Parameter	Value
F1	Field Set	M192-2013-05-04F	pH	8.3
		M192-2013-05-04F	DO	10.9
F1	Field Set	M192-2013-05-04B	Fecal Coliform	180
R1	Replicate	M192-2013-05-04C1	Chlorophyll a	4.63
		M192-2013-05-04C1	Escherichia	4.63
R1	Replicate	M192-2013-05-04C2	Chlorophyll a	4.63
		M192-2013-05-04C2	Escherichia	5.12

This would create two Activity Groups with two Activities in each group:

Activity Group		Activity
Activity Group ID	Activity Group Type	Activity ID
F1	Field Set	M192-2013-05-04F
		M192-2013-05-04B
R1	Replicate	M192-2013-05-04C1
		M192-2013-05-04C2

If you wanted to avoid the need to provide the Activity Group Type for every group, you could map the Activity Group ID and Type to the same column and provide a default value for the Type. For example, this import configuration would use Column A for "Field Set" Groups and Column B for "Replicate" Groups:

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Regular Columns (starting at row 2 of your import file)

	Column	Entity	Entity #	Element	User Supplied Element Name	Form
	A	Activity Group	1	Activity Group ID		
		Activity Group	1	Activity Group Type		
	B	Activity Group	2	Activity Group ID		
		Activity Group	2	Activity Group Type		

This would also allow one Activity to belong to two Activity Groups (if needed) because there are now two Activity Groups per row (in your import file):

This import file...

A	B	C	D	E
Field Set Group ID	Replicate Group ID	Activity ID	Parameter	Value
F1		M192-2013-05-04F	pH	8.3
		M192-2013-05-04F	DO	10.9
F1		M192-2013-05-04B	Fecal Coliform	180
F2	R1	M192-2013-05-04C1	Chlorophyll a	4.63
		M192-2013-05-04C1	Escherichia	4.63
F2	R1	M192-2013-05-04C2	Chlorophyll a	4.63
		M192-2013-05-04C2	Escherichia	5.12

would create three Activity Groups with two Activities in each:

Activity Group		Activity
Activity Group ID	Activity Group Type	Activity ID
F1	Field Set	M192-2013-05-04F
		M192-2013-05-04B
F2	Field Set	M192-2013-05-04C1
		M192-2013-05-04C2
R1	Replicate	M192-2013-05-04C1
		M192-2013-05-04C2

4.6.8 Attachments

WQX Web allows you to attach external files (like pictures, documents, etc.) to any Project, Monitoring Location, Activity or Result. There are two parts to doing this:

1. Reference the file name and type for each attachment in your import file.
2. Include all of the attachment files in a zip file and upload it at the same time as your importfile.

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Regular Columns (starting at row 2 of your import file)

	Column	Entity	Entity #	Element	User Supplied Element Name	
	A	Result Attachment	1.1.1	Result Attachment File Name		
	B	Result Attachment	1.1.1	Result Attachment Type		

To allow you to include the attachment file name and type in your import file, you need to create two columns in your import configuration and map them to these two elements. For example:

Then, if you imported a file like this:

A	B	C	D	E
Photo File Name	File Type	Activity ID	Parameter	Value
P1070346.JPG	JPG	M192-2013-05-04F	pH	8.3
		M192-2013-05-04F	DO	10.9
P1070347.JPG	JPG	M192-2013-05-04B	Fecal Coliform	180
		M192-2013-05-04C1	Chlorophyll a	4.63
		M192-2013-05-04C1	Escherichia	4.63
P1070348.JPG	JPG	M192-2013-05-04C2	Chlorophyll a	4.63
		M192-2013-05-04C2	Escherichia	5.12

You would have three Activities with attachments (photos) related to each one.

If all of your attachments were the same type, you could drop Column E and map the Attachment Type to Column D (with a default value), like this:

		D	Result Attachment	1.1.1	Result Attachment File Name	
			Result Attachment	1.1.1	Result Attachment Type	

Then your import file would look like this:

A	B	C	D
Activity ID	Parameter	Value	Photo File Name
M192-2013-05-04F	pH	8.3	P1070346.JPG
M192-2013-05-04F	DO	10.9	
M192-2013-05-04B	Fecal Coliform	180	P1070347.JPG
M192-2013-05-04C1	Chlorophyll a	4.63	
M192-2013-05-04C1	Escherichia	4.63	
M192-2013-05-04C2	Chlorophyll a	4.63	P1070348.JPG
M192-2013-05-04C2	Escherichia	5.12	

4.7 Expert Mode

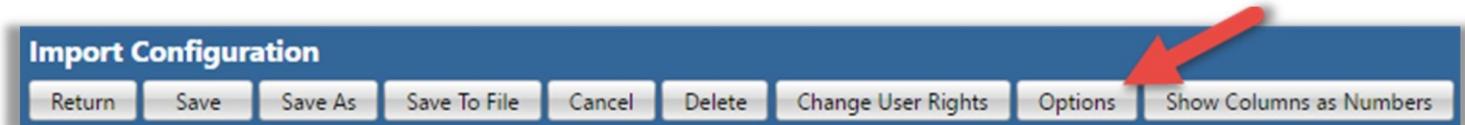
Several additional features of an import configuration are only made available when "Expert Mode" is

enabled. As the name implies, this is intended for users that have a very good understanding of an import configuration and the WQX Data Model. It is highly recommended that a user review all of the previous sections (4.0 – 4.6) before reading this section.

One of the primary reasons to enable Expert Mode is for support of crosstab files (*see Section 1 Glossary for more information*). However, some of the additional features may be useful in other contexts as well.

There is a link in the upper right corner of the page to "Enable Expert Mode"

"Options" button on the Import Configuration Detail Page



This button opens a window with several new import configuration options (as well as the "Expert Mode" that existed in previous versions of WQX Web). The following is an explanation of the Import Configuration Options available in WQX Web 3.0:

- Expert Mode (for Configuration)
 - Enables advanced features for those that are very comfortable with import configurations. It supports header rows and columns and provides better support for crosstab formats, such as a file with multiple results per row.
- Expert Mode (for Translations)
 - This allows more complex comparison options and expressions on the Translations Page. *These will be explained in more detail later in this document.*

The following options are only available when the import configuration is for "Results & Activities" or "Metrics & Activities":

- Generate an Activity ID
 - Rather than building your own Activity ID in your import file, you can enable this option and an Activity ID will be generated for you. It will be created from the values (in your file) for Monitoring Location ID, Activity Start Date, Activity Start Time, and Activity Type.

The following is an example of the Activity ID that would be generated when the following values were provided:

Monitoring Location ID	Activity Start Date	Activity Start Time	Activity Type	Activity ID (generated)
BEARLAKE-123	05/04/2016	15:22:01	Field Msr/Obs	BEARLAKE-123:201605041522:FM

- Note: Although Activity Start Time is an optional element in WQX, it is highly recommended that you always provide one in your import file, when you are using this option (to Generate an Activity ID). This will help the system to generate an appropriately unique Activity ID for each Activity.
- Generate Detection Condition and Limits from Result Value
 - This will automatically convert Result Values that start with "<" or ">" into an appropriate Detection Condition and Detection Limit Value. The table below shows an example of the conversion that will be performed when a value starts with "<" or ">":

Import Value	Detection Condition (generated)	Detection Limit Value (generated)	Detection Limit Type (generated)
<0.25	Present Below Quantification Limit	0.25	Lower Quantitation Limit
>2419	Present Above Quantification Limit	2419	Upper Quantitation Limit

- Populate Detection Limit Unit from Result Unit

If the value for Detection Limit Unit is blank, and it is required by WQX in a particular context, then the value you provide for Result Unit will be used for the Detection Limit Unit as well. Note: this option is enabled automatically whenever you enable the option to "Generate Detection Condition and Limits...", because WQX Web needs a way to populate the Detection Limit

4.7.1 Header-Row Columns

In Expert Mode, there is a new section of the page called "Header-Row Columns". This section of the page is used to indicate header rows (in your import file) which you want to ignore, or to map specific header rows and columns (in your import file) that contain data that you wish to map to elements in WQX.

The "Header-Row Columns" section looks similar to the "Columns" section on a standard import configuration (*see section 4.1 of this document*), but it includes two additional attributes (Row and Entity #):

Header-Row Columns (a single value here applies to each regular row of your import file):

	Column	Row	Entity	Entity #	Element	Format	Translations
			1	{Ignore Row}			

- **Row:** This indicates the row number (e.g. 1, 2, 3) for the header row. The Row # can be changed by picking a new value from the drop-down list

Header-Row Columns (a single value here applies to each regular row of your import file):

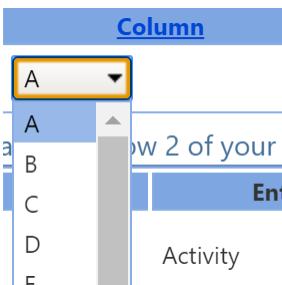
	Column	Row	Entity			
		1	{Ignore Row}			
Regular Columns (starting at row 2 of your import file)		1				
		2				
	Column	Entity	Entity #	Element	Format	Translations

The values in the list are always one more than the current number of rows. For example: if you have created 3 rows so far, then the list will include 1 – 4.

- **Entity #:** This indicates the entity number that a particular element belongs to. If you had multiple Activities, for example, you would be able to tell that a particular element is for the first Activity (i.e. "1") or second Activity (i.e. "2") or even that an element is for the first Result under the second Activity (i.e. Result "2.1"). *This will be covered in more detail later on.*

This attribute is also worth noting:

- **Column:** this represents the column position of an element in a header row of your import file. In conjunction with the Row #, this targets a specific row and column (i.e. cell – in spreadsheet terms). In other words, elements in the header relate to a specific row and column (i.e. cell) in the header.



The column position can be changed by picking a new value from the drop-down list

The values in the list are equal to the number of Regular Columns currently defined in the import configuration. **Because of this, it often preferable to set up your Regular Columns (described in Section 4.6) before setting up your Header-Row Columns (here).**

The list of Header-Row Columns can also be sorted by their Row [Position] or Column [Position] by clicking on the links at the top of the list:

Header-Row Columns (a single value here applies to each regular row of your import file):

Column	Row	Entity	Entity #	Element	Format	Translations
	1	{Ignore Row}				

In cases where you have many Header-Row Columns it can be useful to sort them one way or the other. Header-Row Columns have two purposes, detailed in the next two sections:

4.7.1.1 Ignoring a row in your file

When you first enable Expert Mode, the Header-Row Columns section looks like this:

Header-Row Columns (a single value here applies to each regular row of your import file):

Column	Row	Entity	Entity #	Element	Format	Translations
	1	{Ignore Row}				

Notice that Row 1 says "{Ignore Row}". This indicates that the first row of your file will be ignored. This is useful when the first row of your import file has column headings, that you do not want to import.

In Expert Mode, you are allowed to ignore many header rows, if needed.

Click on the Add Button on the left-hand side...

and then click on the "Ignore Row" button on the Elements Pick List that pops up...



Now you will have two header rows that are ignored:

Header-Row Columns (a single value here applies to each regular row of your import file):

	Column	Row	Entity	Entity #
	1	{Ignore Row}		
	2	{Ignore Row}		

You can also accomplish the same task by clicking the Copy Button on the left-hand side (see arrow in the image above).

4.7.1.2 Mapping a header row and column to an element

A header row and column can be mapped to an element whose value should be applied to all (regular) rows of your import file. This allows you to avoid creating a column in your import file when the value on every row will be the same. Instead, you can provide the value once at the top of your file.

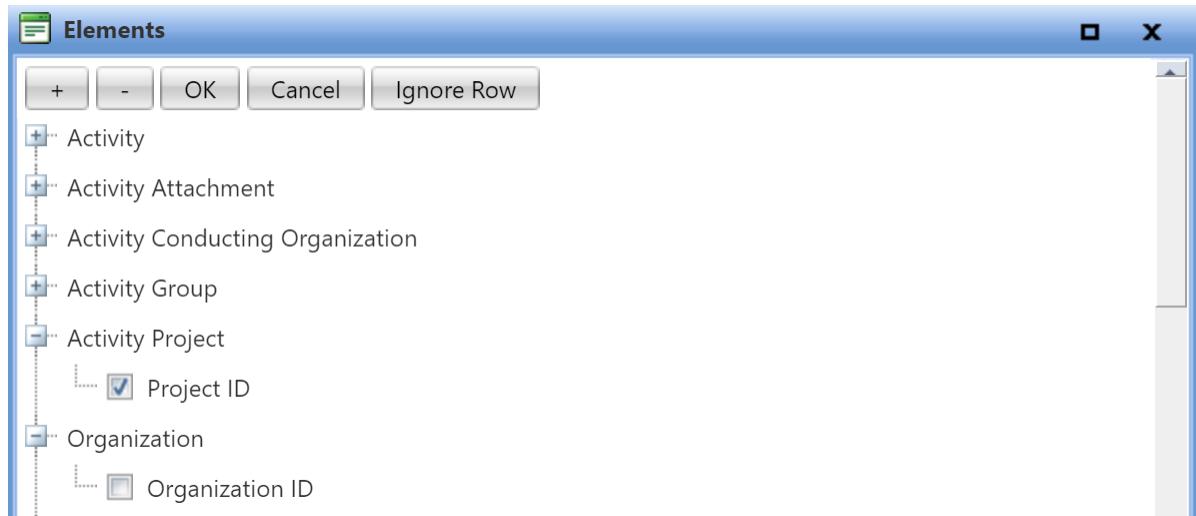
Suppose we want to relate an entire file of activities and results with up to three projects and also be able to enter a single comment for all of the activities in our file. We might build a file like this (with the first three rows as header rows):

A	B	C	D	E
Project ID (1-3):	MAIN	PUB	VOL-SP	
Activity Comment:	Earth Day Volunteer Sampling			
Date	Activity ID	Location ID	Parameter	Value
05/04/2013	M192-2013-05-04F	M192	pH	8.3
05/04/2013	M192-2013-05-04F	M192	DO	10.9
05/04/2013	M192-2013-05-04F	M192	Temperature	20.6
05/04/2013	M121-2013-05-04F	M121	pH	9.1
05/04/2013	M121-2013-05-04F	M121	DO	13.48
05/04/2013	M121-2013-05-04F	M121	Temperature	19.7

Then, to support these three header rows in our import file, we would make the following changes in the "Header-Row Columns" Section of our import configuration:

Click on the Add  Button on the left-hand side...

Then check the box for "Project ID" on the Elements Pick List



Click OK.

Now Project ID will be mapped to Row 1, Column A (by default):

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Header-Row Columns (a single value here applies to each regular row of your import file):

	Column	Row	Entity	Entity #	Element	Format	Trans
	1		(Ignore Row)				
	A	1	Activity Project	1.1	Project ID		0 Edit

Change your ignore row to Row 2 and change your project to Column B.

Header-Row Columns (a single value here applies to each regular row of your import file):

	Column	Row	Entity	Entity #	Element
	B	1	Activity Project	1.1	Project ID
		2	(Ignore Row)		

Repeat this process to add two more "Project ID" elements and move them to Row 1 Column C and Row 1 Column D. You can also accomplish the same utilizing the copy tool and changing the column to match the example below:

Header-Row Columns (a single value here applies to each regular row of your import file):

	Column	Row	Entity	Entity #	Element
	B	1	Activity Project	1.1	Project ID
	C	1	Activity Project	1.2	Project ID
	D	1	Activity Project	1.3	Project ID
		2	(Ignore Row)		

Now, add an "Activity Comment" element and map it to Row 2 Column B.

See below how our Import Configuration now fully describes the first three header rows of our import file (colored boxes have been added to highlight how the import configuration maps to the import file):

Header-Row Columns (a single value here applies to each regular row of your import file):

	Column	Row	Entity	Entity #	Element
	B	1	Activity Project	1.1	Project ID
	C	1	Activity Project	1.2	Project ID
	D	1	Activity Project	1.3	Project ID
	B	2	Activity	1	Activity Comment
		3	(Ignore Row)		

Import File

A	B	C	D	E
Project ID (1-3) :	MAIN	PUB	VOL-SP	
Activity Comment:	Earth Day Volunteer Sampling			
Date	Activity ID	Location ID	Parameter	Value
05/04/2013	M192-2013-05-04F	M192	pH	8.3
05/04/2013	M192-2013-05-04F	M192	DO	10.9
05/04/2013	M192-2013-05-04F	M192	Temperature	20.6
05/04/2013	M121-2013-05-04F	M121	pH	9.1
05/04/2013	M121-2013-05-04F	M121	DO	13.48
05/04/2013	M121-2013-05-04F	M121	Temperature	19.7

1B, 1C, and 1D of our file map to a Project ID

2B of our file maps to an Activity Comment

Row 3 is ignored

If we were to complete the Import Configuration, by defining all the Regular Columns, and then import this file, then the following WQX Elements would be populated. The elements populated from a Header-Row Column are highlighted in red.

Activity				Activity Project			Result	
Date	Activity ID	Location ID	Activity Comment	Project ID	Project ID	Project ID	Parameter	Value
05/04/2013	M192-2013-05-04F	M191	Earth Day Volunteer Sampling	MAIN	PUB	VOL-SP	pH	8.3
							DO	10.9
							Temperature	20.6
05/04/2013	M192-2013-05-04F	M121	Earth Day Volunteer Sampling	MAIN	PUB	VOL-SP	pH	9.1
							DO	13.48
							Temperature	19.7

Before wrapping up our discussion of Header-Row Columns, let's clarify how the new Entity # attributes are assigned (in this example).

Header-Row Columns (a single value here applies to each regular row of your import file):

	Column	Row	Entity	Entity #	Element	Format	Trans
X	B	1	Activity Project	1.1	Project ID		0 Edit
X	C	1	Activity Project	1.2	Project ID		0 Edit
X	D	1	Activity Project	1.3	Project ID		0 Edit
X	B	2	Activity	1	Activity Comment		0 Edit
X		3	{Ignore Row}				

In Expert Mode the "Entity #" can be a compound value (e.g. "1.3" or "2.2" or even "2.3.1"). This value holds two pieces of information: which entity number an element belongs to, and, in some cases, which entity is the parent of that entity.

Entities exist in a hierarchy, where one can be the child of another. In our example above, we have an Activity with an Entity # "1", which means it's the first Activity. We also have several "Activity Project" entities with Entity #'s "1.1", "1.2", and "1.3", which means that they are the first, second and third "Activity Project" entities under the first Activity. *See the WQX Data Model in Section 3.4 for an overview of this hierarchy – although "Activity Project" is not specifically shown.* Also, these Entity #'s will be more useful when we discuss how to support a crosstab-style import file (*in Section 4.7.3*).

4.7.2 Regular Columns

In Expert Mode, the "Columns" section (described in Section 4.1 of this document) is now called "Regular Columns" to distinguish it from the "Header-Row Columns" section which is also on the page. Initially, the label at the top of this section will indicate that the "Regular Columns [are] starting at row 2 of our import file". This is because Row 1 is defined as a header row (by default).

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Regular Columns (starting at row 2 of your import file)										
	Column	Entity	Entity #	Element	User Supplied Element Name	Format	When Column...	Then Use These Values	Translations	
		A	Activity	1	Activity Start Date		MM/DD/YYYY			0 Edit
		B	Activity	1	Activity Start Time		HH:MI:SS PM	Is Not Blank	=@ImportValue	1 Edit
		Activity	1	Activity Start Time Zone				EST		
		C	Activity	1	Activity ID					0 Edit

In other words, the Header-Row Columns section of the page is used to define the columns in each header row of our import file and the Regular Columns section of the page is used to define the columns that are in every subsequent row of our import file.

If we were to create 3 header rows, like we did previously, then the label on our Regular Columns would indicate that the Regular Columns start on row 4.

Regular Columns also have an "Entity #" attribute.

		Result	1.1	Result Analytical Method Context	
		L	Result	1.1	Result Value
		M	Result	1.1	Result Status ID
		N	Result	1.1	Result Value Type
		O	Result Detection Limit	1.1.1	Result Detection Limit Type
		P	Result Detection Limit	1.1.1	Result Detection Limit Value
		Q	Result Detection Limit	1.1.1	Result Detection Limit Unit

Initially, these will all be 1, 1.1, or even 1.1.1, because there are only one of each entity in a default import configuration.

However, if we were to add any element more than once, this would no longer be true.

For example, if we add a second Result Frequency Class, and move it to column B, its Entity # will be 1.2 (meaning it's the second Frequency Class Descriptor under the first Activity):

Regular Columns (starting at row 2 of your import file)

	Column	Entity	Entity #	Element	User :
		A	Result Frequency Class	1.1.1	Frequency Class Descriptor
		B	Result Frequency Class	1.1.2	Frequency Class Descriptor

The assignment of Entity #'s is straightforward for simple entities, like an Activity Project, with only one element (Project ID). However, entities, like an Activity or Result, are more complex and merit additional clarification.

The following rule dictates how WQX Web assigns an Entity #:

When a duplicate element is added to an import configuration, a new entity instance is created at that column position and a new Entity # is assigned. All other elements that belong to that same entity, and are in a higher column position, will also be assigned that Entity #.

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The following example will help demonstrate this rule:

Suppose we add a second Activity ID element to our import configuration and move it to Column H:

Regular Columns (starting at row 2 of your import file)

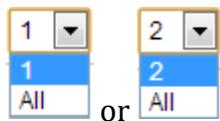
	Column	Entity	Entity #	Element	User Supplied Element Name	Format	When Column...
X	A	Activity	1	Activity Start Date		MM/DD/YYYY	
X	B	Activity	1	Activity Start Time		HH:MI:SS PM	Is Not Blank
		Activity	1	Activity Start Time Zone			
X	C	Activity	1	Activity ID			
X	D	Activity	1	Activity Type			
X	E	Activity	1	Activity Media Name			
X	F	Activity Project	1.1	Project ID			
X	G	Activity	1	Monitoring Location ID			
X	H	Activity	2	Activity ID			
X	I	Activity	2	Sample Collection Method ID			
X	J	Activity	2	Sample Collection Equipment Name			
X	K	Result	2.1	Result Detection Condition			

Previously all Activity elements had an Entity # of "1". Now, Column H, is mapped to a second "Activity ID". Two Activity IDs can't exist on the same Activity, so a new Activity is started (i.e. Entity # "2") on column H.

Also, notice that every subsequent Activity element (on columns I, J, and K) also has an Entity # of "2". Once a new entity is created, all subsequent elements (in higher column positions) relate to that same Entity #.

In addition to the Entity #'s changing, notice that some of the Entity # values are in a drop-down list (e.g. columns A,B, D, E, G, I, and J)

When there are more than one of a particular entity instance (e.g. Activity - in this example), but an element, on that entity instance, exists only once, then that element gets a drop-down list. There are only two values in the drop-down list: the default entity # assigned by the system, and "All".



or

If you were to select "All" from the drop-down list for "Activity Type" on Column D, for example,

	Column	Entity	Entity #	Element	User Supplied Element Name	Format	When Column...	Then Use These Values
X	A	Activity	1	Activity Start Date		MM/DD/YYYY		
X	B	Activity	1	Activity Start Time		HH:MI:SS PM	Is Not Blank	=@ImportValue
		Activity	1	Activity Start Time Zone				EST
X	C	Activity	1	Activity ID				
X	D	Activity	All	Activity Type				
X	E	Activity	1	Activity Media Name				

then you are saying that you want Column D (of your import file) to be used as the Activity Type for all Activities (on a particular row of the import file), not just for Activity #1.

If we were to add a second "Activity Type" element and move it to column E, then the drop-down list on Activity Type would go away, and the first one will be assigned to Activity #1 and the second one will be assigned to Activity #2.

Regular Columns (starting at row 2 of your import file)

	Column	Entity	Entity #	Element	User Supplied Element Name	
	A	Activity	1	Activity Start Date		MM/DD/
	B	Activity	1	Activity Start Time		HH:MI:SS
		Activity	1	Activity Start Time Zone		
	C	Activity	1	Activity ID		
	D	Activity	1	Activity Type		
	E	Activity	2	Activity Type		

This behavior will be leveraged in our crosstab example in the next section.

4.7.3 Creating an Import Configuration to Support a Crosstab-style Import File

A crosstab file is a special type of spreadsheet or flat file format where column headers contain data that relates to all the rows of the file, and, in some cases, row headers relate to all the columns on a row. A crosstab file is more concise than a standard file, because it avoids some of the repetition that occurs in a standard file and typically includes more than one of the same type of entity on a single row of the file. For example, you could include many results on a single row (rather than just one).

Here is an example of a crosstab file that has one Activity and three Results (for Temperature, DO, and pH) per row:

A	B	C	D	E	F	G	H
				Characteristic ->	Temperature	DO	pH
				Units ->	Deg C	mg/l	none
Activity ID	Date	Location ID	Result Depth (m)	Fraction ->			
A-1	5/4/2013	ML-1	1		-0.1	2.5	8.1
A-1	5/4/2013	ML-1	3			2.4	8.34
A-2	5/5/2013	ML-2	1		9.8	8.8	8.8
A-2	5/5/2013	ML-2	3		7	9.2	8.5
A-3	5/6/2013	ML-3	1		2.3	2.9	9.1
A-3	5/6/2013	ML-3	3		2.9	1.9	8.55

Now, let's build an import configuration to support this file.

As mentioned previously, it's recommended that you create the regular columns in your import configuration before the header-row columns (because a regular column must exist in a specific position before a header-row column can be placed in that position).

Start by mapping Column A to Activity ID, B to Activity Start Date, and C to Monitoring Location ID:

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Regular Columns (starting at row 2 of your import file)

	Column	Entity	Entity #	Element	User Supplied Element Name	Format	When Column...	Then Use Th...
X	A	Activity	1	Activity ID				
X	B	Activity	1	Activity Start Date		MM/DD/YYYY		
X	C	Activity	1	Monitoring Location ID				

Column D is for our Result Depth (in meters), so map Result Depth Measure and Result Depth Unit to Column D and then set the default value for the Units to "m".

+	D	Result	1.1	Result Depth/Height Measure		Is Not Blank	=@ImportValue	1 Edit
		Result	1.1	Result Depth/Height Unit			m	

Column E of our file doesn't contain data, so we want to ignore it.

X	+	E	{Ignore Column}		
---	---	---	-----------------	--	--

Columns F, G, and H will hold our three Result Values (for Temperature, DO, and pH):

✓	F	Result	1.1	Result Value	
✓	G	Result	1.2	Result Value	
✓	H	Result	1.3	Result Value	

Now that we have three Results in our import configuration, but only one Result Depth and Units, the Entity # for them has changed to a drop-down list. Let's change the value to "All" because Column D of our import file contains the Depth for all three Results on each row.

+	D	Result	All	Result Depth/Height Measure	
		Result	All	Result Depth/Height Unit	

See below how our Import Configuration now describes the regular rows of our import file (colored boxes have been added to highlight how the import configuration maps to the import file):

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Column	Entity	Entity #	Element	User Supplied Element Name	Format	When Column...	Then Use These Values	Translations
X  + 	A	Activity	1	Activity ID				0 Edit
X  + 	B	Activity	1	Activity Start Date	MM/DD/YYYY			0 Edit
X  + 	C	Activity	1	Monitoring Location ID				0 Edit
X  + 	D	Result	All	Result Depth/Height Measure		Is Not Blank	=@ImportValue	1 Edit
		Result	All	Result Depth/Height Unit			m	
X  + 	E	(Ignore Column)						
X  + 	F	Result	1.1	Result Value				0 Edit
X  + 	G	Result	1.2	Result Value				0 Edit
X  + 	H	Result	1.3	Result Value				0 Edit

Import File

A	B	C	D	E	F	G	H
				Characteristic ->	Temperature	D0	pH
				Units ->	Deg C	mg/l	none
Activity ID	Date	Location ID	Result Depth (m)	Fraction ->			
A-1	5/4/2013	ML-1	1		-0.1	2.5	8.1
A-1	5/4/2013	ML-1	3			2.4	8.34
A-2	5/5/2013	ML-2	1		9.8	8.8	8.8
A-2	5/5/2013	ML-2	3		7	9.2	8.5
A-3	5/6/2013	ML-3	1		2.3	2.9	9.1
A-3	5/6/2013	ML-3	3		2.9	1.9	8.55

Now let's create our Header-Row Columns:

Add three "Characteristic Name" elements to header row 1 and columns F, G, and H.

X  + 	F	1	Result	1.1	Characteristic Name		0 Edit
X  + 	G	1	Result	1.2	Characteristic Name		0 Edit
X  + 	H	1	Result	1.3	Characteristic Name		0 Edit

Now, add three "Result Unit" elements to header row 2 and columns F, G, and H.

X  + 	F	2	Result	1.1	Result Unit		0 Edit
X  + 	G	2	Result	1.2	Result Unit		0 Edit
X  + 	H	2	Result	1.3	Result Unit		0 Edit

We have now completed mapping all of our header-row columns.

As a final step, create Generated Values for elements that are not included in our import file, such as the following example:

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	Entity	Entity #	Element	Value
Organization	All	Organization ID	WQXTEST	
Activity	All	Activity Media Name	Water	
Activity	All	Activity Type	Field Msr/Obs	
Activity Project	All	Project ID	1	
Result	All	Result Status ID	Final	
Result	All	Result Value Type	Actual	

Our import configuration is now complete. If our file was imported, the following entities and elements would be populated in WQX.

Activity					Activity Project	Result						
Activity ID	Activity Start Date	Monitoring Location ID	Activity Media Name	Activity Type	Project ID	Result Depth / Height Measure	Result Depth / Height Unit	Characteristic Name	Result Unit	Result Sample Fraction	Result Value	Result Status
A-1	5/4/2013	ML-1	Water	Field Msr/Obs	1	1	m	Temperature	Deg C		-0.1	Final
						1	m	DO	mg/l	Dissolved	2.5	Final
						1	m	pH	none		8.1	Final
						3	m	DO	mg/l	Dissolved	2.4	Final
						3	m	pH	none		8.34	Final
A-2	5/5/2013	ML-2	Water	Field Msr/Obs	1	1	m	Temperature	Deg C		9.8	Final
						1	m	DO	mg/l	Dissolved	8.8	Final
						1	m	pH	none		8.8	Final
						3	m	Temperature	Deg C		7	Final
						3	m	DO	mg/l	Dissolved	9.2	Final
						3	m	pH	none		8.5	Final
A-3	5/6/2013	ML-3	Water	Field Msr/Obs	1	1	m	Temperature	Deg C		2.3	Final
						1	m	DO	mg/l	Dissolved	2.9	Final
						1	m	pH	none		9.1	Final
						3	m	Temperature	Deg C		2.9	Final
						3	m	DO	mg/l	Dissolved	1.9	Final
						3	m	pH	none		8.55	Final

5 Datasets

Datasets are the source for the submission file that's created by WQX Web (and sent to CDX). It represents the outcome of importing your data file, applying defaults and translations from your import configuration, and resolving any validation issues that the system identifies (many of which can be corrected within the system).

Datasets are temporary and do not represent data that is in WQX. Importing, correcting, deleting datasets has no effect on the data that is in WQX (the official repository of ambient water quality data at the EPA).

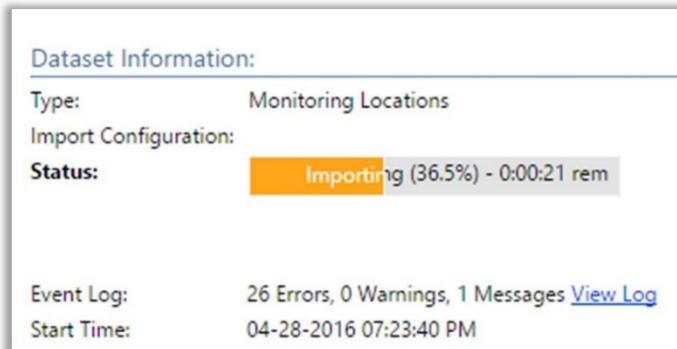
The data in a dataset only becomes permanent once a submission file has been exported, submitted to CDX and processed successfully by the WQX System (which is separate from WQX Web).

You can work with a dataset in WQX Web for a maximum number of days at which time it will be automatically purged from this system to keep the system from being overloaded with temporary data. Currently the system allows about two weeks for you to work with your dataset.

Once you have submitted your dataset to CDX and it has loaded successfully, you are encouraged to delete your dataset from WQX Web (since it is no longer needed).

5.1 Progress Bar

When you begin importing or exporting a dataset, a new progress bar appears on the Dataset Detail Page, which will indicate the status, percent complete, and estimated time remaining.



If you navigate to another page within WQX Web, the progress bar will continue to be visible in the upper right-hand corner of the page (near the logout button). This allows you to continue monitoring the progress of a large import or export while navigating to other pages within WQX Web.



This progress bar serves two additional purposes:

- It prevents an automatic logout while a dataset is processing for a particular user. Normally, after 45 minutes of inactivity, you are logged out of the system. When a dataset is processing, however, you will remain logged in, and able to view the progress of your import or export.
- It reminds the web server that you have a dataset that is processing and prevents the web server

from shutting down before your dataset has completed. In previous versions of WQX Web, there have been cases where WQX Web has shut down (on the web server) while an active dataset was being processed. This caused confusion, because you would still see a dataset whose status was "Importing" (for example), but it had actually been shut down and would not complete.

- Your dataset should continue to process on the server, as long as you leave your browser open.

5.2 Icons on the Datasets Page

The data flow within WQX Web involves several steps. Unless the final step is completed successfully, your data is only temporary (and will eventually be cleared from the system). To help highlight this multi-step process, icons have been added to the Datasets Page. There are four icons used on this page:

 This indicates a dataset that is actively being processed by WQX Web (or WQX). It's associated with a status of "Importing", "Exporting", or "Processing at CDX"

 This indicates that one or more errors have been logged while processing a dataset, and those errors have not been resolved. This is associated with a status of "Import Failed", "Export Failed", "Failed at CDX", and "Imported" (when there are unresolved validation errors)

 This is associated with a status of "Imported" and it indicates that there were no validation errors logged, or that you have resolved all validation errors that were logged. Your dataset is now ready be submitted to the Central Data Exchange (CDX), which will pass your submission file on to the [Water Quality Exchange \(WQX\) for final processing](#).

 This indicates that you have successfully completed all steps in the process. Your dataset has been submitted to CDX/WQX and completed without error.

The following is an example of the new Datasets Page (with status icons):

Datasets								
ID	File Name	Type	Status	Organization	Created	Created By	Expires	
43972	2009.txt	Results & Activities		Importing	NNEPA	05-09-2016 12:56 PM	Dwane Young	14 Days
43971	2010.txt	Results & Activities		Completed at CDX	NNEPA	05-09-2016 12:32 PM	Dwane Young	2 Days
43970	Algae_Test.xlsx	Results & Activities		Imported	NARTEST	05-09-2016 12:11 PM	Kevin Christian	14 Days
43957	WQX Web 2.6 New Features Test.xlsx	Results & Activities		Failed at CDX	WQXTEST	05-06-2016 07:29 PM	Ryan Jorgensen	12 Days
43956	WQX Submission 43956 Update.zip	WQX Submission		Completed at CDX	EPA_GLNPO	05-06-2016 04:29 PM	Rick Cooke	0 Days
43955	Water quality elem sites from 09 austin park.xlsx	Results & Activities		Imported	POMO989_WQX	05-06-2016 03:16 PM	[REDACTED]	12 Days
43772	MonitoringLocationsUB03.csv	Monitoring Locations		Imported	UB-SIAT-PE_WQX	04-28-2016 10:57 AM	[REDACTED]	3 Days
43766	MonitoringLocationsUB02.csv	Monitoring Locations		Import Failed		04-28-2016 10:44 AM	[REDACTED]	3 Days
43745	Copy of CNA Physical-Chemical Template.xls	Projects		Failed at CDX	WQXTEST	04-27-2016 03:41 PM	[REDACTED]	3 Days

5.3 Message Box on the Dataset Detail Page

The Dataset Detail Page includes a message box in the upper-right corner of the page.

Dataset Details

Return Delete Export & Submit to CDX

Dataset Information:

Type: Results & Activities
Import Configuration: [NNEPA_Regular_Results_configA](#)
Organization ID: NNEPA
Status: Completed at CDX

Submission to CDX Successful!

The final step in this process has completed and the WQX database has been updated. It may take up to four days for this data to be published and become available from the STORET Data Warehouse.



This message box highlights a dataset's status and reminds you of the steps remaining in the process (if any). The following are examples of the message boxes in WQX Web:

When importing...

Dataset is importing

Note: Importing data (into the staging area) is just 'step 1' of a multi-step process. You must complete the subsequent step(s) for your data to be saved. These steps will be provided once your import completes.

Also, feel free to navigate to other pages (within WQX Web) while a long-running import is processing. A progress bar will display on all pages so that you can continue to monitor this import.

If there were errors during the import...

! Import Completed (with errors)

Step 1 of 3 completed.

The dataset has been imported, but there are errors that need to be resolved (step 2), and then the dataset needs to be submitted to CDX (step 3). If you submit to CDX before resolving all errors, then only the valid records will be included.

A dataset only becomes permanent after it has been submitted to CDX.

If there were no errors during the import...

Dataset is ready to be submitted to CDX

Step 1 of 2 completed.

The dataset has been imported (step 1). Now the dataset needs to be submitted to CDX (step 2).

A dataset only becomes permanent after it has been submitted to CDX.

If all errors have been resolved...

 **Errors Resolved**

Step 2 of 3 completed.

The dataset has been imported (step 1), and errors have been resolved (step 2). Now the dataset needs to be submitted to CDX (step 3).

A dataset only becomes permanent after it has been submitted to CDX.

After a successful submission to CDX and a "Completed" status ...

 **Submission to CDX Successful!**

The final step in this process has completed and the WQX database has been updated. It may take up to four days for this data to be published and become available from the STORET Data Warehouse.

5.4 Dataset Purpose and Type

Dataset Purpose

A dataset can be created for the purpose of either Adding & Updating data or for Deleting data in the WQX System. Add/Update datasets contain a full set of data and will update records in WQX where the ID for the record matches an existing value. If no match is found, then the data will be added to WQX. Delete datasets include just one column which contains the unique ID of the record(s) you wish to delete from the WQX System.

Once a dataset is created in WQX Web, it will be available to anyone with rights to the organization referenced in the import file. Other users will not see it.

Dataset Types

The types of datasets supported by WQX Web are as follows:

- Projects
- Monitoring Locations
- Monitoring Location Weights
- Biological or Habitat Indices
- Activities and Results
- Activities and Metrics
- Activity Groups
- Delete Projects

- Delete Monitoring Locations
- Delete Activities
- Delete Activity Groups
- Delete Biological or Habitat Indices

5.5 Importing Data (Creating a New Dataset)

Click the “Import & Submit” link on the navigation bar.

Select the method (i.e: to delete or to import (add) data) and type of dataset you wish to create (i.e: projects, activity groups, etc.).

The screenshot shows the WQX Web interface with the "Import & Submit" menu open. The menu items listed are:

- Import Projects (into the staging area)
- Import Monitoring Locations (into the staging area)
- Import Monitoring Location Weights (into the staging area)
- Import Indexes (into the staging area)
- Import Results & Activities (into the staging area)
- Import Metrics & Activities (into the staging area)
- Import Activity Groups (into the staging area)
- Import a batch of IDs for records to delete from WQX
- Submit a WQX XML file directly to CDX
- View existing datasets (in the staging area)

The system will display the Import page.

The screenshot shows the "Import an Excel Spreadsheet or Text File into WQX Web" page. The form fields include:

- Type of Data: Projects
- Import Configuration: (dropdown menu)
- Type of File: (dropdown menu)
- Ignore First Row of Import File?

Note: If you selected to create one of the "Delete" datasets on the previous page, then the following will be displayed instead. Select which item you want to delete – then continue as follows:

Import File

To Delete Data in WQX:

- [Import a File of Project IDs to be deleted](#)
- [Import a File of Monitoring Location IDs to be deleted](#)
- [Import a File of Activity IDs to be deleted](#)
- [Import a File of Activity Group IDs to be deleted](#)
- [Import a File of Index IDs to be deleted](#)

Select an import configuration from the dropdown list.

Note: The list will be filtered to only show Import Configurations that match the type you clicked on the previous page and that you have "Rights" to.

Import an Excel Spreadsheet or Text File into WQX Web

Import Data

Import Configuration and Type of File

Type of Data:	Projects
Import Configuration:	Mark M. LeBaron ~ Project List Page Export Format (Template) ~ 2297
Type of File:	Microsoft Excel (xlsx)
Worksheet(s) to Import:	1st (note: the "1st" worksheet is the left-most tab of the Excel Workbook)
<input checked="" type="checkbox"/> Ignore First Row of Import File?	

Generated Values

Element	Value	Format
Organization ID	(none)	

New or Existing Data:

- This file contains new data only (i.e. not in WQX).
- This file contains existing data only (i.e. already in WQX).
- This file may contain new and/or existing data.

If import file is free of errors:

- Let me review my dataset in the staging area before submitting.
- Automatically submit the data to WQX.

File(s)

Import File:	<input type="button" value="Choose File"/> No file chosen	.xlsx, .xlsm, .zip
Attachments File:	<input type="button" value="Choose File"/> No file chosen	.zip

Under Import File, choose the file that you wish to import into the staging area.

The file you select must have an extension of TXT, CSV or ZIP. If it is a zip file, it must contain a TXT or CSV file inside it.

If you have attachments referenced in your import file, then use the Browse button on the Attachments File field to browse and find the zip file that holds all of the attachments. The file must be a ZIP file.

BEFORE YOU PRESS “IMPORT DATA”

- **“Ignore First Row of Import File?”**: This box is most likely defaulted to be checked. This is going to have the system “ignore” your header row in your file and just read the information in the order you have in your configuration (see section 4 for information on building a

configuration for import).

- Review the table showing the generated values that will be used when importing this file. The Default Values are from the selected import configuration and can be overridden here for this file (without affecting the values in the import configuration). Change any values as needed and make sure all generated values have a value in place.
- **New or Existing Data:** there are 3 options available to choose when importing a file into the staging area.

This file contains new data only: the default. The system is checking for potential duplications (based off activity ID) and expecting only data that is not currently at WQX. This is handy for importing your new records into the system. Any data already existing at WQX will be flagged as an ERROR.

This file contains existing data only: The system is checking for data it only has seen at WQX (based off activity ID). This is handy for updating records already existing in the system. Any data that is not currently at WQX will be flagged as an ERROR.

This file may contain new and/or existing data: This option is great for importing a running dataset into WQX, however the validation the system was doing for the other two options above will not have the system show an error as before.

- **If import file is free of errors:**

Let me review my dataset in the staging area before submitting: the default. This will allow you to see your data in the staging area, review your import counts, and other messages that happened on import before submitting your dataset to WQX

Automatically submit the data to WQX: This feature will flow your data directly to WQX without going through the staging area ONLY if you don't have any errors on import

...

Click "Import Data"

The system will begin importing the file(s) and validating the imported data. Validation will check for the following types of errors:

- Values that exceed the maximum allowed length
- Values that do not match a related lookup table value
- Values that are not in the correct format
- Values that are missing but are required in WQX. All other data rules as defined in the WQX Flow Configuration Document.

The system will display the Dataset Summary page. The Dataset Summary page provides information regarding the status of a dataset, including the percent complete and a count of any warnings or errors logged so far. An animated image will spin to remind you that an active process is running on the server.

The screenshot shows the 'Dataset Details' page. At the top, there are 'Return' and 'Cancel' buttons. Below them is a 'Dataset Information' section with fields: Type (Projects), Import Configuration (Project List Page Export Format (Template)), and Status (Importing). To the right, a progress bar indicates the import is 0% complete. A note states: 'Note: Importing data (into the staging area) is just 'step 1' of a multi-step process. You must complete the subsequent step(s) for your data to be saved. These steps will be provided once your import completes.' Another note says: 'Also, feel free to navigate to other pages (within WQX Web) while a long-running import is processing. A progress bar will display on all pages so that you can continue to monitor this import.' Below the status section, event log details are shown: Event Log (0 Errors, 0 Warnings, 1 Messages, View Log), Start Time (03-21-2020 12:57:21 PM), End Time (blank), and File/Transaction ID (ProjectsExport (6).xlsx). A 'Documents' section lists a single file: Name (ProjectsExport (6).xlsx).

During the import process the status will be one of the following:

Waiting to Import – The dataset has been queued for importing but has not yet started.

Generally, a dataset only has this status for a fraction of a second. In many cases you will not even see this status. However, in some cases when the server is heavily loaded, a dataset may remain in this state for an extended period of time waiting for other datasets to finish processing.

Importing – The dataset is being imported. Percent Complete and a count of Errors & Warnings will be displayed. If you wish to review the errors while the file is being processed, you can click the "View Log" link.

This page will refresh automatically and update the status, percent complete, and provide an estimated end time for the import process. If it appears that it will take more than a few minutes to complete you can choose to navigate elsewhere in the system and perform other tasks or leave the system entirely and come back at a later time. The process will continue on its own and you can check back at any time by following the instructions in the next section. When the import process completes it will have one of the following statuses:

Imported – The dataset has been imported and validation errors, if any, may be reviewed and resolved. Record counts are displayed.

Import Failed – Either the import was cancelled or there were serious errors that prevented the file from being imported. If you did not cancel the import, then you should click the "View Log" link to investigate what happened. One common cause of failure is when your import configuration doesn't match your import file. If you believe the error that was logged is a bug in the system, you should report it to the STORET help desk.

See 5.1.3 for more details on import messages.

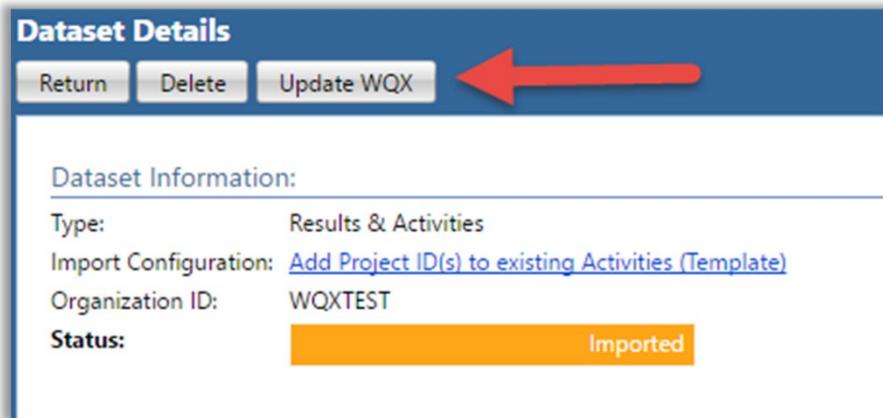
At this point, the Dataset Summary Page will display additional information about your dataset. See the next section for more information about the Dataset Summary Page.

5.6 Importing Data Using a Template

Templates are available to use to import your data into WQX. In most cases you will have to save the template as your own copy before use (*see above about creating new import configurations*).

One example is the template: "*Add Project ID(s) to existing Activities (Template)*". In a situation where you have already submitted Activities to CDX/WQX and then wish to update the Projects to which those Activities relate, you can add those Project references without having to reimport and submit the entire

set of Activity and Result data. If you can create a file with a column for the Activity ID, and one to three additional columns for Project IDs, then you can import that file and those Project IDs will be added to the existing Activities.



There will not be an "Export & Submit to CDX" button on the Dataset Details Page. Instead you will see an "Update WQX" button. This will update the WQX database.

A second example is the "*Update Result Status (Template)*". In a situation where you have already submitted Activities to CDX/WQX and then wish to update the Projects to which those Activities relate, you can now add those Project references without having to reimport and submit the entire set of Activity and Result data. If you can create a file with a column for the Activity ID, and one to three additional columns for Project IDs, then you can import that file and those Project IDs will be added to the existing Activities. Some templates (like this one) you don't have to save as your own copy before use, but you do have to select your correct organization ID before importing.

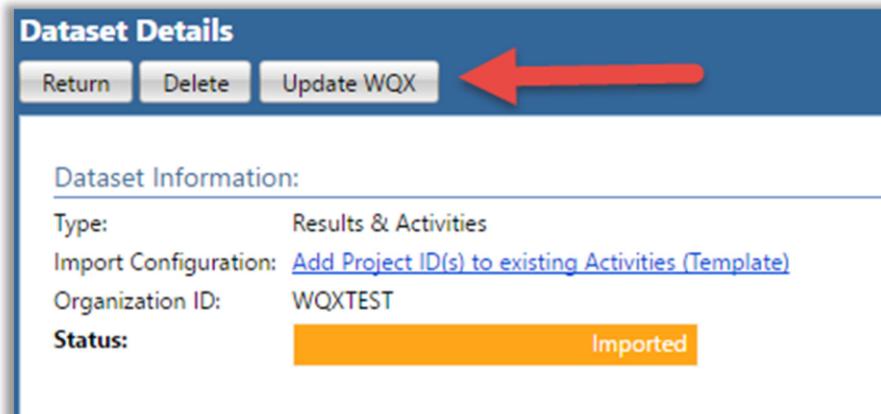
The screenshot shows the 'Import File' page with the 'Import Data' tab selected. The configuration section includes:

- Type of Data: Results & Activities
- Import Configuration: System ~ Update Result Status (Template) ~ 10
- Type of File: Microsoft Excel (xlsx)
- Worksheet(s) to Import: 1st (note: the "1st" worksheet is the left-most tab of the Excel Workbook)
- Ignore First Row of Import File?

Below this is a 'Generated Values' table with columns 'Element', 'Value', and 'Format'. The 'Value' column contains 'Organization ID {none}'. The 'File(s)' section shows two file upload fields: 'Import File' and 'Attachments File', both currently showing 'No file chosen'. To the right of these fields are file extensions: '.xlsx, .xlsm, .zip' for the import file and '.zip' for attachments.

There will not be an "Export & Submit to CDX" button on the Dataset Details Page, instead you will see an "Update WQX" button. This will update the WQX database.

5.7 Continuing with an Existing Dataset



Select the “Import & Submit” link on the Navigation Bar and click “View Existing Datasets (in the staging area)”. This will navigate to the Datasets List Page. The page displays a list of datasets that you have created (or were created by other users in your organization).

Datasets								
Search		Clear Search Criteria						
Search Criteria		Datasets						
ID	File Name	Type		Status	Organization	Created	Created By	Expires
6177	ProjectsExport (6).xlsx	Projects	⚡	Imported	GKMER	03-21-2020 12:57 PM	Kayla Gower	29 Days
6176	ActivitiesResults.xlsx	Results & Activities	⚡	Imported	WQXTEST	03-20-2020 02:29 PM	Rick Cooke	29 Days
6166	Projectz	Projects	❗	Import Failed	WQXTEST	03-18-2020 02:56 PM	Rick Cooke	27 Days
6165	TEST columns Projects,Locations,Weights,Results,Indexes,Metrics,(1).xlsx	Projects	❗	Export Failed	WQXTEST	03-18-2020 11:21 AM	Rick Cooke	26 Days
6164	TEST columns Projects,Locations,Weights,Results,Indexes,Metrics,(1).xlsx	Monitoring Locations	⚡	Imported	WQXTEST	03-18-2020 09:24 AM	Kevin Christian	26 Days
6162	TEST columns Projects,Locations,Weights,Results,Indexes,Metrics,(1).xlsx	Projects	⚡	Imported	WQXTEST	03-18-2020 08:05 AM	Pamela Blasdell	26 Days
6151	Modified_WQX Biological Template_new.xlsxm	Results & Activities	❗	Import Failed	WQXTEST	03-13-2020 09:50 PM	Kevin Christian	22 Days
6150	Modified_WQX Biological Template.xlsxm	Results & Activities	❗	Import Failed	WQXTEST	03-13-2020 09:49 PM	Kevin Christian	22 Days
6145	MonitoringLocation.xlsx	Monitoring Locations	✓	Completed at CDX	WQXTEST	03-09-2020 11:04 PM	Rick Cooke	0 Days

Click the link on the ID of the dataset you wish to work with. The system will display the Dataset Summary page.

When the system processes an import file, it records three key items (errors/messages, imported records, and documents you imported) which are summarized on this page:

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Dataset Details

Return Delete Export & Submit to CDX

Dataset Information:

Type:	Results & Activities
Import Configuration:	ALL columns Results, (TEST columns Projects_Loc.xlsx)
Organization ID:	WQXTEST
Status:	Import Failed

Import Completed (with errors)

Step 1 of 3 completed.

The dataset has been imported, but there are errors that need to be resolved (step 2), and then the dataset needs to be submitted to CDX (step 3). If you submit to CDX before resolving all errors, then only the valid records will be included.

A dataset only becomes permanent after it has been submitted to CDX.

Import Event

Start Time:	03-04-2020 07:28:07 AM
End Time:	03-04-2020 07:28:14 AM
File Name:	ALL columns Projects,Locations,Weights,Results,Indexes,Metrics,Groups.xlsx
Event Log:	View all validation errors and warnings

Imported Records:

Entity	Total	Valid	New	Existing
Activity	34	32	34	0
Activity Group	3	3	3	0
Result	103	103		

Documents:

Name
ALL columns Projects,Locations,Weights,Results,Indexes,Metrics,Groups.xlsx
Import Log.xlsx

As errors and warnings are identified, they are logged to an event log. This page summarizes the number of errors and warnings (as well the number of informational messages). *See Section 5.5 for more information.*

5.8 Resolving Validation Errors in a Dataset

As mentioned previously, the import process performs validation checks on the data in your import file. A summary of the findings is displayed in a "Validation Errors" table on the Dataset Summary Page.

File Name: [Results Demo - All types of validation errors.xlsx](#)

Event Log: [View all validation errors and warnings](#)

Message Type	Total	Resolved	Event Log	Resolution
Message	6		View Log	None Needed
Max Length Exceeded	2	1	View Log	Resolve Online
Domain Value Invalid	20	0	View Log	Resolve Online
Value or Format Invalid	1	0	View Log	Resolve Online
Required Value Missing	3	0	View Log	Resolve Online
Risk of Overwriting Data	7	0	View Log	Resolve in Import File
Inconsistent Data	12	0	View Log	Resolve in Import File



There are a few approaches you could use to resolving errors that occurred while processing your import file.

1. Use "Resolution Pages" in WQX Web designed to fix specific types of errors. Currently not all errors can be corrected in WQX Web, so there are limitations to this approach.
2. Review the Event Log, correct your import file and then re-import it. *See Section 5.5 for more information.*
3. It is recommended you consider using a hybrid approach to correcting errors.
 - Correcting only errors that require to be resolved in your file (see inconsistent data example above) and then re-import you file.
 - Then use the Resolution Pages ("Resolve Online") to correct the remaining errors.

The main advantage to this approach is that most Resolution Pages can fix a batch of issues with one change. For example, if an invalid domain value was used 100 times in your file, you can make

a single correction and all 100 occurrences will be corrected.

Each type of error listed in the Validation Errors Table has a link to another page. Generally, these are Resolution Pages to allow you to correct the error (without having to re-import your data)

There are four types of validation errors that can be corrected in the system:

1. Invalid Domain Value – A value in the import file didn't match any of the allowed values in the lookup table for the corresponding data element. *See Section 5.5.1*
2. Invalid Format – The format of a value in the import file didn't match the format you specified in your import configuration for the corresponding data element. *See Section 5.5.2*
3. Maximum Length Exceeded – The length of a value in the import file exceeded the maximum allowable length of the corresponding data element. *See Section 5.5.3*
4. Required Value Missing – The import file was missing a value that is required to create a valid WQX Submission File. *See Section 5.5.4*

The following types of validation errors cannot be corrected in WQX Web:

5. Invalid Translation – this is a rare error to occur, but it indicates that a value in your import file did not match a translation in the import configuration and the import column is mapped to more than one WQX data element. If you have at least one translation on this column and no defaults (in the import configuration) then a translation is required for every value in that column position in your import file. *See Section 4.6.3 for more information.*
6. Inconsistent Data – Data is not meeting one of the validation checks for dividing up activities. I.E: If you have two different activity comments for two lines in your dataset, but the same activity ID it would flag this error.
7. Risk of Overwriting Data – Based off your activity ID, the system is recognizing another activity already present at WQX for your organization.

5.9 View Event Log Messages:

To review the complete list of errors, warnings and messages logged while your import file was processed, click the "View all validation errors and messages" link on the Dataset Summary Page. This will display the Event Log Messages Page.

WQX Web User Guide

Event Log Messages			
Return		Search	Export to Excel
Message Types: 12 items checked			<input type="checkbox"/> Show 'Source' Column <input checked="" type="radio"/> Details View <input type="radio"/> Summary View
ID	Type	Context	Message
20964069	Inconsistent Data	5th Sheet, Row 3	This Activity ID matches another one (from 5th sheet, row 2). So all other Activity elements must match as well. However, Monitoring Location ID is different on this row.
20964070	Inconsistent Data	5th Sheet, Row 4	This Activity ID matches another one (from 5th sheet, row 2). So all other Activity elements must match as well. However, Monitoring Location ID is different on this row.
20964073	Required Value Missing	5th Sheet, Row 2 - Activity	Habitat Selection Method is required when Activity Assemblage is 'Benthic Macroinvertebrates'
20964074	Required Value Missing	5th Sheet, Row 2 - Result #1	Result Proportion Sample Processed is required if when Activity Assemblage is 'Benthic Macroinvertebrate'
20964075	Required Value Missing	5th Sheet, Row 2 - Result #1	Result Target Count is required if when Activity Assemblage is 'Benthic Macroinvertebrate'
20964076	Required Value Missing	5th Sheet, Row 3 - Result #2	Result Proportion Sample Processed is required if when Activity Assemblage is 'Benthic Macroinvertebrate'
20964077	Required Value Missing	5th Sheet, Row 3 - Result #2	Result Target Count is required if when Activity Assemblage is 'Benthic Macroinvertebrate'
20964078	Required Value Missing	5th Sheet, Row 4 - Result #3	Result Proportion Sample Processed is required if when Activity Assemblage is 'Benthic Macroinvertebrate'
20964079	Required Value Missing	5th Sheet, Row 4 - Result #3	Result Target Count is required if when Activity Assemblage is 'Benthic Macroinvertebrate'
20964080	Required Value Missing	5th Sheet, Row 5 - Activity	Habitat Selection Method is required when Activity Assemblage is 'Benthic Macroinvertebrates'
20964081	Required Value Missing	5th Sheet, Row 5 - Result #1	Result Proportion Sample Processed is required if when Activity Assemblage is 'Benthic Macroinvertebrate'
20964082	Required Value Missing	5th Sheet, Row 5 - Result #1	Result Target Count is required if when Activity Assemblage is 'Benthic Macroinvertebrate'
20964083	Required Value Missing	5th Sheet, Row 6 - Result #2	Result Proportion Sample Processed is required if when Activity Assemblage is 'Benthic Macroinvertebrate'
20964084	Required Value Missing	5th Sheet, Row 6 - Result #2	Result Target Count is required if when Activity Assemblage is 'Benthic Macroinvertebrate'
20964085	Required Value Missing	5th Sheet, Row 7 - Result #3	Result Proportion Sample Processed is required if when Activity Assemblage is 'Benthic Macroinvertebrate'
20964086	Required Value Missing	5th Sheet, Row 7 - Result #3	Result Target Count is required if when Activity Assemblage is 'Benthic Macroinvertebrate'
20964087	Required Value Missing	5th Sheet, Row 8 - Result #4	Result Proportion Sample Processed is required if when Activity Assemblage is 'Benthic Macroinvertebrate'
20964088	Required Value Missing	5th Sheet, Row 8 - Result #4	Result Target Count is required if when Activity Assemblage is 'Benthic Macroinvertebrate'
20964089	Required Value Missing	5th Sheet, Row 9 - Result #5	Result Proportion Sample Processed is required if when Activity Assemblage is 'Benthic Macroinvertebrate'
20964090	Required Value Missing	5th Sheet, Row 9 - Result #5	Result Target Count is required if when Activity Assemblage is 'Benthic Macroinvertebrate'
20964091	Required Value Missing	5th Sheet, Row 10 - Activity	Habitat Selection Method is required when Activity Assemblage is 'Benthic Macroinvertebrates'
20964092	Required Value Missing	5th Sheet, Row 10 - Result #1	Result Proportion Sample Processed is required if when Activity Assemblage is 'Benthic Macroinvertebrate'

33 items in 1 pages

You can select the "Summary View" radio button at the top of the page to get a summary of each error or warning (and the number of times it occurred). This is a quick way to assess the specific issues that need to be resolved.

Event Log Messages		
Return		Search
Message Types: 12 items checked		<input type="radio"/> Details View <input checked="" type="radio"/> Summary View
Count	Type	Message
2	Inconsistent Data	This Activity ID matches another one (from 5th sheet, row 2). So all other Activity elements must match as well. However, Monitoring Location ID is different on this row.
3	Required Value Missing	Habitat Selection Method is required when Activity Assemblage is 'Benthic Macroinvertebrates'
14	Required Value Missing	Result Proportion Sample Processed is required if when Activity Assemblage is 'Benthic Macroinvertebrate'
14	Required Value Missing	Result Target Count is required if when Activity Assemblage is 'Benthic Macroinvertebrate'

You can utilize the drop-down menu to select what specific messages you want to see.

The screenshot shows the 'Event Log Messages' section of the WQX Web User Guide. On the left, there's a dropdown menu titled 'Message Types' containing 12 items checked. The checked items include: Check All, Message, Warning, User Cancelled Process, System Process Halted, System Error, General Error, General Validation Error, Max Length Exceeded, Domain Value Invalid, Value or Format Invalid, Required Value Missing, Risk of Duplicating Data, Risk of Overwriting Data, and Inconsistent Data. To the right of the dropdown, there are two radio buttons for 'Details View' and 'Summary View'. Below these buttons, there is a large text area containing several lines of explanatory text about domain value invalids.

Select the Return button to navigate back to the Dataset Summary page.

Note: you can do the same process for viewing the complete log on individual error types by selecting “View Log” under the individual error code.

5.91 Resolving Invalid Domain Values

To resolve domain value errors, next to Domain Value Invalid click the “Resolve Online” link on the Dataset Summary page. The system will display the Domain Value Resolution page.

The screenshot shows the 'Domain Value Resolution' page. At the top, there are buttons for 'Return', 'Save', and 'Cancel'. Below that is a dropdown menu set to 'Unresolved Rows'. A message states: 'This is a list of values from your import file that do not match a valid domain value. To correct a value, click its link and select a valid value from the list. Then change the resolution for each row (as needed) and save your changes.' The main part of the page is a table with columns: Count, Column, Element, Value, and Resolution. There is one row shown: Count is 1, Column is D, Element is Sampling Design Type, Value is jkl, and Resolution is a dropdown menu with the option 'Correct the value in this dataset only' selected. At the bottom right of the table, it says 'Item 1 to 1'.

This page allows you to resolve errors where the value in your import file did not match an allowed value for that data element.

- Count – This column displays the number of times the error occurred (in a particular import column position).
- Column – What Column in your file the error is located in.
- Element – This column displays the name of the data element that was used for validation.
- Value – This column displays the current value for the data element. Before the value is corrected, this displays the value from your import file. After it's been corrected, it displays the corrected value.
- Resolution – This column displays a dropdown list allowing you to select the method of resolving the validation error:

- *Add a translation to the Import Configuration:* selecting this will create a translation in your

Import Configuration so that any future file having the same value (in the same column) will be corrected automatically.

- *Modify value manually:* selecting this will update the value(s) in this dataset but will not create a translation in your Import Configuration.

Note: there is a preference on the User Preference Page where you can set the default value for the Resolution dropdown list so that you only have to change the selection when it doesn't match your standard choice for Resolution.

Repeat the following three steps on each row on the page (to correct all domain value errors):

1. Click the link in the Value column. A list of allowed values for that element will be displayed. For elements that have a large amount of potential allowed values (i.e: characteristics, taxon) you may be required to search for a part of the element's name you are looking for before the list loads.

SAMPLING DESIGN TYPE	
Code	Description
{none}	
Probabilistic	
Targeted	

2. Click the value you wish to select. The new value will now be displayed on the Resolution Page.
 - a. Note that although "{none}" is a standard choice in all lists of values, the resolution page will not allow it.
3. Change the "Resolution" value, if needed.

Click the Save button to save your changes and refresh the page (showing the remaining unresolved rows). This is particularly useful if there is more than one page of errors. Otherwise you can click the Return button to save your changes and return to the Dataset Summary page.

The dataset summary page will update the counts in the Validation Error Table to account for the records you corrected. However, the counts in the Valid/Invalid Table will not change. In order for that table to be updated, you must click the "Revalidate Changes" button that will now be visible on the Dataset Summary Page. This is a manual step, because it can take a fair amount of time on large datasets. It is only required that you click this button once before you export your data (so that all changed data will be rechecked before exporting – because only valid records are exported).

5.9.2 Resolving Invalid Formats

To resolve format errors, next to Value or Format Invalid click the “Resolve Online” on the Dataset Summary page. The system will display the Value/Format Resolution page.

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Value/Format Resolution				
Show:		Unresolved Rows		
This is a list of values from your import file that are invalid or do not match the format specified in your import configuration. Change each value to be valid and comply with the specified format, then save your changes.				
Count	Column	Element	Value	Format
37	BV	Analysis End Date	00/9/23	MM/DD/YYYY
15	BV	Analysis End Date	00/9/23	MM/DD/YYYY
51	BV	Analysis End Date	00/9/23	MM/DD/YYYY
1	EN	Lab Sample Preparation End Date	00/9/23	MM/DD/YYYY
6	DU	Statistical N Value Numeric	Daily Maximum	Whole Number

This page allows you to resolve errors where the value in your import file did not match the format you specified in your import configuration.

1. Count – This column displays the number of times the error occurred (in a particular import column position).
 2. Column – What Column in your file the error is located in.
 3. Element – This column displays the name of the data element that was used for validation.
 4. Value – This column displays the current value for the data element. Before the value is corrected, this displays the value from your import file. After it's been corrected, it displays the corrected value.
 5. Format – This column displays the format (from your import configuration) that the value must match.

Update the Value column on each row to an appropriate value that matches the required format.

Click the Save button to save your changes and refresh the page (showing the remaining unresolved rows). This is particularly useful if there is more than one page of errors. Otherwise you can click the Return button to save your changes and return to the Dataset Summary page.

The dataset summary page will update the counts in the Validation Error Table to account for the records you corrected. However, the counts in the Valid/Invalid Table will not change. In order for that table to be updated, you must click the "Revalidate Changes" button that will now be visible on the Dataset Summary Page. This is a manual step, because it can take a fair amount of time on large datasets. It is only required that you click this button once before you export your data (so that all changed data will be rechecked before exporting – because only valid records are exported).

5.9.3 Resolving Values that Exceed Maximum Length

To resolve maximum length errors, next to the Max Length Exceeded click the “Resolve Online” link on the Dataset Summary page. The system will display the Maximum Length Resolution page.

This page allows you to resolve errors where the value in your import file exceeded the maximum length allowed for a data element.

2. Count – This column displays the number of times the error occurred (in a particular import column position).

1. Element – This column displays the name of the data element that was used for validation.
2. Column – What Column in your file the error is located in.
3. Max Length – This column displays the maximum length for the data element
4. Current Length – This column displays the current length for the data element
5. Value – This column displays the current value for the data element. Before the value is corrected, this displays the value from your import file. After it's been corrected, it displays the corrected value.
6. Resolution – This column displays a dropdown list allowing you to select the method of resolving the validation error:

Truncate value to fit: selecting this will tell the system to automatically trim off any excess characters from the value so that it will fit within the allowed size. No change to the value is needed. If you change the value manually to fit within the allowed size, this instruction will be ignored, and your new value will be used.

Modify value manually: selecting this will tell the system that you have updated the value manually to something that fits within its allowed size.

Note: there is a preference on the User Preference Page where you can set the default value for the Resolution dropdown list, so that you only have to change the selection when it doesn't match your standard choice for Resolution.

Change the "Resolution" value, as needed, on each row.

Update any rows where the resolution selected is "Modify value manually". Otherwise, you can leave the values unchanged.

Click the Save button to save your changes and refresh the page (showing the remaining unresolved rows). This is particularly useful if there is more than one page of errors. Otherwise you can click the Return button to save your changes and return to the Dataset Summary page.

The dataset summary page will update the counts in the Validation Error Table to account for the records you corrected. However, the counts in the Valid/Invalid Table will not change. In order for that table to be updated, you must click the "Revalidate Changes" button that will now be visible on the Dataset Summary Page. This is a manual step, because it can take a fair amount of time on large datasets. It is only required that you click this button once before you export your data (so that all changed data will be rechecked before exporting – because only valid records are exported).

5.9.4 Resolving Required Values that are Missing

To resolve required value errors, next to "Required Value Missing" click the "resolve online" link on the Dataset Summary page. The system will display the Required Resolution page.

Required Value Resolution

Return Save Cancel

Show: Unresolved Rows ▾

This is a list of required values that were not provided in your import file. Provide a value for each one and then save your changes.

Column	Row	Element	Value
BU	7th Sheet, Row 2	Project ID	{None} (WQXTEST)
CE	7th Sheet, Row 2	Characteristic Name	{None}
CY	7th Sheet, Row 2	Result Analytical Method Context	{None}
CA	7th Sheet, Row 2	Analysis Start Time Zone	{None}
EG	7th Sheet, Row 2	Result Detection Limit Type	{None}
DV	7th Sheet, Row 2	Subject Taxonomic Name	{None}
DL	7th Sheet, Row 2	Result Status ID	{None}
CD	7th Sheet, Row 2	Biological Intent	{None}
CD	7th Sheet, Row 3	Biological Intent	{None}
CE	7th Sheet, Row 3	Characteristic Name	{None}
CY	7th Sheet, Row 3	Result Analytical Method Context	{None}
CA	7th Sheet, Row 3	Analysis Start Time Zone	{None}
EG	7th Sheet, Row 3	Result Detection Limit Type	{None}
DV	7th Sheet, Row 3	Subject Taxonomic Name	{None}
DL	7th Sheet, Row 3	Result Status ID	{None}
CD	7th Sheet, Row 4	Biological Intent	{None}
CE	7th Sheet, Row 4	Characteristic Name	{None}
CY	7th Sheet, Row 4	Result Analytical Method Context	{None}
CA	7th Sheet, Row 4	Analysis Start Time Zone	{None}
EG	7th Sheet, Row 4	Result Detection Limit Type	{None}
DV	7th Sheet, Row 4	Subject Taxonomic Name	{None}
DL	7th Sheet, Row 4	Result Status ID	{None}
DL	7th Sheet, Row 5	Result Status ID	{None}
CE	7th Sheet, Row 5	Characteristic Name	{None}
CY	7th Sheet, Row 5	Result Analytical Method Context	{None}
CA	7th Sheet, Row 5	Analysis Start Time Zone	{None}
BU	7th Sheet, Row 6	Project ID	{None} (WQXTEST)

This page allows you to provide a value for a data element that was not provided in the import file but is required by WQX. Unlike the other resolution pages that group related changes together to save you time, this page requires that you address each missing value individually.

- Row – This column displays the row where the missing value originated.
- Column – What Column in your file the error is located in
- Element – This column displays the name of the data element that is missing a required value.
- Value – This column displays the current value for the data element. Before the value is corrected, this will display {none} or an empty text box. After it's been corrected, it displays the corrected value.

Fill in a value (in the Value column) on each row. If the value is constrained by a list of values, click the {none} link to display and select the desired value.

Click the Save button to save your changes and refresh the page (showing the remaining unresolved rows). This is particularly useful if there is more than one page of errors. Otherwise you can click the Return button to save your changes and return to the Dataset Summary page.

The dataset summary page will update the counts in the Validation Error Table to account for the records you corrected. However, the counts in the Valid/Invalid Table will not change. In order for that table to be updated, you must click the "Revalidate Changes" button that will now be visible on the Dataset

Summary Page. This is a manual step, because it can take a fair amount of time on large datasets. It is only required that you click this button once before you export your data (so that all changed data will be rechecked before exporting – because only valid records are exported).

Note: If you have a significant amount of missing values it may be easier to correct these directly in your file and reimport rather than doing the corrections through the “resolve online tool”

5.10 Exporting / Submitting a Dataset to CDX

Before a dataset becomes final it must be submitted to CDX where it will be processed by the WQX System and loaded into the WQX Database.

Click the “Export & Submit to CDX” button on the Dataset Summary Page.

The screenshot shows a blue header bar with three buttons: "Return", "Delete", and "Export & Submit to CDX". Below the header is a section titled "Dataset Information:" with a "Type:" field containing "Projects". A red arrow points to the "Export & Submit to CDX" button.

If you have made changes to your data (using the Resolution Pages) and have not yet clicked the "Revalidate Changes" button, you will be prompted to do so. The system must revalidate any changed data before exporting to determine if there are any invalid records (which will not be exported).

The system will now display the Export Page.

The screenshot shows a blue header bar with "Submission File Details" and "Continue" and "Cancel" buttons. Below is a "Tasks:" section with two radio buttons: "Submit data to EPA and make it available to the public" (selected) and "Export Only". Under "Submitter Information:", "Author:" is set to "Kayla Gower", "Organization:" is empty, and "Contact Info:" and "Comment:" are also empty. All input fields have a red border.

You have two choices when exporting. If you do not wish to submit to CDX (because you have your own node, or you have already submitted this dataset), then choose "Export Only" to produce a WQX XML file of your data. Otherwise, leave the default choice of "Submit data to EPA and make it available to the public"

If the dataset is one of the following three types, you also have the option of applying a stylesheet to convert your WQX XML file to a flat file. You can do this by selecting the radio button "Create a copy of my submission data as a flat file (that can be loaded into Excel)"

Monitoring Locations

Activities and Results

Activities and Metrics

The flat file version of your export file can be useful if you wish to review or archive your export data in a more user-friendly format. Remember that if you've already submitted your dataset to CDX and just want to create a flat file this time, choose the "Export Only" option (as described in the previous step).

If you check the box to apply a stylesheet to your XML File, the export process will create two files (described later).

The Header Information is used to populate the header that is part of every Exchange Network Submission File. This section is automatically populated from the data from your User Detail Page. Correct any of the header information as necessary. It helps identify who submitted the file and allows you to add any comments that might be helpful (mostly for your own use) in understanding what this dataset includes.

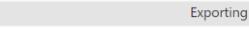
Click the Continue button to begin the export.

The system will display the Dataset Summary page. When datasets are being imported or exported the Dataset Summary Page has a simplified layout (as seen below). The page provides information regarding the status of a dataset, including the percent complete and a count of any warnings or errors logged so far. An animated image will spin to remind you that an active process is running on the server.

Dataset Details

[Return](#) [Cancel](#)

Dataset Information:

Type: Projects	Import Configuration: Project List Page Export Format (Template)
Organization ID: WQXTEST	Status:  Exporting

Event Log: 0 Errors, 0 Warnings, 1 Messages [View Log](#)

Start Time: 03-22-2020 09:51:35 PM

End Time:

File/Transaction ID: ProjectsExport (6).xlsx

Documents:

Name
Import Log.xlsx
ProjectsExport (6).xlsx

Dataset is processing



Feel free to navigate to other pages (within WQX Web) while a long-running dataset is processing. A progress bar will display on all pages so that you can continue to monitor its progress.

The status of the dataset is displayed. During the export process the status will be one of the following:

Waiting to Export – The dataset has been queued for exporting but has not yet started. Generally, a dataset only has this status for a fraction of a second. In many cases you will not even see this status. However, in some cases when the server is heavily loaded, a dataset may remain in this state for an extended period of time waiting for other datasets to finish processing.

Waiting to Export and Submit – Same as previous status, but only used when submitting to CDX
Exporting – The dataset is being exported.

This page will refresh automatically and update the status, percent complete, and provide an estimated end time for the export process. If it appears that it will take more than a few minutes to complete you can choose to navigate elsewhere in the system and perform other tasks or leave the system entirely and come back at a later time. The process will continue on its own and you can check back at any time by following the instructions in the next section.

When the export process completes the dataset will have one of the following statuses:

Exported – The dataset has been exported. This is only used when you are not submitting to CDX. When submitting to CDX this status is skipped.

Validating at CDX – The submission file has been submitted to CDX and is being processed there. Keep in mind that the percent complete and estimated end time will remain fixed at this point (until the file is completed at CDX), because WQX Web doesn't know about incremental progress at CDX.

Dataset Details

[Return](#) [Cancel](#)

Dataset Information:

Type:	Projects
Import Configuration:	Project List Page Export Format (Template)
Organization ID:	WQXTEST
Status:	Validating at CDX (55.3%) - 0:00:10 rem

Event Log: 0 Errors, 0 Warnings, 5 Messages [View Log](#)

Start Time: 03-22-2020 09:51:35 PM

End Time: 03-22-2020 09:51:46 PM

File/Transaction ID: _2fd5290-eff4-4a0b-8132-8c0d3b74dc14

At this point, the Dataset Summary Page will display an additional table with links to files that you can download.

Documents:	
Name	
WQX Submission 6179 Update.zip	
Export Log.xlsx	
Import Log.xlsx	
ProjectsExport (6).xlsx	

One or two documents will be available after the export has completed.

- WQXSubmission-9999 Update.zip – This is your WQX Submission File (zipped up). The numeric portion of the name will be different each time.
- FlatFile-9999.txt – If you chose to apply a stylesheet to create a flat file version of your dataset, you will also have this file available for download.
- Your dataset

For further explanation of these files see the section titled "Downloading Files" below.

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When the processing at CDX is completed, the dataset will have one of the following statuses:

Failed at CDX – At least one error was logged while processing the file in the WQX System at CDX.

Completed at CDX – No errors were found while processing the file in the WQX System at CDX. All of your data successfully loaded.

At this point, the list of Documents will include all of the documents created during the processing at CDX (in addition to the ones mentioned previously).

The screenshot shows the 'Dataset Details' page. At the top, there are buttons for 'Return', 'Delete', 'Refresh Documents', and 'Export & Submit to CDX'. Below this, 'Dataset Information' includes fields for Type (Projects), Import Configuration (Project List Page Export Format (Template)), Organization ID (WQXTEST), and Status (Failed at CDX). A large red box on the right titled 'Submission to CDX Failed' states: 'One or more of the expected documents (which would provide additional information) are missing. Click the 'Refresh Documents' button to attempt to download these documents from CDX.' It also says: 'If that does not restore the missing documents, then contact the Help Desk (storet@epa.gov or 1-800-424-9067) for support with this issue.' Under 'Export Event', it lists Start Time (03-22-2020 09:51:35 PM), End Time (03-22-2020 09:51:46 PM), Transaction ID (_2f1d5290-efff4-4a0b-8132-8c0d3b74dc14), and Event Log (Message Type Count Event Log, 5 View Log). Under 'Import Event', it lists Start Time (03-22-2020 09:50:51 PM), End Time (03-22-2020 09:51:03 PM), File Name (ProjectsExport (6).xlsx), and Event Log (View all validation errors and warnings). A table shows validation errors:

Message Type	Total	Resolved	Event Log	Resolution
Domain Value Invalid	1	1	View Log	Resolve Online
Max Length Exceeded	1	1	View Log	Resolve Online
Message	8	8	View Log	N/A

The documents available for download are as follows (in the order they are created in the export/submit process):

- SubmissionFile-9999.zip – This is your WQX Submission File that was created in the export process. The numeric portion of the name will be different for each dataset. This is an XML document contained inside a Zip File.
 - o Even if you submitted this file directly to CDX, you are encouraged to download a copy of this for your own records (so that you have a backup copy of each file sent to EPA).
- FlatFile-9999.txt – If you chose to apply a stylesheet to create a flat file version of your dataset during the export process, you will also have this file available for download. The numeric portion of the name will be different for each dataset. This is a tab-delimited text file that contains the same information in it that was contained in your XML submission file. This file can be a useful way to review the data that was sent in your submission file, because it can be easily opened with tools like Microsoft Excel. Keep in mind that this is a one-size-fits-all file that contains columns for every data element available in an import configuration (whether you use them or not), so you may have a large number of columns without any data in them. It will also create several columns for elements that are allowed to repeat multiple times in WQX (such as a Project ID for an Activity).
- ValidationResults.xml – This is a report produced by CDX when it compares your submission file against the WQX XML Schema document (which is a document that describes the format that every

WQX Submission File must follow). Typically, you will not need to view this document because it will just say that the document was valid. If, for some reason, you never receive the next two documents mentioned below, you should view this document to see if it describes a problem with your file. If it does, you should follow up with EPA because this may suggest a bug in the system that needs to be resolved.

- Notify.xml – This is copy of the final response that the WQX System sent to CDX when it was done processing your submission file. Typically, you will not need to view this document because it will just state the final status of your submission (which you already have on this page) and remind you to view the Processing Report (next) to view the outcome of your submission. Once again, if, for some reason, you never receive the next document mentioned below, you should view this document to see if it describes a problem that occurred in the WQX System. If it does, you should follow up with EPA because this may suggest an issue in the WQX System that needs to be resolved.
- ProcessingReport.zip – This is a report of everything that was logged in the WQX System while processing your submission file. It's not critical to look at this file if your dataset status is "Completed at CDX" because all of your data loaded successfully and there is nothing more you need to do. It still may be useful to download and save this file for your records because it contains information that could be useful to you or EPA at some future time. If your final dataset status is "Failed at CDX" (which should be rare), this file is critical for you to look at, because it contains information about errors while processing your submission file.
- Export Log.xlsx – What messages were logged on export
- Import Log.xlsx – What messages were logged on import

A few details to note when downloading documents from the Dataset Summary Page:

Certain types of documents will often load in your browser window. Typically, this is true for .txt and .xml files.

For example, if you click on the FlatFile-9999.txt link you will typically see the file in a separate browser window.

OrganizationIdentifier	OrganizationFormalName	OrganizationDescriptionText	TribalCode	ActivityIdentifier
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01F20020801	Field Msr/Obs
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01F20020801	Field Msr/Obs
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01F20020801	Field Msr/Obs
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01F20020801	Field Msr/Obs
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01F20020801	Field Msr/Obs
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01F20020801	Field Msr/Obs
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01F20020801	Field Msr/Obs
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01F20010910	Field Msr/Obs
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01F20010910	Field Msr/Obs
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01F20010910	Field Msr/Obs
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01F20010910	Field Msr/Obs
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01F20010910	Field Msr/Obs
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01F20011003	Field Msr/Obs
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01F20011003	Field Msr/Obs
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01F20011003	Field Msr/Obs
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01F20011003	Field Msr/Obs
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01F20011003	Field Msr/Obs
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01S20010910	Sample-Routine
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01S20010910	Sample-Routine
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01S20010910	Sample-Routine
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01S20010910	Sample-Routine
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01S20020801	Sample-Routine
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01S20020801	Sample-Routine
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01S20020801	Sample-Routine
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01S20020801	Sample-Routine
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01S20020801	Sample-Routine
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01S20011003	Sample-Routine
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01S20011003	Sample-Routine
WQXTEST WQX Test Organization	Here is a description of the organization.	001	DWNT01S20011003	Sample-Routine

If the file does not open, you may need to tell your pop-up blocker to allow pop-ups on this site.

If you want to download and save a local copy of the file, you can right click on the FlatFile-9999.txt link (in Internet Explorer 7) and chose the "Save Target As..." menu. This will open a file window where you can specify the location that you want to save the file.

Zip files will download by default, so you can click their links and you will be given the opportunity to specify the location that you want to save the file.



Unzip the file locally and then open the XML File found inside (ProcessingReport.xml). The Processing Report also has a "View in Browser" link. If you click this link it will be converted to a web-based report using a stylesheet created by EPA. This provides a more user-friendly format (see below).

Here's an example of what the log portion of the processing report looks like when viewed in the browser:

Processing Log

*This table shows unique errors. For line-specific errors, view the source XML file by viewing the Page Source in the Browser

Message	Parse and Load started at 12/16/2008 11:00:58 PM
Error	Project Identifier "My Main Project" is invalid
Error	Analytical Method Identifier Context (WQXTEST) is invalid. The value must match a value from the domain list or be the same as your Organization Identifier if it's your own private method.
Error	Sample Fraction Name is required when Characteristic Name = "Pyrazon"
Error	Characteristic Name and Result Status Identifier are required when Result Measure is reported
Error	Characteristic Name must be "Count" when Biological Intent Name is "Frequency Class"
Error	Sample Fraction Name is required when Characteristic Name = "Potassium bisulfate"
Error	Monitoring Location Identifier "Monitoring Location 2" is invalid
Error	Project Identifier "Project 2" is invalid
Error	Project Identifier "Project 1" is invalid
Error	Sample Fraction Name is required when Characteristic Name = "5-Nitrovanillin"
Error	Characteristic Name must be "Count" or "Total Sample Weight" when Biological Intent Name is "Population Census"
Error	Monitoring Location Identifier "Monitoring Location 3" is invalid
Error	Sample Collection Method is required when Activity Type Code contains the word "Sample"
Error	Activity Identifier "A1" is invalid

Error	Activity Identifier "A2" is invalid
Message	Parse and Load completed at 12/16/2008 11:01:04 PM

5.11 Deleting a Dataset

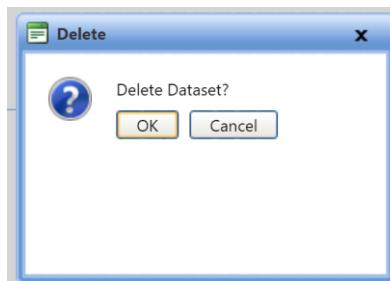
Datasets in WQX Web are temporary and only become final after they have been submitted to CDX and loaded successfully in the WQX System. You are encouraged to delete your datasets once they have received a status of “Completed at CDX”. Deleting a dataset will have no effect on data that has been submitted to CDX. You are only deleting the temporary data that was used to create the submission file that sent to CDX.

To keep the system clean, datasets that reach a certain age will be automatically removed from the system. The dataset summary page will tell you how many days are remaining before the dataset will be automatically deleted.



To delete a dataset manually, click the Delete button on the Dataset Summary Page.

You will be asked to confirm before the dataset is deleted.



You will then be returned to the Datasets list page.

6. Viewing the Event Log

Go to the Review tab on the navigation bar and click “My Event Log” to view the Event Log.

Event Log				
Show Events Created By: <input type="text" value="Kayla Gower"/> <input type="button" value="▼"/>				
ID	Start Time	Type	Other	Messages
11107002	03-22-2020 09:51:35 PM	Export XML	3.00.00.03 (VENUS)	5 View
11107001	03-22-2020 09:50:51 PM	Import	3.00.00.03 (VENUS)	10 View
11106996	03-21-2020 01:17:50 PM	Import	3.00.00.03 (VENUS)	9 View
11106995	03-21-2020 01:06:07 PM	General Error	3.00.00.03 (VENUS)	1 View
11106994	03-21-2020 12:57:21 PM	Import	3.00.00.03 (VENUS)	6 View
11106960	03-19-2020 03:33:41 PM	General Error	3.00.00.02 (VENUS)	1 View

The filter for the event log will automatically be set to show events for the current user.

Pick a different user from the dropdown list titled "Show Events Created By:" to change the filter to

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another user. The dropdown list only includes users that belong to the same organizations that you belong to. If you are a system administrator, you can also view system events by picking "System" from the dropdown list.

To view individual event log messages, use the following steps:

Click the "View" link in the Message column. This will display the Event Log Messages page

Event Log Messages				
Message Types:		All items checked		
ID	Type	Context	Message	Resolved
20968844	Message		Start Time: 03-22-2020 09:51:35 PM	Y
20968845	Message		Exporting XML took 4.02 seconds (size=1522)	Y
20968846	Message		Exporting Attachments took 0.01 seconds	Y
20968847	Message		Submitting to CDX took 6.67 seconds (size=1)	Y
20968848	Message		End Time: 03-22-2020 09:51:46 PM	Y

You can select the Summary radio button at the top of the page to get a summary of each error or warning (and the number of times it occurred).

Event Log Messages				
Message Types:		All items checked		
Count	Type	Message	Details View	Summary View
1	Message	End Time: 03-22-2020 09:51:46 PM		
1	Message	Exporting Attachments took 0.01 seconds		
1	Message	Exporting XML took 4.02 seconds (size=1522)		
1	Message	Start Time: 03-22-2020 09:51:35 PM		
1	Message	Submitting to CDX took 6.67 seconds (size=1)		

You can utilize the drop-down menu to select the message type you want to see. I.E: if you want to only want to view errors (and hide warnings and messages)

7. Reviewing Data in WQX

Once your submission file has loaded successfully into the WQX System, you can query WQX and review your data. There are a series of search/list pages that allow you to enter basic search criteria and view a list of records in WQX that match the criteria.

Types of Review pages:

- Projects (in WQX)
- Monitoring Locations (in WQX)
- Indexes (in WQX)
- Activities (in WQX)
- Results (in WQX)
- Metrics (in WQX)
- Activity Groups (in WQX)

Note: Although your available search criteria may change, to review any item under the review tab, it is the exact same process as shown below. i.e: the steps to review your monitoring locations are the same as to review your results.

7.1 Separate Search Criteria and Data Tabs

WQX Web implements a tabbed search mechanism in the list pages. This mechanism reduces the amount of scrolling required when viewing data and allows for future expansion of the search criteria. You enter your search criteria in the "Search Criteria" tab and then query WQX for matching records by clicking the "Search" button at the top of the page.

The system will display any matching data in the tab named after the type of data for which you are searching (in this example we are searching for "Activities").

Activity ID	Results	Metrics	Date	Activity Type	Monitoring Location ID	Monitoring Locations
01-23-456-78	Results	Metrics	02-02-2006	Sample-Routine	RIBEACH-001-1	Sandy Beach 1
01-23-456-78-TB	Results	Metrics	02-02-2004	Quality Control Sample-Trip Blank		
01-90882-8	Results	Metrics	07-09-2001	Sample-Routine		
01-90882-9	Results	Metrics	07-09-2001	Sample-Routine		
02-S120-M	Results	Metrics	08-01-2002	Sample-Routine		
03-S102-A	Results	Metrics	06-17-2003	Sample-Composite Without Parents		
03/14/00-2714-PCB-1999FALL	Results	Metrics	11-02-1999	Sample-Routine	CHARM-G1	Gwynns Falls upstream
03/14/00-2715-PCB-1999FALL	Results	Metrics	11-02-1999	Sample-Routine	CHARM-G2	Gwynns Falls downstream
03/14/00-2716-PCB-1999FALL	Results	Metrics	11-02-1999	Sample-Routine	CHARM-J1	Jones Falls upstream
03/14/00-2717-PCB-1999FALL	Results	Metrics	11-03-1999	Sample-Routine	CHARM-J2	Jones Falls downstream
03/14/2000-2546-AL-2000SPR	Results	Metrics	03-14-2000	Sample-Routine	CHARM-G1	Gwynns Falls upstream
03/14/2000-2546-CD-2000SPR	Results	Metrics	03-14-2000	Sample-Routine	CHARM-G1	Gwynns Falls upstream
03/14/2000-2546-CHL-2000SPR	Results	Metrics	03-14-2000	Sample-Routine	CHARM-G1	Gwynns Falls upstream
03/14/2000-2546-CO-2000SPR	Results	Metrics	03-14-2000	Sample-Routine	CHARM-G1	Gwynns Falls upstream
03/14/2000-2546-CR-2000SPR	Results	Metrics	03-14-2000	Sample-Routine	CHARM-G1	Gwynns Falls upstream
03/14/2000-2546-CU-2000SPR	Results	Metrics	03-14-2000	Sample-Routine	CHARM-G1	Gwynns Falls upstream
03/14/2000-2546-DOC-2000SPR	Results	Metrics	03-14-2000	Sample-Routine	CHARM-G1	Gwynns Falls upstream

You can continue to refine your search criteria to narrow down the output you receive.

Note: every time you change your search criteria you must click the "Search" button again to allow the system

to read your updated criteria and generate a new list for you.

7.2 Searches by Location

Many of the list pages (under the new "Review" menu) allow you to include a list of Monitoring Location IDs in your search criteria.

The screenshot shows the 'Activities' search interface. At the top, there are buttons for 'Return', 'Search', 'Clear Search Criteria', and 'Export List to Excel'. Below these are tabs for 'Search Criteria' and 'Activities', with 'Activities' being the active tab. The search criteria section includes fields for 'Organization ID' (set to 'WQXTEST'), 'Monitoring Locations' (with a dropdown menu), 'Project ID' (dropdown menu), 'Date (min)' and 'max' (date pickers), 'Activity Types' (dropdown menu), and 'Activity ID' (dropdown menu). A red circle and arrow point to the 'Monitoring Locations' dropdown menu, specifically to the search and select icons.

To select Monitoring Locations to use as search criteria, you click one of the buttons to the right of the "Monitoring Locations" field.



- **The first button, a magnifying glass button,** takes you to the Monitoring Locations (list) page and allows you to search for your desired locations and select them using checkboxes. You then accept the selected locations by clicking the “Accept Locations” button on the Monitoring Locations page.

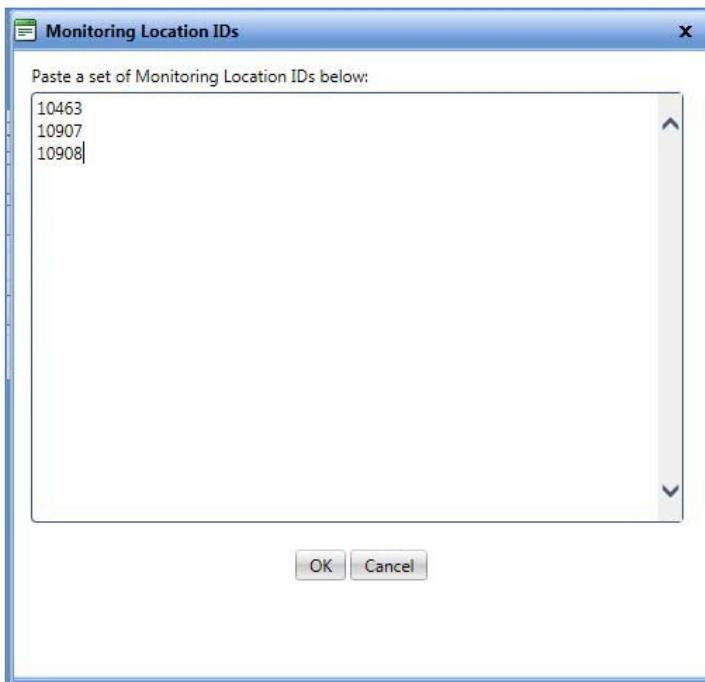
The screenshot shows the 'Search and Select Monitoring Locations for Activities List Page'. At the top, there are buttons for 'Accept Locations' (highlighted with a red box), 'Cancel', 'Search', 'Clear Search Criteria', and 'Show Selected Locations Only'. Below these are tabs for 'Search Criteria' and 'Select Monitoring Locations', with 'Select Monitoring Locations' being the active tab. The main area is a table with columns for 'All' (checkboxes), 'Monitoring Location ID' (links), and 'Monitoring Location Name'. The first three rows have checkboxes checked, while the last row does not. A red box highlights the 'Accept Locations' button at the top left of the table area.

All	Monitoring Location ID	Monitoring Location Name
<input checked="" type="checkbox"/>	10463	WEL040-0009
<input checked="" type="checkbox"/>	10907	WMI040-0023
<input checked="" type="checkbox"/>	10908	WMI040-0024
<input type="checkbox"/>	10910	WMI040-0025

Once you accept the selected locations, the system returns you to the original list page and a Monitoring Locations drop-down list (on the Search Criteria tab) will be populated with the locations you selected and accepted. All items in the drop-down list will be selected.

The screenshot shows the 'Activities' tab of the search criteria interface. The 'Monitoring Locations' dropdown is open, displaying three items: 'All items checked', '10463', '10907', and '10908'. A red arrow points to the 'All items checked' option, which is highlighted with a yellow background and has a checkmark icon next to it. Below the dropdown are icons for search, clipboard, and delete.

- **The second button, a Clipboard button,** pops open a small form with a single field that allows you to paste in a list of Monitoring Location IDs that you wish to use as search criteria.



For example, you might keep a list of Monitoring Locations you care about in a list in Excel or in a Word document. You can copy the list and then paste them into the pop-up form. After you click the "OK" button, the Monitoring Locations drop-down list (on the Search Criteria tab) will be populated with the locations you pasted into the pop-up form. All items in the drop-down list will be selected.

The screenshot shows the 'Activities' tab of the search criteria interface. The 'Monitoring Locations' dropdown is open, displaying three items: 'All items checked', '10463', '10907', and '10908'. A red arrow points to the 'All items checked' option, which is highlighted with a yellow background and has a checkmark icon next to it. Below the dropdown are icons for search, clipboard, and delete.

- Note that you can uncheck one or more of the check boxes next to a Monitoring Location ID (in the drop down list) if you wish to temporarily exclude a particular monitoring location from your search criteria

The screenshot shows the 'Search Criteria' section of the WQX Web interface. A red arrow points to a dropdown menu labeled 'Monitoring Location' which is set to 'All items checked'. Below this, a list of monitoring locations is shown with three items checked: 10463, 10907, and 10908. Other fields visible include 'Organization ID' (WQXTEST), 'Project ID', 'Date (min)', 'Activity Types', and 'Activity ID'.

7.3 Page Navigation in List Pages

The list pages also employ a page navigation mechanism that allows you to jump forward or backward in batches of pages, rather than one page at a time.

The screenshot shows a list page with six entries. The navigation bar at the bottom has a red circle around the '...' link, indicating it's the target for the user action described in the text below.

03/14/2000-2546-PIP-2000SPR	Results	Metrics
03/14/2000-2546-PN-2000SPR	Results	Metrics
03/14/2000-2546-PO4-2000SPR	Results	Metrics
03/14/2000-2546-POC-2000SPR	Results	Metrics
03/14/2000-2546-SI-2000SPR	Results	Metrics
03/14/2000-2546-TDN-2000SPR	Results	Metrics

Click on the “...” link to load the next batch of 10 pages into the page list.

7.4 More intuitive partial searches (where applicable)

In previous versions of WQX Web, wildcard searches were conducted in list pages by using the percent sign (%) as part of your search text. For example, in the Results list page, you could search for Results by Activity ID. If you wanted to review all results for Activities with Activity IDs beginning with the “LoganRiver”, you would enter “LoganRiver%” into the Activity ID search criteria field. Beginning with version 3.0, search criteria fields that allow wildcard searches have a drop-down list of options in front of their search criteria text box. The options are:

- 7.4.1.1 “Equals” means that you only wish to review values that exactly match what you type.
- 7.4.1.2 “Starts with” means that you only want to review values that start with the text you type.
- 7.4.1.3 “Ends with” means that you only want to review values that end with the text you type.
- 7.4.1.4 “Contains” mean that want to review values that contain the text you type (i.e. any partialmatch).

This is the default option.

The screenshot shows a search form with several dropdown menus. On the left, there are labels: Media, Media Subdivision, Activity Types, Activity ID, Sampling Component, Last Change Date (min), and Transaction ID. To the right of each label is a dropdown menu. A red arrow points to the dropdown menu next to 'Activity ID', which has 'Contains' highlighted. Other options in the dropdown include Equals, Starts With, Ends With, and Contains.

7.5 My datasets (in the staging area)

This page allows a user to review their current datasets (aka: files they imported) in the staging area. Unlike the option under the Import & Submit tab, this option's default is to only see datasets you have imported and not anyone else from your organization.

The screenshot shows a search interface titled 'My Datasets'. At the top, there are two buttons: 'Search' and 'Clear Search Criteria'. Below these are two tabs: 'Search Criteria' (which is active) and 'Datasets'. The 'Search Criteria' tab contains four dropdown menus: 'Type', 'Organization ID', 'Created By', and 'Status'. The 'Created By' dropdown is set to 'Kayla Gower'.

You can utilize a search criterion (similar to explained above) to further filter your datasets to a specific type, organization ID, user, and status if you would like.

8. Setting User Preferences

Under the Setup tab – click the link for My User Preferences. Use this page to customize the way you want the system to behave.

User Preferences

Save Cancel

General (defaults)

Organization:

Import Configuration Page (defaults)

File Type: Microsoft Excel (xlsx)

Column Labels: Letters (Excel Style)

Import File Page (defaults)

Ignore First Row of Import Files
(this preference is not used for import configurations created in 'Expert Mode')

Max. Length Resolution Page (defaults)

Resolution: Correct the value myself

Domain Value Resolution Page (defaults)

Resolution: Correct the value in the current dataset only

List Pages (defaults)

Number of Rows Per Page: 500

Monitoring Location Sort Order: ID

The preferences currently available are:

- **Organization Default:** Indicates the default Organization ID to select as criteria on the listpages
- **Import Configuration Page (defaults):** This sets the default file type and column labels when setting up configurations. It can be overridden each time you create an import configuration.
- **Import File Page, Ignore First Row of Import Files:** This sets the default value for this check box on the Import File Page and can be overridden each time you import a file
- **Max Length Resolution Page, Resolution:** This sets the default value for this field on the Max Length Resolution Page. See the Max Length Resolution Page for more information.
- **Domain Value Resolution Page, Resolution:** This sets the default value for this field on the Domain Value Resolution Page. See the Domain Value Resolution Page for more information.
- **List Pages, Number of Results Per Page:** Indicates the number of rows to display on each page of a list page. A high number will result in fewer pages to page through but will also make each page return a bit slower.
- **List Pages, Monitoring Location Sort Order:** The default sort order for the Monitoring Locations List Page.

9. Changing Your User Information

Under the Setup tab, click My User Account Details. The User Detail Page allows you to change your contact information (Name, Address, Email, etc). The information on this page is also used on the Export

Page. Each time you create a WQX Submission file you are given an opportunity to include contact information in your file. That page will be filled out with the information you provide on this page. See the Export Page for more information.

Depending on the role of the user, this link will behave differently (see the next section for details).

User Details

Return Save Cancel Disable User Change My Password User Access Rights Preferences

Status:	Enabled
Login Name:*	kaylagower
Full Name:*	Kayla Gower
Role:*	Administrator
WQX/NAAS ID:*	kaylag@goldsystems.com
Affiliation:	
Address:	
City:	
State:	
Zip:	
Country:	
Phone #:	
Email:	kaylag@goldsystems.com
Private Encryption Key:	Create New Key
Last Login Date:	03-23-2020 06:03:44 AM

10. Administration

This section describes features available to administrators, support, and standard users.

10.1 Roles

Each user is assigned a role in WQX Web. It's useful to have an understanding of the various roles and their rights as you read through the rest of this section.

Roles determine a user's rights to certain pages or features within the system. Roles are not, for the most part, used to assign rights to data. Rights to data is managed separately. The following roles (and related rights) exist in WQX Web:

Administrator

Can add, edit, enable, and disable users

Can add organizations

Can manage any user's rights on any organization or import configuration

An administrator does not have rights to all data in the system by default. Instead an administrator grants himself/herself whatever rights are needed or wanted. It is typical to grant at least read-only rights to all organizations and all import configurations so that he/she can view everything in the system.

Can add/edit/delete values in all lookup tables except organization-specific lookup values (whose rights are assigned via organization rights, rather than roles)

Can view event logs for all users including system events.

Can access all pages within the system

Support User

Can view all users and edit their information (except for their Login Name, Role, or WQX/NAAS ID)

Cannot add, enable or disable users

Can view all users' rights on organizations

Can manage all users' rights on import configurations

Can view values in all lookup tables except organization-specific lookup values (whose rights are assigned via organization rights, rather than roles)

Can view event logs for all users including system events.

Can access all pages within the system

Standard User

- Can view his/her own user account and edit his/her own contact information, but cannot edit certain fields that are limited to administrators (such as Login Name, Role, or WQX/NAAS ID).
 - Cannot view the Users List Page

Training User

This role is only to be used on training accounts for WQX Web. To work correctly, a training user must be assigned only one organization (with Administrator rights on that organization). This role will provide a user with all the same rights as a Standard User, in addition to the following:

- Can click a Reset Button on the Home Page which will delete all datasets and import configurations created by the user, and then restore a standard set of import configurations that are used for training purposes.

10.2 Managing Users

For a complete list of all users to edit a user's information, go to the administrator tab, security, and click "Users".

From the Users list page, you can view/edit an existing user by clicking the appropriate link in the "Full Name" column of the list. To add a new user, click the "Add New" button.

The User Detail page will be displayed.

Status: Enabled

Login Name:*

Full Name:*

Role:*

WQX/NAAS ID:*

Affiliation:

Address:

City:

State:

Zip:

Country:

Phone #:

Email:

Private Encryption Key: [Create New Key](#)

Last Login Date:

Fill in the user information, as appropriate.

Login Name:

This is the user's CDX-Web account name. Note: A user must have a valid CDX-Web account and be granted rights to the WQX: WQX Web application before they will have access to this application.

Full Name: User's full name, not the login name.

WQX/NAAS ID:

This is the account name used when submitting a WQX Submission File to CDX. This should match the account name created for this user in the WQX System. If a user has an Exchange Network NAAS Account, use it. Otherwise, it's recommended that you fill in the user's email address here (and use their email address as their account name in the WQX System).

Role:

Places the user into a group with certain rights in the system. See the section above for a full explanation on the roles available.

10.2.1 Enabling/Disabling a User Account

Before a user is allowed access to the system, their user account must be enabled. Click the "Enable User" button on the User Details page to enable a new user (or previously disabled user).

To prevent a user from accessing the system, you can disable their account. Click the "Disable User" button on the User Details page to disable a user.

10.3 Managing User Rights to Organizations and Import Configurations

A user's rights to organizations and import configurations are managed on the "User Access Rights" Page. This page can be accessed from several different pages within the system and has a different layout depending on the page from which it is accessed. An administrator can also change this context-specific layout by going to the administer tab, security, and then User Access Rights.

The screenshot shows the 'User Access Rights' page with a blue header bar containing navigation links: Home Page, Setup, Domain Values, Import & Submit, Review, Administrator, and Help. A red arrow points to the 'Administrator' link. Below the header is a toolbar with buttons: Return, Save, Cancel, and Copy User Rights. A dropdown menu labeled 'Show Rights For:' is set to 'User'. Another red arrow points to this dropdown. Below it is a search field 'User: Kayla Gower'. There are two tabs at the top: 'Organization Rights' (selected) and 'Import Configuration Rights'. The main content area displays a table with columns 'Organization' and 'Access Type'. It lists two organizations: 'GKMER ~ Gold King Mine Emergency Response' and 'WQXTEST ~ Test Organization sup'. Each organization has a 'Delete' link and a dropdown menu for 'Access Type' set to 'Administrator'. A third row is shown with an 'Add' link and a dropdown menu set to 'Read Only'.

There are three values in this dropdown list (that control the page layout):

User

The page shows a tabbed form where rights on organizations and import configurations can be assigned to a specific user.

Organization

The page shows users and their rights on a specific organization.

Import Configuration

The page shows users and their rights on a specific import configuration.

10.3.1 Viewing and Changing Rights for a User

When a user accesses the User Rights Page from the User Detail Page or when an administrator changes the "Rights For" dropdown list to "User", then this page will have a layout appropriate for viewing all the rights for a specific user.

The page has two tabs: one for the user's rights on organizations and one for the rights on import configurations.

Organization (tab):

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Organization		Access Type
Delete	GKMER ~ Gold King Mine Emergency Response	Administrator
Delete	WQXTEST ~ Test Organization sup	Administrator
Add		Read Only

Note: Standard Users and Support Users have read-only access on this tab.

To assign rights on a new organization:

 Navigate to the last row of the list labeled "Add".

 In the "Add" row, choose the organization for which you wish to grant rights.

 There is also a special value of "*All Organizations" which can be used to grant rights on all organizations. A user's rights on a specific organization will override his/her rights to "All Organizations".

 Choose the Access Type you wish the user to have:

 Administrator: allows a user to view/manage an organization's data, imported datasets and organization-specific lookup values in the following tables: Analytical Method, Citation, Index Type, Metric Type, Lab Sample Prep. Method, Sample Collection Method, and Sample Preparation Method.

 Read Only: allows a user to view an organization's data, imported datasets and lookup table values.

To remove a user's rights on an organization:

 Click the Delete link for the appropriate row.

Click the Save button to save your changes (and remain on the page). Click the Return button to save and return to the previous page.

Import Configuration (tab):

Owner		Import Configuration	Access Type
Delete	Kayla Gower	Demo for Guide ~ 2527	Edit/Delete
Delete	Mark M. LeBaron	GKMER II - Gold King Mine SCRIBE Data Export MATRIX remap ~ 2307	Edit
Delete	Mark M. LeBaron	Gold King Mine Locations ~ 2298	Edit
Add			Read Only

Note: Standard Users have read-only access on this tab. Support Users have full access.

To assign rights on a new import configuration:

 Navigate to the last row of the list labeled "Add".

 In the "Add" row, choose the owner of the import configuration you are interested in (this will act as a filter on the Import Configuration list in the next column).

 If you assign rights on all import configurations (see below), then the "Owner" may be left blank.

Choose the Import Configuration

There is also a special value of "*All Import Configurations" which can be used to grant rights on all import configurations. A user's rights on a specific import configuration will override his/her rights on "All Import Configurations".

 Choose the Access Type you wish the user to have:

 Read Only – User can view and use the import configuration.

 Edit – User can make modifications to (and use) the import configuration.

 Edit/Delete – User can make modifications to and delete (and use) the import configuration.

To remove a user's rights on an organization:

1. Click the Delete link for the appropriate row.

Click the Save button to save your changes (and remain on the page). Click the Return button to save and return to the previous page.

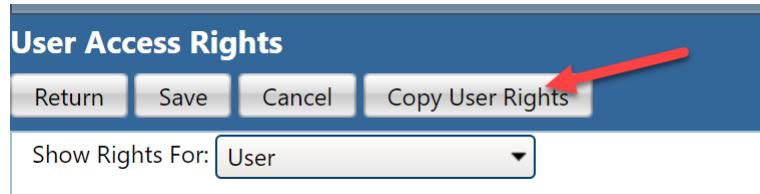
System administrators can search for a particular user, rather than having to search visually by scrolling through the list of users.

The screenshot shows a web-based user management interface titled 'Users'. At the top, there are buttons for 'Add New' and 'Export to Excel'. Below these are search fields: 'User Full Name:' with a dropdown menu set to 'Contains', and a checkbox for 'Show Disabled Users'. A red arrow points from the text above to the 'Show Disabled Users' checkbox. The main area displays a table of user records with columns for 'Full Name', 'Login Name', and 'Affiliation'. The data is as follows:

Full Name	Login Name	Affiliation
WQX Web 3 Test User	wqxweb3testuser	asd
WQX Rules Test User	wqxtestuser	
Test User 9	testuser9	
Test User 8	testuser8	Leech Lake
Test User 7	testuser7	
Test User 6	testuser6	
Test User 5	testuser5	
Test User 4	testuser4	
Test User 30	testuser30	

Copy User Rights

Copying user rights allows you to quickly create the same rights for a user as there is for an existing account at WQX web. This can be helpful for quickly generating multiple user account for people at the same organization.



Click Copy User Rights under the User Access Rights under a specific user account and the following popup will show.



From here you can choose to copy both the organization rights and/or the import configuration rights and also if you want to replace the destination's current rights or just add the rights from your source user's to the existing list of rights at your destination. Click OK to save the rights.

10.3.2 Viewing and Changing Rights on an Organization

When a user accesses the User Rights Page from the Setup tab or when an administrator goes through the administrator tab, security, organizations tab, then this page will have the following layout (appropriate for viewing the users and their rights on a specific organization)

Organizations	
Search Add New	
Organization Name: Contains	
ID	Name
GKMER	Gold King Mine Emergency Response
WQXTEST	Test Organization sup

Note: Standard Users and Support Users have read-only access in this mode.

To assign users and their rights to an organization:

1. Choose the organization for which you wish to manage rights from the organization dropdown list. A list of users already associated with the organization will be displayed.
2. Navigate to the last row of the list labeled “Add”.
3. In the “Add” row, choose the User for whom you wish to grant rights to the organization.
4. Choose the Access Type you wish the user to have:
 - a. Administrator: allows a user to view/manage an organization's data, imported datasets and organization-specific lookup values in the following tables: Analytical Method, Citation, Index Type, Metric Type, Lab Sample Prep. Method, Sample Collection Method, and Sample Preparation Method.
 - b. Read Only: allows a user to view an organization's data, imported datasets and lookup table values.

To remove a user's rights to an organization:

Click the Delete link for the appropriate row.

Click the Save button to save your changes (and remain on the page). Click the Return button to save and return to the previous page.

System administrators can also search for a particular organization, rather than having to search visually by scrolling through the list of organizations.

Organizations	
Add New	
Organization Name:	Contains <input type="text"/>
ID	Name
1ORG12-13	Organization 12-13
TESTORG999	Test Org Ninety Nine Nine
WOXTEST	Test Organization
WOXTEST NEW99	Test Organization

10.3.3 Viewing and Changing Rights on an Import Configuration

When a user accesses the User Rights Page from the Import Configuration Detail Page or when an administrator changes the rights for configurations for a particular user (through the administer tab, described above), then this page will have the following layout (appropriate for viewing the users and their rights on a specific import configuration)

User Access Rights

Return Save Cancel

Show Rights For: ImportConfiguration

Import Configuration: Kayla Gower ~ Demo for Guide ~ 2527

User	Access Type
Delete	Edit/Delete
Kayla Gower	Read Only
Add	

Note: Standard Users have read-only access in this mode. Support Users have full access.

To assign a user rights to an import configuration:

4. Choose the import configuration to manage rights for
5. Navigate to the last row of the list labeled "Add".
6. In the "Add" row, choose the user.
7. Choose the access type you wish the user to have:
 - a. Read Only – User can view the import configuration but can't modify or delete it.
 - b. Edit – User can view and edit the import configuration but can't delete it.
 - c. Edit/Delete – User can view, edit, and delete the import configuration..

To remove a user's rights to an organization:

Click the Delete link for the appropriate row.

Click the Save button to save your changes (and remain on the page). Click the Return button to save and return to the previous page.

10.4 Sharing “Template” Import Configurations

In the previous versions of WQX Web, every new WQX Web user was automatically granted rights to certain existing “template” Import Configurations. But there was no convenient way to manage them. WQX Web 2.5 allowed system administrators to easily manage the list of “template” Import Configurations and provide a number of new features to support them.

- System administrators can flag an import configuration as a “template” and it will automatically be shared with all WQX Web users.
- Import Configuration Templates can include attached documents that users can download from the Import Configuration Page within WQX Web (rather than having to go to the STORET web site for them). These documents could include an example import file, documentation, etc.
- An import configuration will always include “[template]” at the end of its name (whenever it's displayed on a web page) so it's clear to users that it is a shared template.

Import Configuration

Return Save Cancel Delete Save As Save To File Change User Rights Enable Expert Mode Show Columns as Numbers

Type:	Activities and Results
Owner:	Ryan Jorgensen Change Owner
Name:*	Training Results
Description:	
File Type:*	Microsoft Excel (xlsx)
Worksheet(s) to Import:	1st (note: the "1st" worksheet is the left-most tab of the Excel Workbook)
<input checked="" type="checkbox"/> This is a template (shared with all users)	
Template Use:	Copy Required
Attached Files: Add	
File Name	
Training Results Documentation.docx	X
Training Results Example.xlsx	X

10.5 Managing Organizations

1. Navigate to the Administrator tab, Security, and then Organizations to open the Organizations list page.

Organizations

Search Add New

Organization Name: Contains	Organization ID: Contains
GKMER	Gold King Mine Emergency Response
WQXTES	Test Organization sup

2. To create a new organization, click the Add New button. Otherwise click the link for a specific organization that you wish to view/edit. The Organization Details page will be displayed.

Organization Detail

Return Save Cancel Delete User Access Rights

ID:*	
Name:*	
Description:	
Type:	
Tribe:	
Address: (Limit: 3)	
<input type="button" value="Add"/>	
Phone:	
<input type="button" value="Add"/>	
Email/Web Address:	
<input type="button" value="Add"/>	

3. Fill in the Organization information
 - a. Use the Add link to add up to 3 Organization Addresses.
 - b. Use the Add link to add Organization Phone Numbers.
 - c. Use the Add link to add Organization Email/Web Addresses.
4. Click the Save button or the Return button to save the new organization
5. Click the View User Access Rights to manage the rights for the new organization.

To remove an address, phone number etc, click the Remove link on the row you wish to remove.

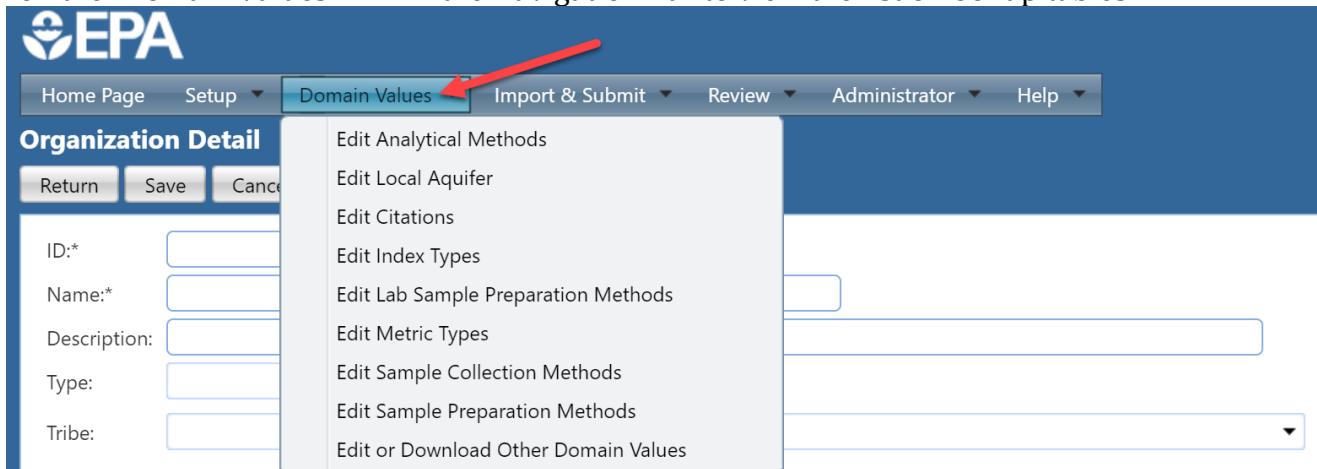
Click the Save or the Return button to save the changes.

11 Managing Lookup Tables (Domain Values)

Lookup tables are a list of allowed values for a given data element. The lists can be used as a reference for the allowable values for an element. Most lookup tables are controlled by EPA and are read-only. A few lookup tables are also editable.

11.1 Viewing the values in a lookup table

Click on the “Domain Values” link in the Navigation Bar to view the list of lookup tables.



For a complete list of all lookup tables select “Edit or Download Other Domain Values”

Select the link for the table you wish to view (for example, select the Characteristic link).

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Characteristic Name: <input type="text" value="Contains"/> <input type="button" value="Search"/>		CAS Number: <input type="text" value="Contains"/> <input type="button" value="Search"/>		<input type="checkbox"/> Has a pick list								
Name*	CAS #	SRS ID	Status	Group	Sample Fraction Required	Method Speciation Required	Analytical Method Required	User Pick List	Last Change	User		
✗ 2,4,5-Trimethylphenol	496-78-6	47985	Accepted	Not Assigned	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	09-24-2018 12:53 PM	Rick Cooke		
✗ % undercut bank			Accepted	Not Assigned	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	03-20-2020 02:29 PM	Rick Cooke		
✗ (+)-cis-Permethrin	54774-45-7	17164278	Accepted	Not Assigned	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	03-02-2007 08:39 AM	System		
✗ (+/-)11-nor-9-carboxy-delta-THC			Accepted	Not Assigned	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12-03-2012 03:47 PM	System		
✗ (-)-cis-Permethrin	54774-46-8	963314	Accepted	Not Assigned	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	03-02-2007 08:39 AM	System		
✗ (-)-trans-Permethrin	54774-47-9	963322	Accepted	Not Assigned	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	03-02-2007 08:39 AM	System		
✗ (1R,2S,5R)-Menthol	89-78-1	12609	Accepted	Not Assigned	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	07-01-2011 04:34 PM	System		
✗ (2-Methyl-1-propenyl)benzene	768-49-0	69963	Accepted	Not Assigned	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	03-02-2007 08:39 AM	System		
✗ (3-Bromopropyl)benzene	637-59-2	65862	Accepted	Not Assigned	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	03-02-2007 08:39 AM	System		
✗ (E)-6-Methyl-3-undecene	74630-52-7	963686	Accepted	Not Assigned	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	03-02-2007 08:39 AM	System		
✗ (E)-Dimethomorph			Accepted	Not Assigned	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	09-10-2014 12:00 AM	System		
✗ (E,E)-Farnesol	106-28-5	17163775	Accepted	Not Assigned	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	03-02-2007 08:39 AM	System		
✗ (RS)-AMPA (Aminomethyl phosphonic acid)	74341-63-2		Accepted	Not Assigned	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	06-04-2015 11:08 AM	System		
✗ (S)-Norfluoxetine	126924-38-7	1735675	Accepted	Not Assigned	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	05-19-2015 09:01 AM	System		
✗ (Z)-Chloro-1-propene	16136-84-8	962555	Accepted	Not Assigned	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	03-02-2007 08:39 AM	System		
✗												

5577 items in 12 pages

Utilizing the search menu at the top of the screen you can search for a specific characteristic (or group of characteristics) by using the drop-down menu and entering an element or doing the same thing using the CAS number. You can also filter down characteristics that have pick lists.

The domain value tables are a valuable resource for seeing what is required to use a certain domain value (i.e: for characteristics if a sample fraction is required or not).

Click the Cancel button to return to the Lookup Tables page.

11.2 Downloading the values in a lookup table

From the Domain Values page click “Edit or Download Other Domain Values” link to view the complete list of lookup tables.

The screenshot shows the 'Domain Values' section of the WQX Web User Guide. The menu bar includes Home Page, Setup, Domain Values, Import & Submit, Review, Administrator, and Help. Below the menu, a list of domain values is displayed, each with a download icon. An arrow points to the 'Activity Media Subdivision' entry.

- [Activity Group Type](#)
- [Activity Media](#)
- [Activity Media Subdivision](#)
- [Activity Type](#)
- [Address Type](#)
- [Alias Type](#)
- [Analytical Method](#)
- [Analytical Method Context](#)
- [Aquifer Type](#)
- [Assemblage](#)
- [Biological Intent](#)

Select the "Download" link for the table you wish to download (for example, select the Download link next to "Activity Media Subdivision").

Each type of browser behaves slightly different at this point, but whatever your browser you should be able to access this file in your downloads.

Unless the browser (e.g. Firefox) asks you what program to use to open the file, it will open with whatever program is assigned to the ".TXT" file extension (e.g. Notepad, Excel, etc).

UID	Code	Description	Analytical Method Required	Monitoring	Location	Requir
1	Field-Msr/Obs	MEASUREMENTS involve something measured in its environmental				
3	Field-Msr/Obs-Habitat-Assessment	A field activity conducted to evaluate a				
2	Field-Msr/Obs-Portable-Data-Logger	Measurements made in the field by an a				
19	Quality-Control-Field-Calibration-Check	The test is performed to calibra				
15	Quality-Control-Field-Replicate-Habitat-Assessment	Many habitat paramet				
16	Quality-Control-Field-Replicate-Msr/Obs	Multiple field measurements or o				
8	Quality-Control-Field-Replicate-Portable-Data-Logger	The portable devic				
9	Quality-Control-Field-Sample-Equipment-Rinsate-Blank	A sample of analyt				
10	Quality-Control-Sample-Blind-Duplicate	The duplicate samples are collec				
11	Quality-Control-Sample-Equipment-Blank	If the equipments are used to an				
12	Quality-Control-Sample-Field-Ambient-Conditions-Blank	The analyte free m				
13	Quality-Control-Sample-Field-Blank	Field Blanks are prepared by exposin				
14	Quality-Control-Sample-Field-Replicate	Multiple samples taken within ea				
15	Quality-Control-Sample-Field-Spike	A known mass of target analyte added				
16	Quality-Control-Sample-Field-Surrogate-Spike	A pure substance with prop				
17	Quality-Control-Sample-Inter-lab-Split	Split samples are obtained by di				
18	Quality-Control-Sample-Lab-Blank	Y>N>1/12/2009 10:01:00 AM				
19	Quality-Control-Sample-Lab-Duplicate	One of two samples taken from the				
20	Quality-Control-Sample-Lab-Matrix-Spike	Y>N>1/12/2009 10:01:00 AM				
21	Quality-Control-Sample-Lab-Re-Analysis	Y>N>1/12/2009 10:01:00 AM				
22	Quality-Control-Sample-Lab-Spike	Y>N>1/12/2009 9:44:17 AM				
23	Quality-Control-Sample-Lab-Split	Y>N>1/12/2009 10:01:00 AM				

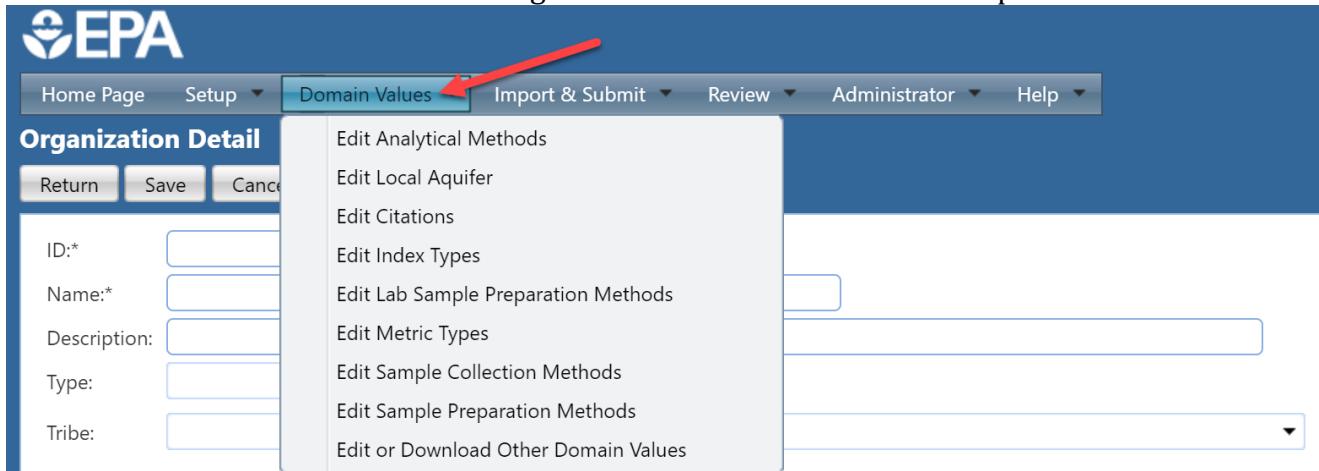
The file consists of a number of columns delimited by a tab character.

If the file does not open in Microsoft Excel, you can copy and paste the contents of the file into Excel which will format the table into rows and columns (which may easier to read).

A	B	C	D	E	F	
1	UID	Code	Description	Analytical Method Required	Monitoring Location Required	Last Change Date
			MEASUREMENTS involve something measured in its environmental setting usually using some type of equipment. OBSERVATIONS are made by people, usually without the use of equipment, and are frequently qualitative.			
2	1	Field Msr/Obs	A field activity conducted to evaluate a habitat, according to an organization's pre-defined habitat assessment scheme.	N	Y	7/26/2006 10:57
3	3	Field Msr/Obs-Habitat Assessment	Measurements made in the field by an automated data logging device, running unattended and producing a suite of data values at repeating intervals set by its owner/operator.	N	Y	7/26/2006 10:57
4	2	Field Msr/Obs-Portable Data Logger	The test is performed to calibrate the instrument for assuring the quality. Calibration checks are recommended at the beginning of the tests and every four hours.	N	Y	7/26/2006 10:57
5	19	Quality Control Field Calibration Check		N		7/26/2006 10:57

11.3 Managing Organization-Specific Lookup Tables

Click on the Domain Values link in the Navigation Bar to view the list of lookup tables.



Lookup tables that contain organization-specific values will have an "Edit" link next to them. Only users that have been granted the "Admin" right on an organization can edit that organization's set of lookup values.

The list that is populated here is the list of Domain Values (or Lookup tables) you have control to change or in some cases must add information to before importing your data.

Select the table you want to edit. For example, let's select the Analytical Methods list. The system will display the edit page for the lookup table.

All of the editable lookup tables are filtered by Context or Organization.

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Select a context from the dropdown list at the top of the page. The list will be filtered to display only values for the context chosen. Some lookup tables (e.g. Analytical Method and Metric Type) have certain contexts that are read-only and certain contexts that belong to specific organizations. If you select a context for an organization that you have been granted "Admin" rights on, then the list is editable. Otherwise, the list will be read-only.

ID*	Name*	Qualifier Type	Description	URL	Last Changed Date	User
X CARB-UM	Carbon in Water				02-13-2019 02:50 PM	System
X NITR-UM	Nitrogen in Water				02-13-2019 02:50 PM	System
X NITR-01	Nitrogen in Water				02-13-2019 02:53 PM	System
X 215.1	Calcium by FLAA	QualTypeName	Method Description		12-28-2018 12:21 PM	System
X new	new		sadf sdf		07-24-2015 03:40 PM	System
X TEST	TEST				03-31-2016 09:44 AM	System
X Test again	Test again				03-31-2016 09:46 AM	System
X 424.1	Method 424	QualTypeName	Method Description		12-28-2018 12:21 PM	System
X 1050(A)-MDEQ-WQ	Anion - Cation Balance		asdf		07-24-2015 03:40 PM	System
X AUG6_METH	August 6 methodz		asdfqwe		02-13-2019 02:51 PM	System
X I-1751_85	I-1751_85		Kansas		11-12-2015 01:40 PM	System
X 9222-D	Fecal Coliform- Membrane Filter Procedure	1	9222D ~ Standard Methods ; Membrane filtration test for fecal coliforms		02-13-2019 02:04 PM	System
X (101)TEST	101 TEST USED	D	ASDFASDFASDF		02-13-2019 02:04 PM	System

Changing a Value in a Lookup Table

Make the changes to any row as necessary.

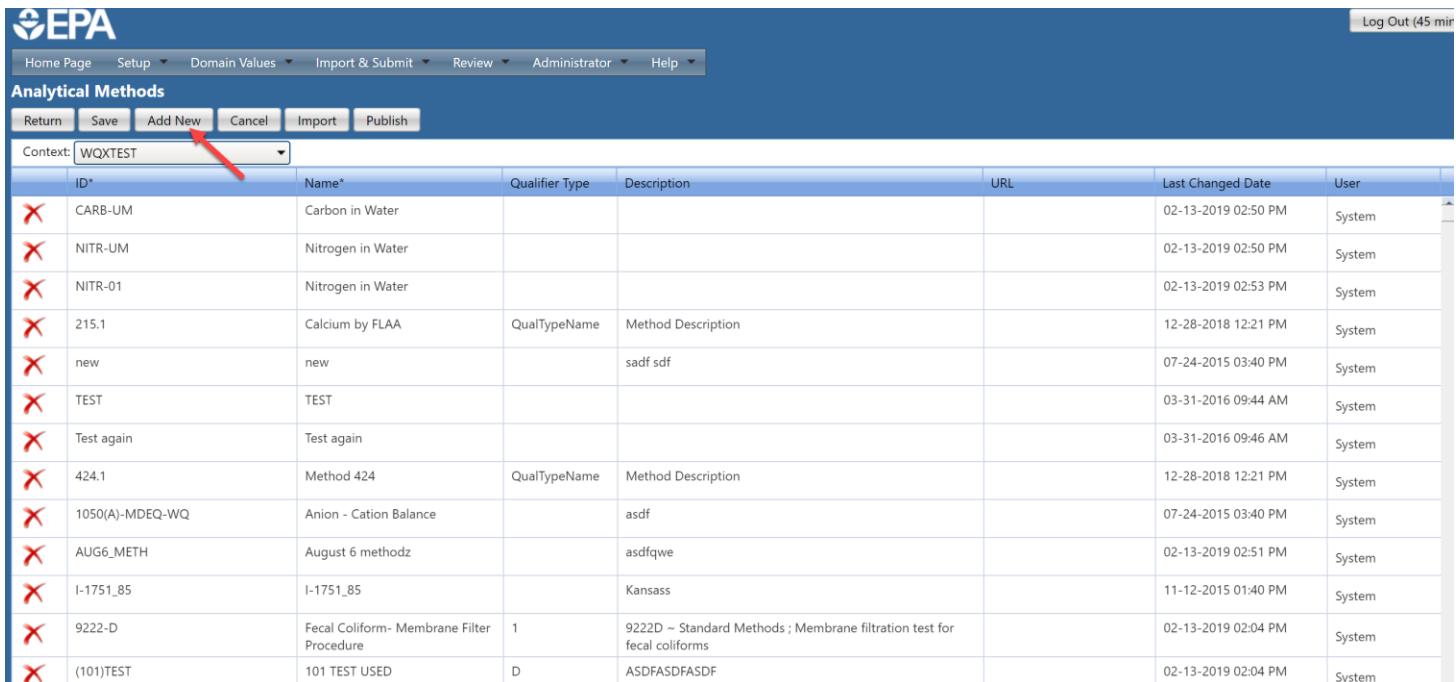
You will only be able to update domain values that you have “rights to” through your organization.

Click the “Save” button to save the changes

Adding a New Value

Add the new Analytical Method by selecting “Add New”. A blank line will populate that will allow you add another Analytical Method. This is the same procedure for adding new values to any of the Domain Value List Pages you have rights to.

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The screenshot shows the 'Analytical Methods' page in the WQX Web User Guide. At the top, there is a navigation bar with links: Home Page, Setup, Domain Values, Import & Submit, Review, Administrator, and Help. Below the navigation bar, a sub-header reads 'Analytical Methods'. A toolbar below the sub-header contains buttons for Return, Save, Add New, Cancel, Import, and Publish. A dropdown menu labeled 'Context:' is set to 'WQXTEST'. The main area is a table titled 'Analytical Methods' with columns: ID*, Name*, Qualifier Type, Description, URL, Last Changed Date, and User. The table lists various analytical methods, each with a red 'X' icon in the first column. The last row, '(101)TEST', has its 'Name*' field set to '101 TEST USED', 'Qualifier Type' to 'D', and 'Description' to 'ASDFASDFASDF'. The 'Last Changed Date' and 'User' fields for this row are both 'System'.

ID*	Name*	Qualifier Type	Description	URL	Last Changed Date	User
X CARB-UM	Carbon in Water				02-13-2019 02:50 PM	System
X NITR-UM	Nitrogen in Water				02-13-2019 02:50 PM	System
X NITR-01	Nitrogen in Water				02-13-2019 02:53 PM	System
X 215.1	Calcium by FLAA	QualTypeName	Method Description		12-28-2018 12:21 PM	System
X new	new		sadf sdf		07-24-2015 03:40 PM	System
X TEST	TEST				03-31-2016 09:44 AM	System
X Test again	Test again				03-31-2016 09:46 AM	System
X 424.1	Method 424	QualTypeName	Method Description		12-28-2018 12:21 PM	System
X 1050(A)-MDEQ-WQ	Anion - Cation Balance		asdf		07-24-2015 03:40 PM	System
X AUG6_METH	August 6 methodz		asdfqwe		02-13-2019 02:51 PM	System
X I-1751_85	I-1751_85		Kansass		11-12-2015 01:40 PM	System
X 9222-D	Fecal Coliform- Membrane Filter Procedure	1	9222D ~ Standard Methods ; Membrane filtration test for fecal coliforms		02-13-2019 02:04 PM	System
X (101)TEST	101 TEST USED	D	ASDFASDFASDF		02-13-2019 02:04 PM	System

Click the “Save” button to save the new row. The row will be added.

Deleting a Value from a Lookup Table

To delete a row from a lookup table, simply click the Delete link next to the row you wish to delete.