WQX Terminology & Concepts

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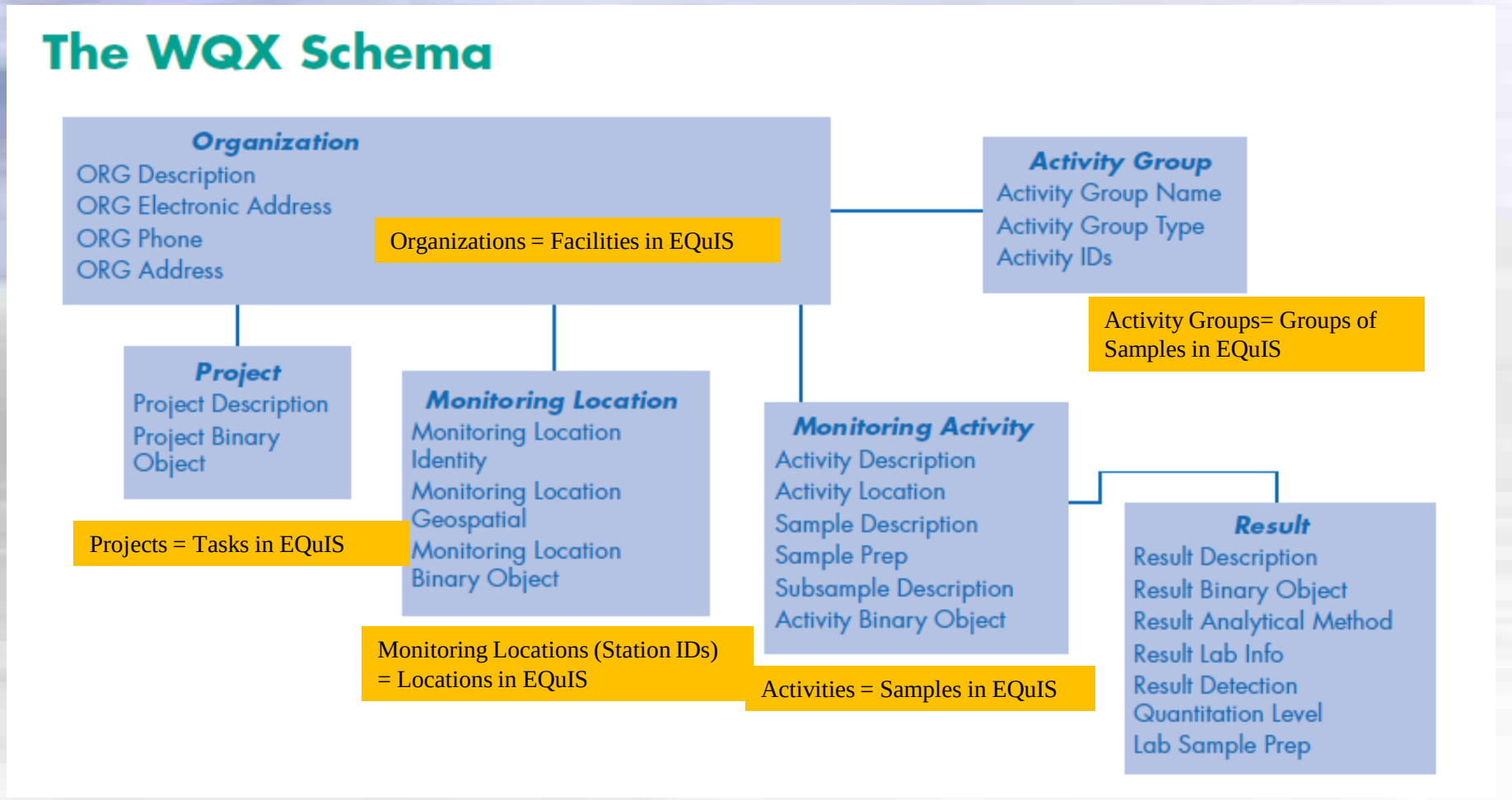
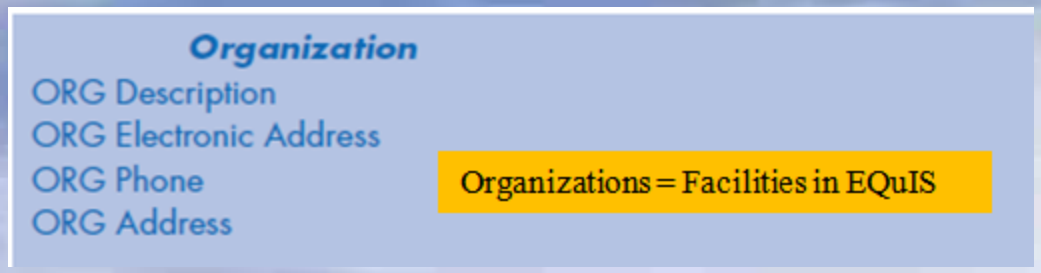
WQX Terminology

Understanding the differences in WQX vs. EQuIS terminology is key to understanding the EQuIS WQX Module. A few examples are illustrated below:



WQX - Organizations



What are Organizations?

"The particular word(s) regularly connected with a unique framework of authority within which a person or persons act, or are designated to act, towards some purpose."

In other words, Organizations are the groups responsible for submission of WQX data to EPA.

Where is this information stored in EQuIS?

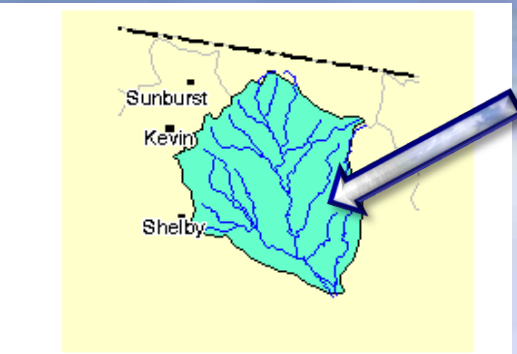
The Organization information is mapped to DT_FACILITY.

Examples:

Example A: The client is submitting data to EPA for only one Organization and therefore, there is only one EQuIS facility to store all water data for that Organization.

Example B: The client submits data to EPA from many Organizations, each organization is stored in its own facility in EQuIS and facility groups are used to report across facilities.

WQX - Projects



"Project A"

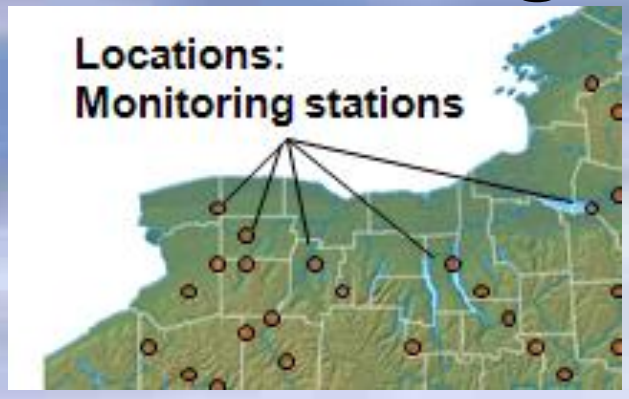
What are Projects?

"A designator used to uniquely identify a data collection project within a context of an organization. Projects can have more than one sampling event over time. Some projects have approved QAPPs."

Where is this information stored in EQuIS?

Projects are stored in DT_TASK in EQuIS.

WQX – Monitoring Locations



What are Monitoring Locations?

"A designator used to describe the unique name, number, or code assigned to identify the monitoring location. Also referred to as stations, they carry the identification and description of the physical location at which monitoring occurs."

Where is this information stored in EQuIS?

Monitoring Locations are stored in DT_LOCATION. Station ID = SYS_LOCE_CODE

Examples:

Example A: The monitoring locations are Stations located throughout the facility and all are uniquely identified.

Example B: Each Organization (Facility) contains many Stations (locations). Some of the stations are used by another Organization and identified with a different Station ID. It is important to know how the data will be queried/viewed for these locations so that the facilities and location groups are setup properly.

WQX – Activities

What are Activities?

“The WQX schema and STORET Warehouse use the term "Activity" to refer to any individual action one does at a monitoring location to collect data. So, a series of field measurements or a set of habitat observations are considered activities, along with a collected water sample.”

Where is this information stored in EQuIS?

Activities are stored in DT_SAMPLE and DT_BIOLOGICAL_SAMPLE tables.

WQX – Results

dt_result

Rows: 341008 retrieve

test_id	cas_rn	result_text	result_numeric	r
10	FLOW	0.2	0.2000000000	
11	RBP-TURB	Clear		
11	SC	6100	6100.0000000000	
11	TEMP-W	4.8	4.8000000000	
12	RBP-TURB	Clear		
13	TSS			
14	7439-95-4	13	13.0000000000	
14	7440-23-5	8	8.0000000000	
14	7440-70-2	53	53.0000000000	
14	K			
15	TDS	184	184.0000000000	
16	14808-79-8	6	6.0000000000	
16	16887-00-6			
17	TOTAL-ALK	196	196.0000000000	

dt_biological_result

Rows: 184895 retrieve

facility_id	test_id	cas_rn	biological_intent	taxon	ir
5	4858	COUNT	Population Census	Ameletus	
5	4859	COUNT	Population Census	Apatania	
5	4860	COUNT	Population Census	Baetis tricaudatus	
5	4861	COUNT	Population Census	Brillia	
5	4862	COUNT	Population Census	Cinygmula	
5	4863	COUNT	Population Census	Diamesa	
5	4864	COUNT	Population Census	Drunella coloradensis	
5	4865	COUNT	Population Census	Drunella doddsi	
5	4866	COUNT	Population Census	Epeorus deceptivus	

What are Results?

"This section describes the results of a field measurement, observation, or laboratory analysis."

Where is this information stored in EQuIS?

Results are stored in DT_RESULT and DT_BIOLOGICAL_RESULT. Characteristics in WQX are mapped to analytes (identified by CAS_RN) in EQuIS.

WQX – Binary Objects

Rows: 3742 retri

file_type	facility_id	place_type	place_code
.pdf	5	task_code	SDS-LAKE
.pdf	5	task_code	STREFPRO
.pdf	5	task_code	DIATOMNR
.pdf	5	task_code	FLATRES
.pdf	5	task_code	NUT-UNIF
.pdf	5	task_code	TPA-BM1
.pdf	5	task_code	KVNFLUAA
.pdf	5	task_code	UPWILLOW
.pdf	5	task_code	AQUA-BIO

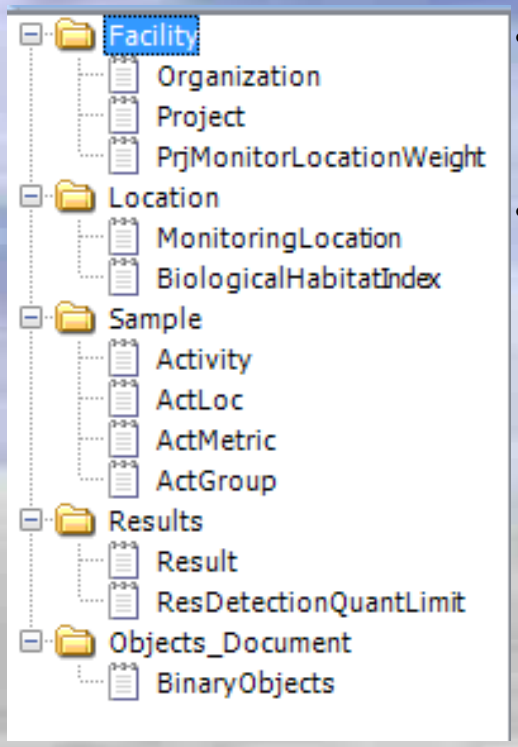
What are Binary Objects?

Binary Objects can be documents or graphic objects. These are documents that can be stored along with the WQX data, such as QAPP documents.

Where is this information stored in EQuIS?

Binary Objects are stored in DT_FILE

Other sections in the WQX EDD



- Project Monitoring Location Weighting
  - This section describes the probability weighting information for a given Project / Monitoring Location Assignment.
- Biological Habitat Index
  - Index used to assess the biological integrity of a habitat using samples of living organisms .
- Activity Loc, Metric and Group
  - Loc – This section allows for the geospatial description of actual monitoring site, if it is different from that described in the formal station description.
  - Metric – Metrics are used to analyze and interpret biological data by condensing lists of organisms into relevant biological information. An example is the Benthic Index of Biotic Integrity (B-IBI). www.epa.gov/volunteers/stream/108.html
  - Group- The Activity Group section of the WQX schema allows users to group together different monitoring activities for reasons such as QC events, grouping results data from the lab with field measurements using Field Sets, grouping samples as Replicates, or grouping parent samples with subsamples.
- Result Detection Quantitation Limit
  - Defines the quantitation limits used for the results. WQX has upper and lower limits which can be used as well as various business rules related to these limits.

Thank you!

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