

FWRMC Metadata Element List

- “Straw-man” proposal drafted and distributed to workgroup participants on 11/2/2012
- Workgroup discussed approximately half of the elements the at 11/14/2012 meeting.
- Comments received and discussion compiled in the following slides for discussion.

At 11/14/2012 Workgroup Meeting,
Recommendation Complete for the following elements

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE	POPULATED BY	INFORMATION LEVEL
UNIQUE_STATION_ID	Y	Primary key identifier for stations within the Monitoring Catalog database. Automatically generated by Water Atlas staff – likely to be a combination of the ORGANIZATION_NAME and STATION_ID.	VARCHAR2	N	150	Water Atlas Staff	Station
ORGANIZATION_NAME	Y	Organization overseeing monitoring project collecting information at the station.	VARCHAR2	Y	100	Data Providers	Project

Additional suggestions received after 11/14/2012 for the following element.

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE	POPULATED BY	INFORMATION LEVEL
PROJECT_NAME	Y	Monitoring project collecting information at the station. A station can belong to many projects overseen by the same organization or other projects overseen by other organizations.	VARCHAR2	N	250	Data Providers	Project

Comments:

- Is it desirable to associated stations with projects from multiple organizations?
- If so, is this feasible? Many databases (e.g. FL STORET) are setup so that a “station” can only be associated with a single organization and its projects. If the same geographic location is monitored by two different organizations, then the database treats it as two separate “stations” (because the station’s unique ID is a combination of the organization code and the station name / ID).

At 11/14/2012 Workgroup meeting, recommendation complete for the following elements

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE	POPULATED BY	INFORMATION LEVEL
PROJECT_URL	N	Address (URL) for a web page describing the project.	VARCHAR2	N	250	Data Providers	Project
PROJECT_DESIGN_METHODODOLOGY	N	Strategy to meet the goals and objectives of the project. Domain: <i>Deterministic; Probabilistic; Other; Unknown; Not Reported</i>	VARCHAR2	Y	25	Data Providers	Project
PROJECT_ABSTRACT	Y	Brief summary of the project.	VARCHAR2	N	4000	Data Providers	Project
PROJECT_PURPOSE	Y	Reason for information collection. Includes data quality objectives (DQOs).	VARCHAR2	N	4000	Data Providers	Project
PROJECT_DATA_QUALITY_OBJECTIVES	Y	Conveys whether documented data quality objectives (DQOs) are available. Domain: <i>Yes; No; Not Reported</i>	VARCHAR2	Y	12	Data Providers	Project
STATION_NAME	Y	Full name of the site or station.	VARCHAR2	N	50	Data Providers	Station
STATION_ID	Y	Code or identifier used as the station identifier within the data provider's internal database.	VARCHAR2	N	50	Data Providers	Station
STATION_URL	N	Address (URL) for a web page describing the station.	VARCHAR2	N	250	Data Providers	Station

Additional suggestions received after 11/14/2012 for the following element.

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE	POPULATED BY	INFORMATION LEVEL
STATION_DESCRIPTION	N	Description of the site or station. Information such as the address or parcel number associated with a station may be entered here.	VARCHAR2	N	250	Data Providers	Station

New Straw-Man Proposal Requested for the elements describing station location.

Option 1 – only allow points (very similar to original straw-man proposal). Include general disclaimer that point may not represent exact sampling locations, and in some cases represent a larger sampling unit such as a polygon or transect.

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE	POPULATED BY	INFORMATION LEVEL
LATITUDE	Y	The decimal degree latitude.	FLOAT	N	14,8	Data Providers	Station
LONGITUDE	Y	The decimal degree longitude.	FLOAT	N	14,8	Data Providers	Station

New Straw-Man Proposal Requested for the elements describing station location.

Option 2 – only allow points, but add an element called PROXIMITY_TO_SAMPLING_ACTIVITY

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE	POPULATED BY	INFORMATION LEVEL
LATITUDE	Y	The decimal degree latitude.	FLOAT	N	14,8	Data Providers	Station
LONGITUDE	Y	The decimal degree longitude.	FLOAT	N	14,8	Data Providers	Station
PROXIMITY_TO_ SAMPLING_ ACTIVITY	Y	How close the LATITUDE and LONGITUDE are to the actual point where sampling activity occurred. Domain: <i>EXACT</i> - Exact sampling location; <i>APPRX</i> - Approximate sampling location; <i>VICIN</i> - Vicinity of sampling location; <i>OFFST</i> - Offset to exact sampling location; <i>START</i> – Beginning vertex of a linear sampling location (e.g. transect); <i>BNDRY</i> – One of a set of points used to describe the boundary of a polygon sampling location <i>CENTR</i> - Center of polygon containing sampling location(s); <i>ADMIN</i> - Administrative center of site or facility containing sampling location; <i>OTHER</i> – Coordinates given represent a scenario not listed; <i>UNKNO</i> – Relationship between the coordinates given and the sampling location is unknown; <i>NOREP</i> – Information is not reported regarding the relationship between the coordinates given and the sampling location.	VARCHAR2	Y	5	Data Providers	Station

New Straw-Man Proposal Requested for the elements describing station location.

Option 3 – Replace LATITUDE and LONGITUDE with two new fields. One field would contain the geometry type of the sampling location (point, line, or polygon), and another field would contain the location information, entered using a standard format (e.g. well-known text). This information could be stored as three feature classes, one for each geometry type.

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE	POPULATED BY	INFORMATION LEVEL
GEOMETRY_ TYPE	Y	The geometry type of the station location. Domain: <i>Point; Line; Polygon</i>	VARCHAR2	Y	7	Data Providers	Station
LOCATION	Y	The geographic coordinates of the station, entered in well-known text format (or another standard format that the group agrees upon). Transferring information for lines and polygons by uploading ESRI shapefiles may eliminate the need to type this information into a field. Examples: POINT (27.91 -82.64) LINESTRING (27.91 -82.66, 27.92 -82.65, 27.91 -82.64) POLYGON ((27.94 -82.54, 27.93 -82.54, 27.92 -82.54, 27.93 -82.55, 27.94 -82.55))	VARCHAR2	N	4000	Data Providers	Station

At 11/14/2012 Workgroup meeting, recommendation complete for the following elements

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE	POPULATED BY	INFORMATION LEVEL
XY_DATUM	Y	The horizontal reference for measuring locations on the Earth's surface. Domain: CAC – Cape Canaveral, HARN – High Accuracy Reference Network, HPGN – High Precision GIS Network / High Precision Geodetic Reference, NAD27 – North American Datum of 1927, NAD83 – North American Datum of 1983, WGS84 – World Geodetic Survey of 1984,	VARCHAR2	Y	10	Data Providers	Station

Additional suggestions received after 11/14/2012 for the following element.

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE	POPULATED BY	INFORMATION LEVEL
LOCATION_COLLECTION_METHOD	Y	The method or mechanism used to derive the location measurements. Domain: ADDM – Address Matching, AGPS – Autonomous GPS, CALC – Calculated by GIS Software, CSUR – Cadastral Survey, DGPS – Differentially Corrected GPS (<i>USGS coordinate datum code "D"</i>), DMAP – Digital Map Interpolation (<i>USGS coordinate datum code "N"</i>), DPHO – Digital Aerial Photography With Ground Control, GGPS – Geodetic Quality GPS, LORN – LORAN-C Navigational Device (<i>USGS coordinate datum code "L"</i>), MMAP – Manual Map Interpolation (<i>USGS coordinate datum code "M"</i>), MPHO – Manual Aerial Photography With Ground Control, OTHR – A Method Not Listed, <i>PARC – Parcel Matching</i> SATI – Satellite Imagery With Ground Control, <i>T- Transit, theodolite, or other surveying method,</i> <i>TOWN – Township / Range Matching</i> WGPS – GPS with Wide-Area Augmentation Service Correction, UNKN – Unknown Method, ZIP2 – ZIP Code + 2 Segment Centroid, ZIP4 – ZIP Code + 4 Segment Centroid, ZIPC – Zip Code Centroid	VARCHAR2	Y	4	Data Providers	Station

At 11/14/2012 Workgroup meeting, recommendation complete for the following elements

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE	POPULATED BY	INFORMATION LEVEL
COUNTY	Y	The name of the FL county station is located in. Domain will include the names of all 67 counties and "Not Applicable".	VARCHAR2	Y	50	Data Providers	Station
DRAINAGE_ BASIN	Y	The name of the 8-digit USGS HUC station is located in. Domain will include all 8-digit USGS HUCs in FL and "Not Applicable".	VARCHAR2	Y	14	Water Atlas Staff	Station

Additional suggestions received after 11/14/2012 for the following element.

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE	POPULATED BY	INFORMATION LEVEL
WATER_ RESOURCE_ NAME	Y	The name of the waterbody that the station is located in. For groundwater wells, this is the name of the aquifer tapped. (Note: "Unknown" is permitted if aquifer tapped is not known.)	VARCHAR2	N	100	Data Providers	Station

New Straw-Man Proposal Requested for STATION_TYPE.

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE	POPULATED BY	INFORMATION LEVEL
STATION_TYPE	Y	The type of station that data collection occurs at / in. Domain: (See options below)	VARCHAR2	Y	25	Data Providers	Station

Note: If values from Option 2 or Option 3 lists are chosen, it may be desirable to split STATION_TYPE into two fields (e.g. **PRIMARY_STATION_TYPE** = Stream; **SECONDARY_STATION_TYPE** = Stream – Canal)

Option 1 –

(from FL STORET and current Water Atlas)

Bay
Canal
Cave
Channelized Stream
Combined Sewer
Constructed Wetland
Estuary
Facility
Gallery
Great Lake
Lake
Land
Land Runoff
Landfill
Mine / Mine Discharge
Ocean
Reservoir
River / Stream
Riverine Impoundment
Spring
Storm Sewer
Tidal Fresh
Tidal Brackish
Waste Pit
Waste Sewer
Well
Wetland
Other
Not Applicable

Option 2 –

(from USGS NWIS (National Water Information System), definitions available at http://help.waterdata.usgs.gov/site_tp_cd)

Atmosphere
Ocean
Ocean - Coastal
Estuary
Lake
Stream
Stream - Canal
Stream - Ditch
Stream - Tidal stream
Spring
Well
Well - Collector or Ranney type well
Well - Extensometer well
Well - Hyporheic-zone well
Well – Interconnected wells
Well – Multiple wells
Well – Test hole
Other subsurface
Other subsurface – cave
Other subsurface – groundwater drain
Other subsurface – Tunnel, shaft, or mine
Other subsurface – Unsaturated Zone
Wetland
Land
Land – Excavation
Land – Outcrop
Land – Sinkhole
Land – Soil hole
Facility
Facility – Cistern
Facility – Combined Sewer
Facility – Diversion
Facility – Field, Orchard, or Nursery
Facility – Golf course
Facility – Hydroelectric plant
Facility – Laboratory or sample-prep area
Facility – Landfill
Facility – Outfall
Facility – Pavement
Facility – Septic system
Facility – Storm sewer
Facility – Thermoelectric plant
Facility – Waste-injection well
Facility – Wastewater sewer
Facility – Wastewater disposal
Facility – Wastewater-treatment plant
Facility – Water-supply treatment plant
Facility – Water-use establishment
Aggregate water-use establishment
Aggregate groundwater use
Aggregate surface-water-use
Other
Not applicable

Option 3 –

(include some / all of the entries from options 1 and 2, plus the following, as requested by workgroup members)

Well – Potable Well
Well – Non-potable Well

Well - Monitoring Well
Well - Irrigation Well
Well - Production Well

Well – Drainage Well (DW)
Well – Monitoring - Ground Water Quality Monitoring Well (IW)
Well – Observation - Ground Water Observation Well (OW)
Well – Other Well (XW)
Well – Unknown (UNK)
Well – Recharge Well (RW)
Well – Water Supply / Production - Agricultural Supply Well (AS)
Well – Water Supply / Production - Industrial Supply Well (IS)
Well – Water Supply / Production - Private Drinking Water Well (VW)
Well – Water Supply / Production - Public Drinking Water Well (BW)

As of the 11/14/2012 Workgroup meeting, no recommendations have been completed for the following elements.

Many of the following elements have not yet been discussed at workgroup meetings.

NEW ELEMENT

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE	POPULATED BY	INFORMATION LEVEL
STATION_ PHOTOGRAPH	N	Link to photo of station. (Data providers upload photograph(s), and Water Atlas Staff populate URL.)	VARCHAR2	N	250	Data Providers & Water Atlas Staff	Station

Comments:

- New Element

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE	POPULATED BY	INFORMATION LEVEL
START_DATE	Y	Date monitoring activity started at the station.	DATE	N		Data Providers	Station?
END_DATE	N	Date the monitoring activity ended or is anticipated to end at the station (use 99/99/9999 for ongoing monitoring with no anticipated end date)	DATE	N		Data Providers	Station?

Comments:

- Is it necessary for this to be a required field?
- Is the monitoring activity relative to the start and end dates of the data collection in relation to the project information as filled in above or is it to be associated with the start and end date of data collection in relation to the site itself?

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE	POPULATED BY	INFORMATION LEVEL
SAMPLING_FREQUENCY	Y	The time interval between sampling events at the station.	VARCHAR2	N	250	Data Providers	Station?

Comments:

- Suggest a list to be used but do not enforce it. Will help for consistency.
- Suggested Domain: Sampled Every 5 minutes / Sampled Every 15 minutes / Sampled Every 30 minutes / Sampled Hourly / Sampled Quarterly / Sampled Semi-Annually / Sampled Annually / Triggered / Other

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE	POPULATED BY	INFORMATION LEVEL
SAMPLING_TYPE	Y	The method in which the data was collected. Domain: <i>Observation;</i> <i>Measurement;</i> <i>Direct Grab;</i> <i>Remotely Sensed;</i> <i>Other.</i>	VARCHAR2	Y	25	Data Providers	Station?

Comments:

- New Element

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE	POPULATED BY	INFORMATION LEVEL
PARAMETERS	Y	List of parameters / variables / information collected at the station, including STORET/WQX codes when possible.	VARCHAR2	N	500	Data Providers	Station?

Comments:

- Increase data size.....proposed change to maximum allowable
- Is this a list of parameters across the period of record or is it only those for the project listed above? Would high level data collection type values be accepted – i.e. “water quality”, “water level”, “atmospheric”, etc?