Station Use List Final Summary

Mike Psaris

Thursday, August 14, 2014

## Overview

When DEQ submitted the 2012 Integrated Report for public comment EPA indicated they would not approve the draft in its current form. Therefore, DEQ began work on a *redo* of the toxics analysis. Due to the inclusion of various new data sources, and data quality issues, the *redo* was ultimately not finalized, and DEQ decided to update the original draft with responces to public comments and submit it to EPA as is. Due to the changing scope of the project, the current state of the Station Use List (SUL) reflects two separate processes which were merged at the end. Prior to the 2012 draft, the SUL had 5,497 stations and 38 columns. When I began work on the SUL for the toxics *redo* we added 1,302 new stations and 12 fields. When we decided to submit the draft rather than the toxics *redo* we left all the new stations in the SUL and added 58 new stations. This brought the final station count to 6,856. Of these, we deemed 5,818 useable for current and future assessments.

## Previous Documentation

For additional details on the scripts and methods used when compiling stations for the Toxics *Redo*, please refer to the *Station Identification Process Summary 2014* document.

## Complete List of Python and R Scripts

### Network Location:

* **//Deqhq1/wqassessment/2012\_WQAssessment/ToxicsRedo/Python\_Scripts**
  + *Add\_Gresham\_Stations.py*
  + *Assessment2012\_GDB.py*
  + *Assign\_LLID.py*
  + *Assign\_LLID\_Additional\_LASAR\_Stations.py*
  + *Assign\_LLID\_Gresham*Stations.py\_
  + *Assign\_LLID\_Mercury\_Stations.py*
  + *Assign\_LLID\_MORE\_Stations.py*
  + *Estuary\_Analysis\_01.py*
  + *Estuary\_Analysis\_02.py*
  + *IR2012\_Functions.py*
  + *Merge\_All\_Data.py*
  + *Stations\_Analysis.py*
  + *Stream\_Additions.py*
* **//Deqhq1/wqassessment/2012\_WQAssessment/ToxicsRedo/Estuary\_Analysis**
  + *ConSal\_Data\_Cleanup.R*
  + *Pull\_2010\_StationUseList.R*
* **//Deqhq1/wqassessment/2012\_WQAssessment/ToxicsRedo**
  + *Station\_Use*List.R\_

## Summary of Additional Analysis

The following tasks were completed during this time:

* Located and added six new sets of stations to the list
* Used the PNW 24K watercourse and waterbody spatial dataset to address stations which do not have streams or waterbodies in the current DEQ streams dataset.
* Aggregated all the new stations together and created a master station list which we added to the WQAssessment SQL database.
* Created an Assessment2012 geodatabase which includes a list of stations which contributed to the current assessment.

## Datasets

Peter supplied eight datasets. These are listed below:

* **Master\_List\_of\_Stations (1,295):** This was the first dataset.
* **Additional\_LASAR\_Stations (44):** This is the second batch of stations.
* **Gresham Stations (10):** These stations were supplied to DEQ by the City of Gresham
* **Mercury Stations (100):** These stations consist of LASAR and one independent station from Northwest Pulp and Paper Association (NWPPA).
* **Mercury Stations (10 located previously):** These stations were already addressed and simply had to be added to the list.
* **USGS Stations (9):** These stations had mercury data and were the last set of stations to be added to the list.
* **City of The Dalles (1):** These stations were provided through the public comment process. Since no latitude or longitude coordinates were provided, we located this station based on its description.
* **IR Draft (57):** These station's locations were not verified during the initial assessment they were verified and added to the database.

## Station Use List Data Library

Many new fields were added to the Station Use List. Below is a table describing each field:

|  |  |
| --- | --- |
| **Field** | **Description** |
| StationUse\_RecordID | A unique ID used as the primary key for the sql table |
| STATION | Station's Unique ID |
| DESCRIPTION | A description of the station generally including the watercourse or waterbody's name, and sometimes a description of the physical location of the station. |
| DEC\_LAT | Latitude in decimal degrees |
| DEC\_LONG | Longitude in decimal degrees |
| Year\_Added | The cycle that the station was added. |
| RIVER\_MILE | The location of the station specified as river miles upstream of the river's mouth. |
| Stream\_Name | The name of the stream determined from the stream's data source. |
| STREAM\_LLID | Latitude-Longitude ID (LLID) of the stream. This is based on the Lat/Long of the river's mouth. |
| RIVER\_MILE\_LAKE | Has values of 0 or NULL. This was used in previous cycles to indicate whether a station is located in a lake. |
| LAKE\_LLID | Latitude\_Longitude ID (LLID) of the lake. This is based on the Lat/Long of the lake's centroid. |
| LAKE\_NAME | The name of the lake determined from the lake's data source. |
| Comments | Comments made while location verification process prior to 2012 cycle |
| USE\_OtherParms | Indicates that the station is useable for everything NOT considering bacteria. It is to be used in conjunction with USE\_Bacteria to determine USE\_Final via an OR statement. |
| USE\_Final | Indicates whether the station is usable for current or future assessments (1 = yes; 0 = no) |
| TRIBAL | Indicates whether or not a station lies on tribal lands (1 = yes; 0 = no). If so, the station is not usable for analysis |
| GIS\_Source\_LAKE | Indicates the data source for the lake |
| HUC\_3rd\_Field | The 3rd field HUC name |
| Bio\_Data | Used during the 2010 cycle. Indicates whether Bio macro data exists for this station |
| CASCADE\_LAKES | Used during the 2010 cycle. Indicates whether the station is in a Cascade Lake. Cascade Lakes have unique pH criteria |
| MARINE\_WATERS | Identifies those stations which are in marine waters (1 = yes, 0 = no) |
| STRATIFIED\_Natural\_Lake | Indicates which lakes are and are not stratified |
| ESTUARY | Indicates whether a station lies in an estuary or not |
| LAKE | Indicates whether a station lies in a lake or not |
| MARINE\_COASTAL\_REC | ? |
| Enterro\_Data | ? |
| DHS\_Station\_Type | ? |
| DHS\_Station\_Type\_Num | ? |
| EPA\_BEACH\_ID | Unique ID for beaches along the Pacific Coastline |
| BEACH\_NAME | Name of beaches along the Pacific Coastline |
| ELEVATION\_FT | Elevation of the station in feet |
| WRD\_Basin | Oregon Water Resource Department Basin names |
| Reviewed\_Permit\_Writers | ? |
| RIVER\_MILE\_2004 | River mile determined during the 2004 cycle |
| LLID\_2004 | LLID determined during the 2004 cycle |
| USE\_Bacteria | Indicates whether the station is usable for bacteria assessments |
| Salinity\_Max | Maximum salinity measurement for this station |
| Conductivity\_Max | Maximum conductivity measurement for this station |
| PondResSmall | ? |
| Water\_Type | Indicates whether the the station is located in freshwater (FW), marine water (SW), or estuary (ES) |
| AGENCY | Agency name |
| AGENCY\_ID | Agency Unique ID |
| Init\_Loc\_Status | Initial determination of station location processing |
| Manual\_Loc\_Status | Station location determination based on manual review |
| Process\_Comments | Pertinent comments related to the station location determinations |
| HU\_8\_Name | Name of 8 digit (4th field) HUC |
| DATUM | Datum used to locate station |
| In\_Routed\_Dataset | Indicates whether the station is located on a routed waterway. More specifically, whether or not the sation is on a feature contained in the DEQ streams or PNW24K streams dataset or the waterbodies datasets from DEQ or PNW24K. |
| UsabilityComments | Comments made by Karla indicating which stations may for any reason not be usable. |