Draft: Water Quality Sensors Processing Flow Chart: pH and Conductivity Low Range (T Comp) Lake Processing

⇒ Copy Raw Data to the Raw File

Copy Raw data to the Working File

 Load check data:

 From Field Chits/Inspections

 From Lake Depth profiles

 ♦ Check Info found here: \\ares\Hydrology\Water Quality Sites\Lake Sampling SOE's

 Non-detect inspections filed as '-1' or 'NULL'

 Load data in the register—two tabs, 'Entire Register' and Register for current batch of processing

Editing the Data

⇒ **All Edits to the data QC 400**

⇒ **All Synthetic Data QC 300**

⇒ **All Cautionary Data QC 200**

⇒ **All Missing Record QC100**

Use the R code to check for data consistency, trends, distributions

Print off relevant plots that indicate suspect trends, and other information that maybe useful to the reviewer

◊ **CONSERVATIVE EDITING OF THE DATA:**

• Run the hidden gap marker VM. Gaps ≤ 1 hour can be closed—filled with visually interpolated data (QC 400). Gaps > 1 hour <u>are to be left as missing record (QC 100).</u>

• Remove spikes that exceed the sensor range

• Remove spikes that coincide with other spikes in the datasources at the site or when coinciding with staff present onsite

• Ramp only if sufficient evidence (i.e. sudden change after sensor clean) but should be avoided as cannot usually pin point where issue(s) arose (be conservative)

• Transformations of the data where necessary and with subsequent lowered QC as data is heavily modified with checks used potentially compromised (boat stirring up water, sediment etc.)

Cautionary Data

⇒ Periods of data where it is unclear the reliability or if should be used with caution/not verified to be QC 200 with a comment explaining downgrade in Quality Code.

⇒

⇒ Copy Working to Final Site File

⇒ *<Sitename>*

QC Final Dataset

⇒ **< 0.2 pH Units or 5.00 % µs/cm QC 600**

⇒ **≥ 0.2—0.5 pH Units or ≥ 5—10 % µs/cm QC 500**

⇒ **≥ 0.5—0.8 pH Units or 10—15 % µs/cm QC 400**

⇒ **≥ 0.8 or 15 % µs/cm QC 200**

To Print

⇒ URF Cover Sheet

⇒ Raw and Final File Details

⇒ Processing Register (not entire, just period for batch)

⇒ Comments

⇒ Full Plot with QC

⇒ Graph Over Time of QC and QC stats from Hydro

⇒ Full Plot of Raw and Final Dataset Over plotted with the Audit VM

⇒ Field Inspections/Chits with highlighted checks used

⇒ Flow chart of how data processed