\\Ares\Environmental Data Validation\Water Temperature\

Logsheet Loader

Processing Period and Batch Number

Check Hydrometric and Provisional Archive

Chits: Last inspection previous batch – latest inspection

Check all chits/lake sampling forms present/correct

Batch folder: Copy in Docs and label batch #

Create new Hilltop file (*batch#.hts*) in batch folder

What Water Temperature data is at site?

Water Temperature, Dissolved Oxygen sensor, Nomad and HOBO?

Hilltop <SiteName>_Raw file \\ares\Original\Hilltop Telemetry\<SiteCode>.hts or \\ares\Original\Internal\<SiteCode>.hts

No offset shall be applied to the data; Sonde Instrumentation is more accurate than the handhelds, higher resolution and are calibrated every month

Collate the Processing information

Check data from: 1) Hydro inspection chits 2) Archive: Water Quality (keep QC) 3) Archive: Sampler Provisional and QC these inspections as 200

Load Inspections Check data, "Null" for inspections with no check data (main inspection time); load any comments applicable to the data source. Non-detect inspections used to indicate when staff are on site (and potential changes made to code/logger, the data source… etc)

Field Inspections
- Photocopy Inspection Chits/Lake Sampling Forms found here:\\ares\Hydrology\Water Quality Sites\Lake Sampling SOE's\Lake Horowhenua\
- SmarTroll Profiles – found in same place as Lake Sampling Forms
- Check Logsheet Loader and field inspection chits are correct
- Photos

Calibration Information
- SmarTrolls up to date, Sonde calibrated & switched each month

Additional Data Sources
All other data sources from the site

Non-Conformance Reports
Check Non-conformances which are site specific or data source specific

Water Quality Archive
- SOE results
- make sure match up and no mistake

1/7/2014 Do not adjust SOE results which are not to the 15 minute punch (conflict/ additional data to what is stored within WQ Archive: Hilltop is left to interpolate) Standard Hydro practice is to the punch.

Working File

Check for Gaps and Hidden Gaps and update

Load the Check Data from chits/Lake sampling forms/smartroll profiles – CHECK inspections and correct logsheets. Load check inspections from Water Quality Provisional Archive

QC inspections. All inspections are loaded

Quality Code Check Data

As of 10/10/2012 all Check Data used requires a corresponding quality marker. These are as follows:
- Reference data from Hydrology Log Sheets QC 600
- Non Hydrology Reference data (other sources i.e. Sampler) QC 500
- Checks taken at high flow, opposite bank or >10m from sensor QC 500
- Synthetic Inspections (used to aid data corrections) QC 300
- ANY reference data considered faulty/suspect QC 200
- Inspections carried out at site where no WT check was taken (-1) and QC 100

Populate the Water Temperature Processing Register

Editing the data

Conservative editing: only remove spikes observed at same time in other data sources, spikes outside of the sensor range, or coinciding with staff on site. All gaps ≤ 1 hour can be closed with visually interpolated data, all gaps > 1 hour are to be left as missing record. Comment all edits.

Copy to Corrected folder

No Correction factor should be needed for Sonde Data. Ramps should not need to be used. Any transformations may require down grading of the QC depending on the magnitude and reasoning.

Update the Water Temperature Processing Register

Copy Water Temperature data to final file *<Site Name>*

Apply Quality Code

NEMS 2013 Quality Code

UNDER THIS STANDARD REQUIRES IN-SITU SENSOR TO BE CALIBRATED ONCE EVERY TWO YEARS AS A MINIMUM

- **QC 600** = Final difference between Check and Logger ≤ 0.8°C
- **QC 500** = Final difference between Check and Logger is between 0.8 and ≤1.5ºC
- **QC 400** = Final differences between Check and Logger >1.5ºC
- **QC 300** = All synthetic data generated from relationships with other sites, calculations, models and limited measured data to create a record – NO synthetic should be generated for Lake Data at present.
- **QC 200** = Raw data, unknown quality, not assigned a final QC or external & not QC to match NQCS
- **QC 100** = Missing data

All edits to the data shall be Quality Coded 500 or less including ramps, transformations and manual edits with an associated comment.

All synthetic data and missing record and cautionary data shall have an associated comment.

Audit

Copy data to the **Provisional Archive**
NEMS V1 & Provisional Archive
Latter will need modification to QCs, refer to HRC processing flowchart

Print off to hand in (in 1pdf document):
1. URF
2. File Details Template (FDT)
3. Water Temperature Register (note entire, just for period in question)
4. Comment Sheet
4. Final print out with QC
5. Final + Raw + Audit
6. WT + Flow r/ship
7. Any NCR's
8. Logsheets/Lake Sampling forms