# ADCP – Sontek Data Entry

Operations Manual table of contents

## Overview:

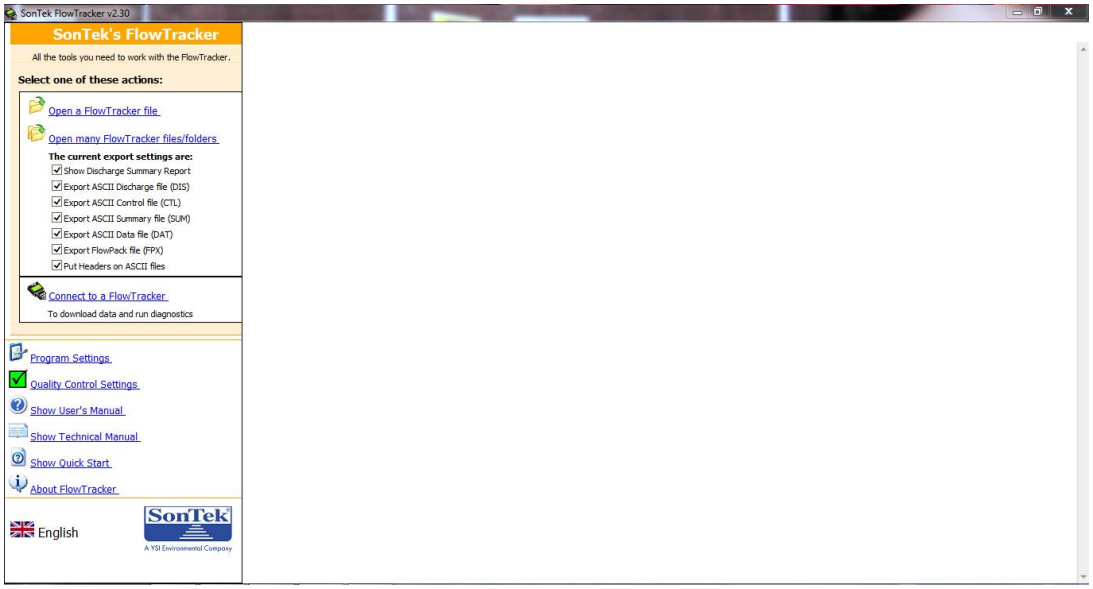
This Operation Manual details the office procedures required to correctly 'post-process' and import a FlowTracker gauging. Horizons will adhere to these procedures for all future and historical FlowTracker gauging's until a National FlowTracker Procedure is adopted. However, our newly adopted procedures are aimed to be a lot more stringent than future nationwide guidelines.

Further information can be found in the Sontek Manual (\\ares\Hydrology Sites\General Site Information\Manuals\SonTek_FlowTracker.pdf ).

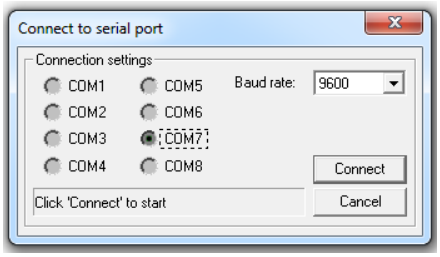
## Post-processing:

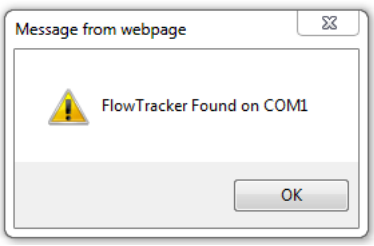
### 1.Transferring Data

Open the Sontek FlowTracker v2.30 software and select "connect to a Flowtracker"




Select the correct serial port, this should automatically do this for you anyway. Keep the Baud rate to 9600. Select OK once the FlowTracker has been found. The FlowTracker should also display "Under External Control" from the display screen of the unit.

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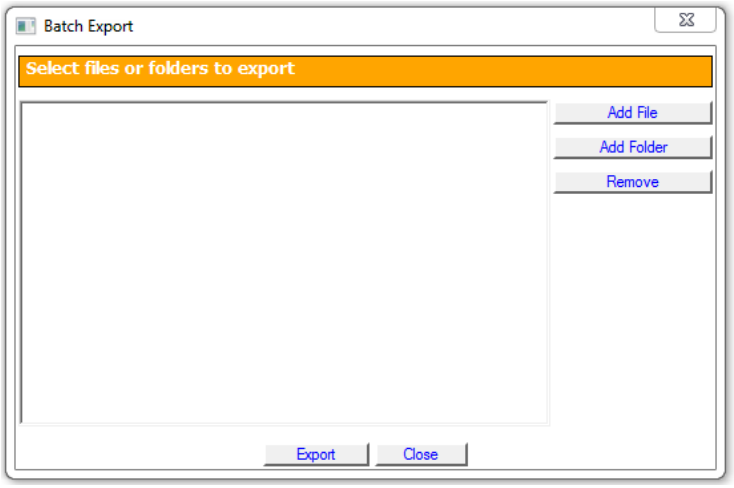
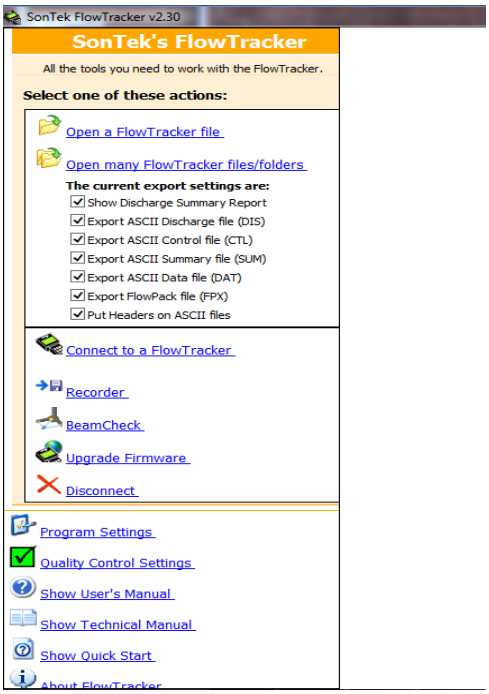
Export all the gauging files to the correct site folder. This should be \\ares\hydrology\hydrology sites\SITE\Guagings\FlowTracker\DATE\




Open the FlowTracker Files once the download / export is complete. This will open the "Discharge Measurement Summary". Unfortunately, nothing from the gauging can be edited in the software. We assume that everything has been correctly!

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# ADCP – Sontek Data Entry

## Discharge Measurement Summary

Date Generated: Thu Sep 1 2016

| File Information | |
|---|---|
| File Name | MPA.WAD |
| Start Date and Time | 2016/05/03 13:16:50 |

| Site Details | |
|---|---|
| Site Name | |
| Operator(s) | AC |

| System Information | |
|---|---|
| Sensor Type | FlowTracker |
| Serial # | P3485 |
| CPU Firmware Version | 3.9 |
| Software Ver | 2.30 |
| Mounting Correction | 0.0% |

| Units | (Metric Units) |
|---|---|
| Distance | m |
| Velocity | m/s |
| Area | m^2 |
| Discharge | m^3/s |

**Discharge Uncertainty**

| Category | ISO | Stats |
|---|---|---|
| Accuracy | 1.0% | 1.0% |
| Depth | 0.1% | 1.5% |
| Velocity | 0.5% | 1.4% |
| Width | 0.1% | 0.1% |
| Method | 1.8% | - |
| # Stations | 2.3% | - |
| **Overall** | **3.2%** | **2.2%** |

**Summary**

| | | | |
|---|---|---|---|
| Averaging Int. | 40 | # Stations | 22 |
| Start Edge | LEW | Total Width | 12.500 |
| Mean SNR | 14.9 dB | Total Area | 5.000 |
| Mean Temp | 11.98 °C | Mean Depth | 0.400 |
| Disch. Equation | Mean-Section | Mean Velocity | 0.2237 |
| | | **Total Discharge** | **1.1182** |

**Measurement Results**

| St | Clock | Loc | Method | Depth | %Dep | MeasD | Vel | CorrFact | MeanV | Area | Flow | %Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 13:16 | 3.70 | None | 0.000 | 0.0 | 0.0 | 0.0000 | 0.50 | 0.0000 | 0.000 | 0.0000 | 0.0 |
| 1 | 13:18 | 4.30 | 0.6 | 0.090 | 0.6 | 0.036 | 0.1109 | 1.00 | 0.0832 | 0.027 | 0.0022 | 0.2 |
| 2 | 13:19 | 4.90 | 0.6 | 0.150 | 0.6 | 0.060 | 0.1480 | 1.00 | 0.1294 | 0.072 | 0.0093 | 0.8 |
| 3 | 13:20 | 5.50 | 0.6 | 0.220 | 0.6 | 0.088 | 0.1905 | 1.00 | 0.1692 | 0.111 | 0.0188 | 1.7 |
| 4 | 13:21 | 6.10 | 0.6 | 0.260 | 0.6 | 0.104 | 0.2333 | 1.00 | 0.2119 | 0.144 | 0.0305 | 2.7 |
| 5 | 13:22 | 6.70 | 0.6 | 0.320 | 0.6 | 0.128 | 0.2667 | 1.00 | 0.2500 | 0.174 | 0.0435 | 3.9 |
| 6 | 13:23 | 7.30 | 0.6 | 0.360 | 0.6 | 0.144 | 0.2562 | 1.00 | 0.2614 | 0.204 | 0.0533 | 4.8 |
| 7 | 13:24 | 7.90 | 0.6 | 0.360 | 0.6 | 0.144 | 0.2533 | 1.00 | 0.2547 | 0.216 | 0.0550 | 4.9 |
| 8 | 13:26 | 8.50 | 0.6 | 0.430 | 0.6 | 0.172 | 0.2400 | 1.00 | 0.2466 | 0.237 | 0.0585 | 5.2 |
| 9 | 13:27 | 9.10 | 0.6 | 0.470 | 0.6 | 0.188 | 0.2778 | 1.00 | 0.2589 | 0.270 | 0.0699 | 6.3 |
| 10 | 13:28 | 9.70 | 0.6 | 0.510 | 0.6 | 0.204 | 0.2726 | 1.00 | 0.2752 | 0.294 | 0.0809 | 7.2 |
| 11 | 13:29 | 10.30 | 0.6 | 0.535 | 0.6 | 0.214 | 0.2812 | 1.00 | 0.2769 | 0.314 | 0.0868 | 7.8 |
| 12 | 13:30 | 10.90 | 0.6 | 0.515 | 0.6 | 0.206 | 0.3014 | 1.00 | 0.2913 | 0.315 | 0.0918 | 8.2 |
| 13 | 13:31 | 11.50 | 0.6 | 0.515 | 0.6 | 0.206 | 0.2844 | 1.00 | 0.2929 | 0.309 | 0.0905 | 8.1 |
| 14 | 13:33 | 12.10 | 0.6 | 0.500 | 0.6 | 0.200 | 0.2354 | 1.00 | 0.2599 | 0.305 | 0.0791 | 7.1 |
| 15 | 13:34 | 12.70 | 0.6 | 0.540 | 0.6 | 0.216 | 0.1713 | 1.00 | 0.2033 | 0.312 | 0.0634 | 5.7 |
| 16 | 13:35 | 13.30 | 0.6 | 0.610 | 0.6 | 0.244 | 0.2274 | 1.00 | 0.1993 | 0.345 | 0.0688 | 6.2 |
| 17 | 13:36 | 13.90 | 0.6 | 0.680 | 0.6 | 0.272 | 0.1221 | 1.00 | 0.1747 | 0.387 | 0.0676 | 6.0 |
| 18 | 13:38 | 14.50 | 0.6 | 0.620 | 0.6 | 0.248 | 0.2291 | 1.00 | 0.1756 | 0.390 | 0.0685 | 6.1 |
| 19 | 13:39 | 14.90 | 0.6 | 0.580 | 0.6 | 0.232 | 0.1689 | 1.00 | 0.1990 | 0.240 | 0.0478 | 4.3 |
| *20* | *13:41* | *15.65* | *0.6* | *0.180* | *0.6* | *0.072* | *0.0438* | *1.00* | *0.1063* | *0.285* | *0.0303* | *2.7* |
| 21 | 13:41 | 16.20 | None | 0.000 | 0.0 | 0.0 | 0.0000 | 0.50 | 0.0328 | 0.050 | 0.0016 | 0.1 |

Rows in italics indicate a QC warning. See the Quality Control page of this report for more information.

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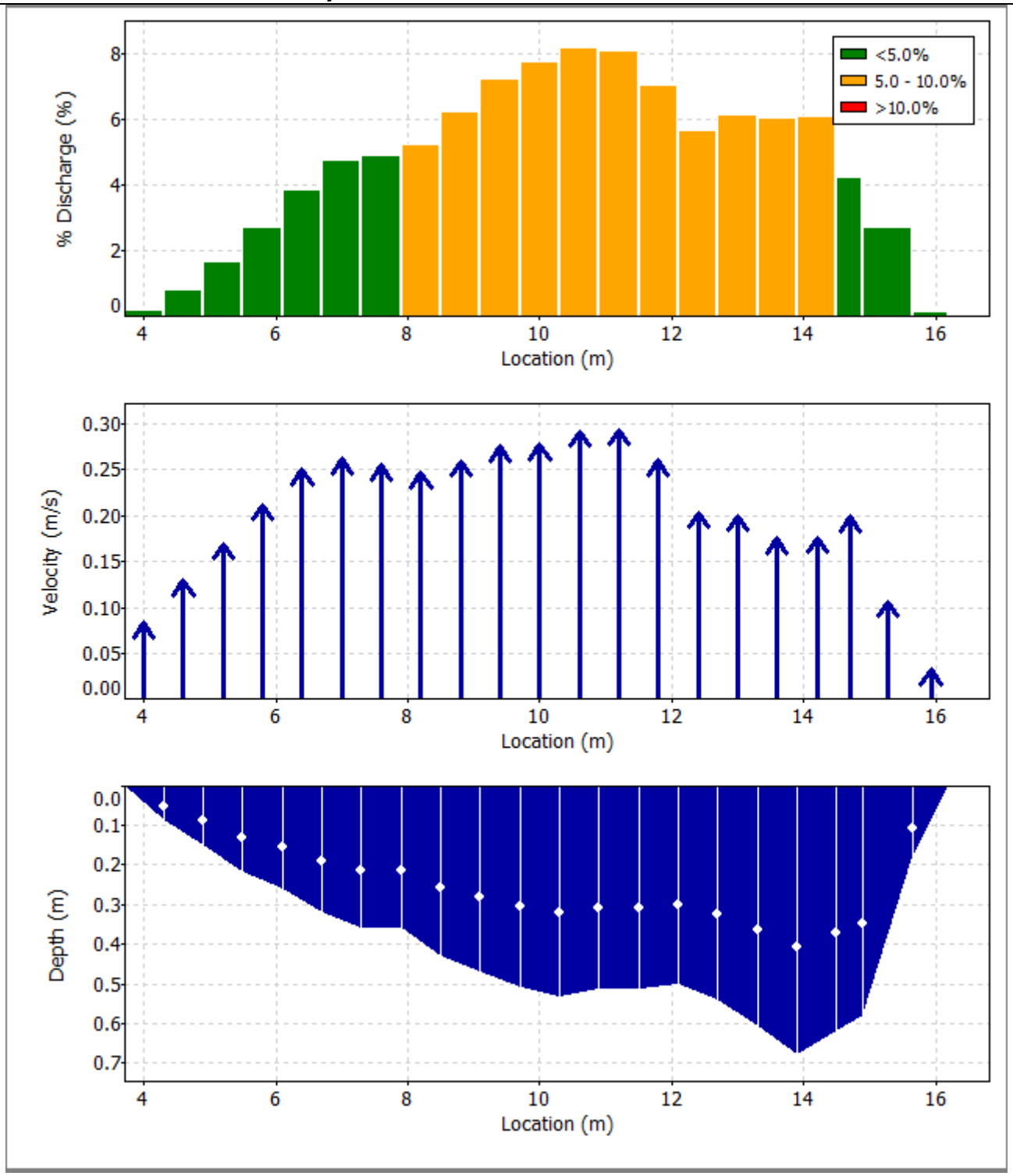
## ADCP – Sontek Data Entry

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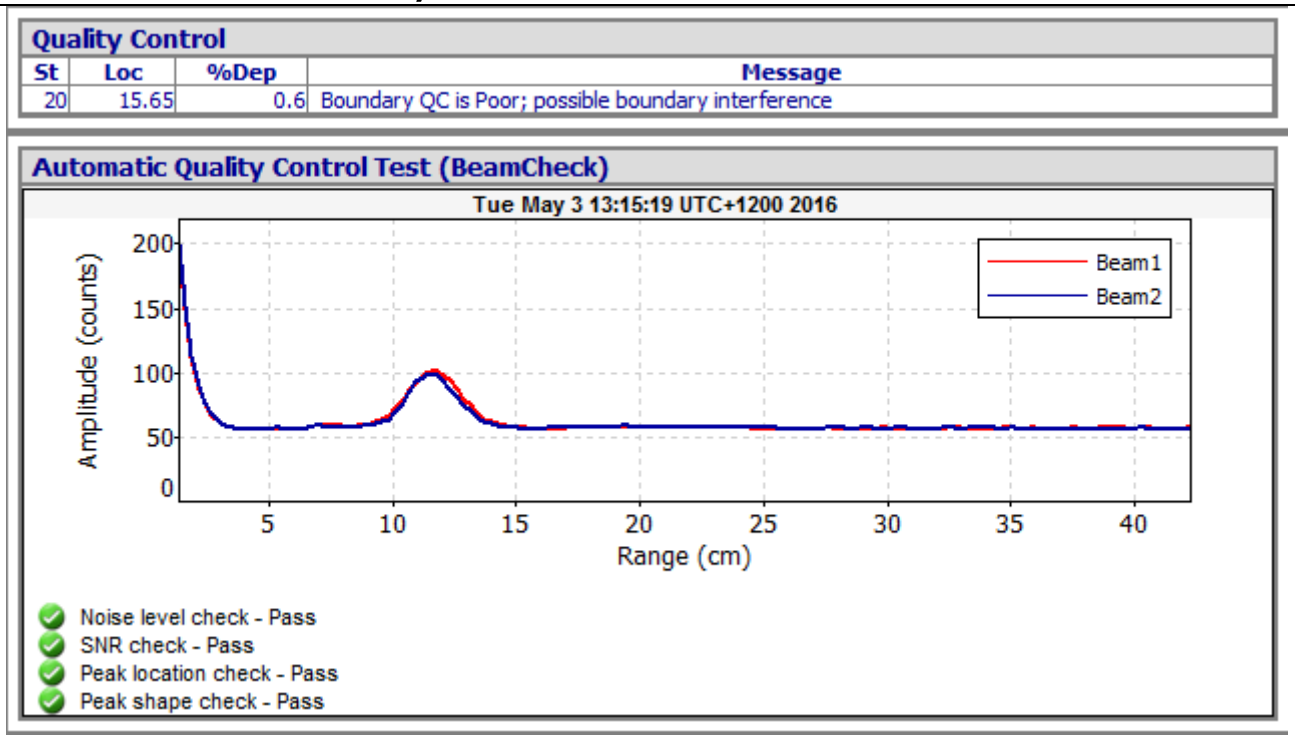
# ADCP – Sontek Data Entry

**Quality Control**

| St | Loc | %Dep | Message |
|---|---|---|---|
| 20 | 15.65 | 0.6 | Boundary QC is Poor; possible boundary interference |




Take note of the Discharge Uncertainty Overall statistics. This governs the QC of the gauging.

Print out the Discharge Measurement Summary

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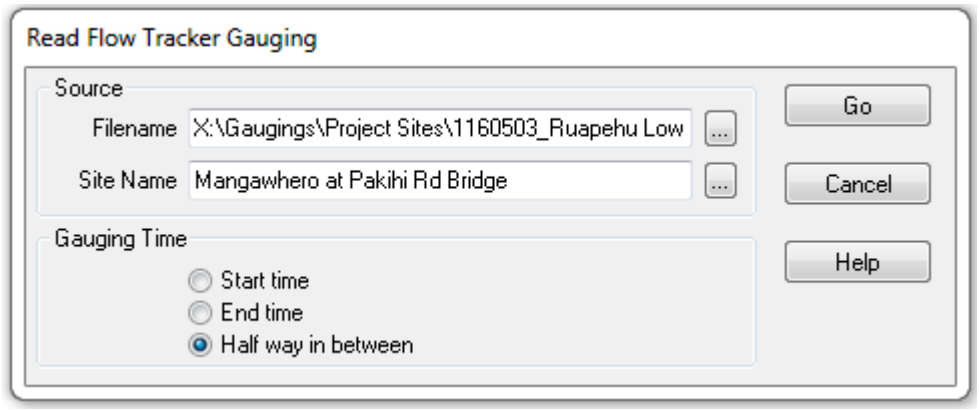
# ADCP – Sontek Data Entry

## *IMPORTING .WAD FILE TO HILLTOP*

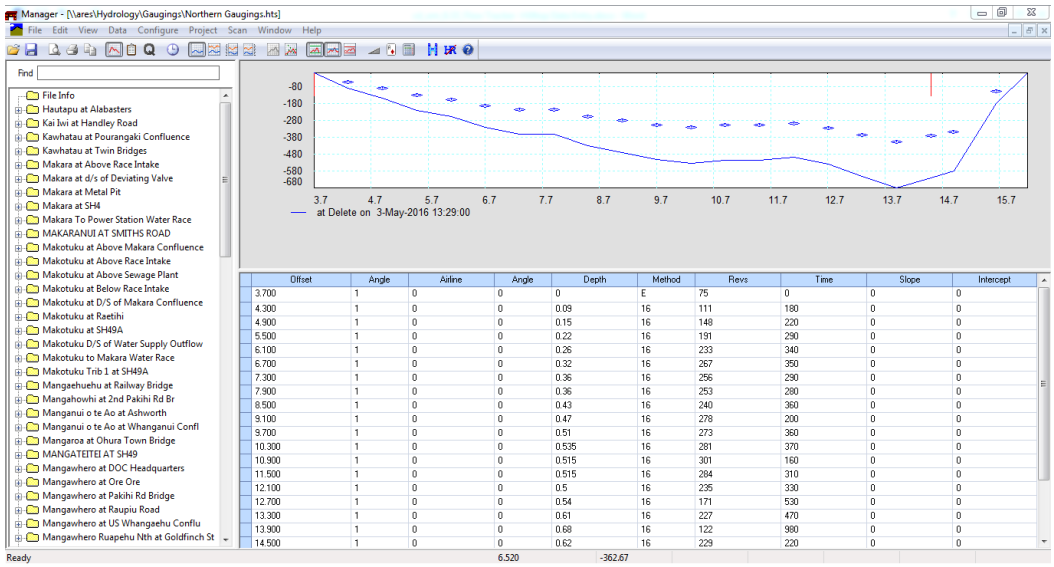
This section outlines the importing of the FlowTracker.WAD file to Hilltop.

Open Hilltop Manager, and select the respective regions Hilltop gauging file i.e. Northern Gauging's located on \\ares\Hydrology\Gaugings\Northern Gaugings.hts

From the tool menu in Manager, select: Data > Import > Flow Tracker. This opens the import dialog screen




Select the filename location. This will be the exported .WAD file
Select the site name from where the gauging was undertaken
Gauging time should be "Half way in Between"
Hit OK, and this opens the Gauging editing screen

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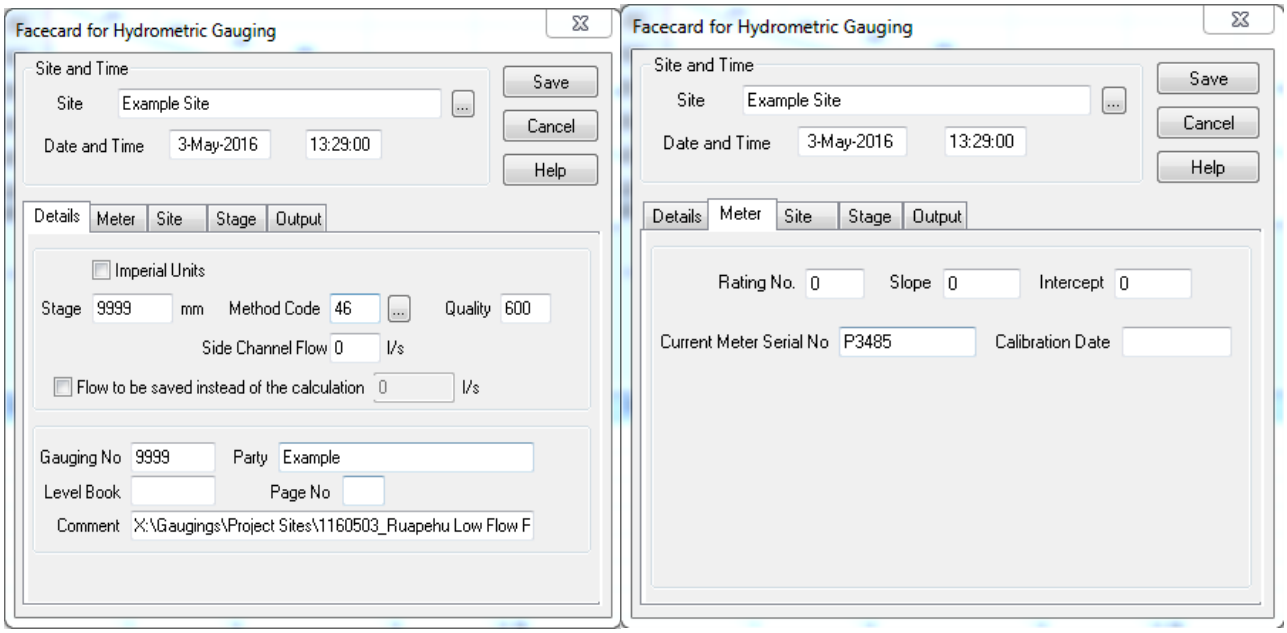
# ADCP – Sontek Data Entry

Check the gauging file for items to edit, i.e. bung data entry in the field such as incorrect depth measurements, offsets and Edge estimates.

Open the Facecard editor  and enter in the Facecard information into the Details Tab. The Quality of the gauging is determined by the ISO Discharge Uncertainty % from the .WAD file. We won't know the Gauging Number until we file the Gauging against the Gauging Register. Leave this field blank for now.

ISO < 5 % QC 600
ISO > 5 < 8 % QC 500
ISO > 8 % QC 400

Hit the Meter Tab and ensure that the correct "Current Meter Serial No." (this should automatically update) are entered and the "Calibration Date"

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# ADCP – Sontek Data Entry

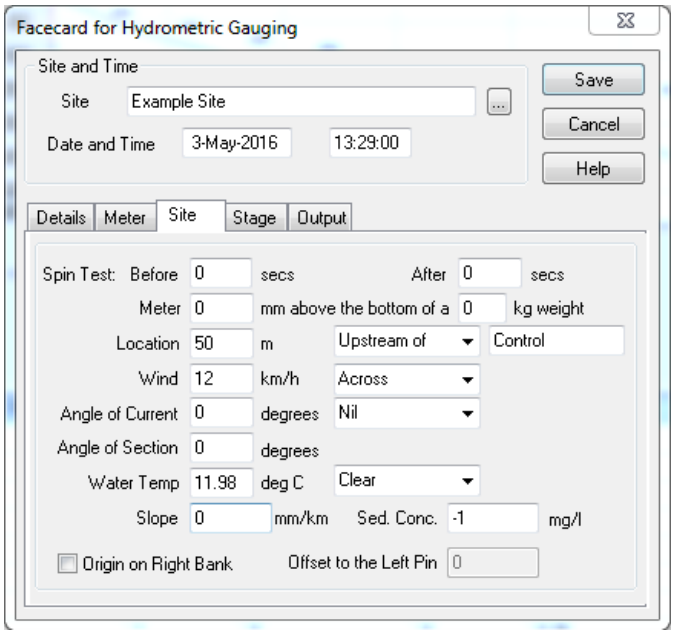
Hit the Site Tab and enter the site details. Being an old school current meter Facecard, there is no need to enter the Spin Test, Meter, Angle of Current, and Angle of Section details. The Flow Tracker does all this information for you in the field.

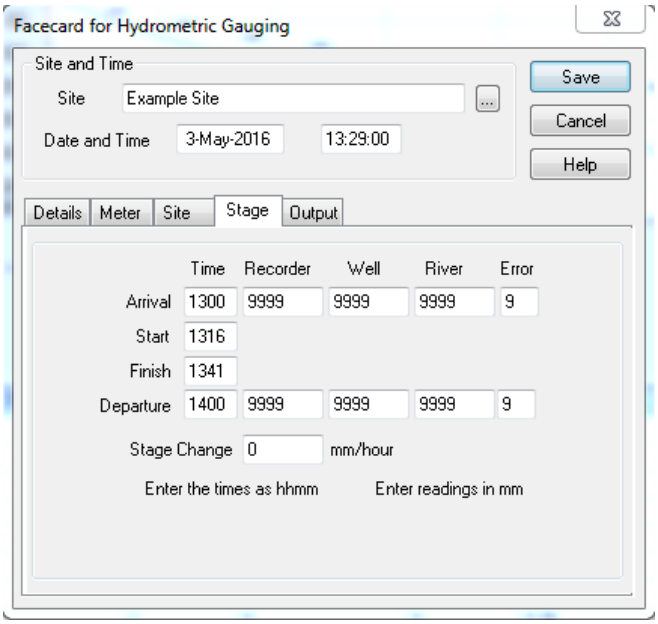
Hit the Stage Tab and enter the Stage information into the respective fields.

There is no need to Hit the Output Tab, as it doesn't do anything

SAVE

SAVE Again in the Hilltop Tool Bar Screen also (otherwise it wont save!)




Grab a Paper Gauging card from the shelf and transpose all the information from the Hilltop file onto the paper copy. That's right, were still using paper and doubling up!

Open the Gauging Register

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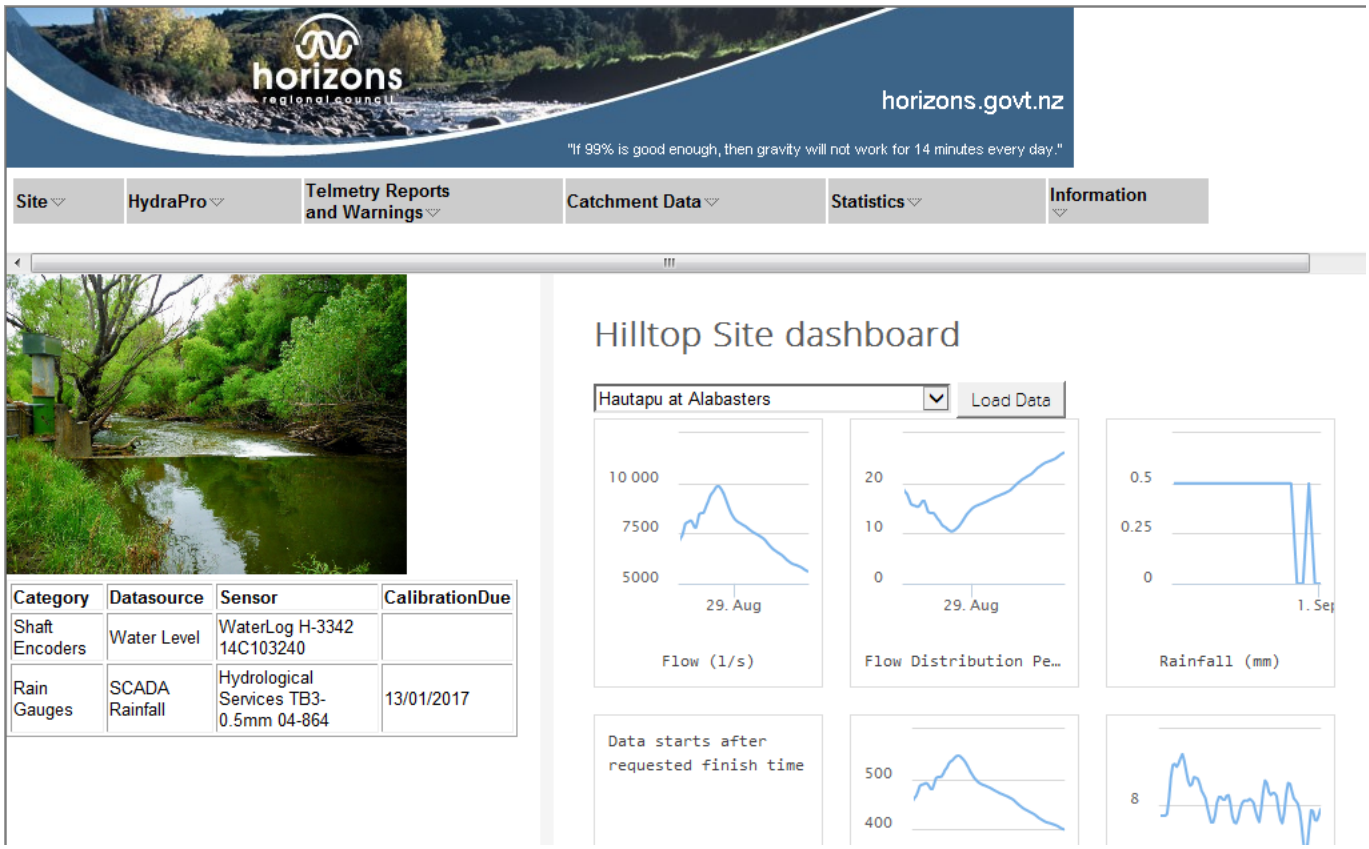
# ADCP – Sontek Data Entry

Right Click on any site in Managers Object Tree > Info. This opens a basic web portal to the Gauging Register. In the web portal select HydraPro > Gauging Register




| Category | Datasource | Sensor | CalibrationDue |
|---|---|---|---|
| Shaft Encoders | Water Level | WaterLog H-3342 14C103240 | |
| Rain Gauges | SCADA Rainfall | Hydrological Services TB3-0.5mm 04-864 | 13/01/2017 |

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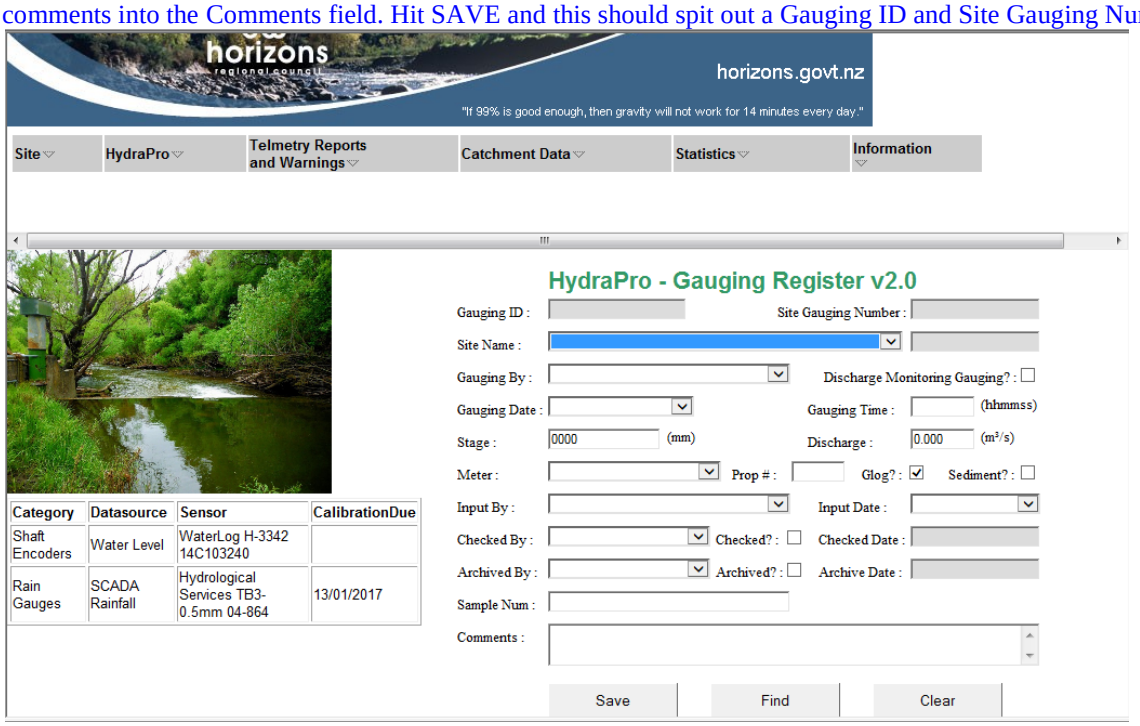
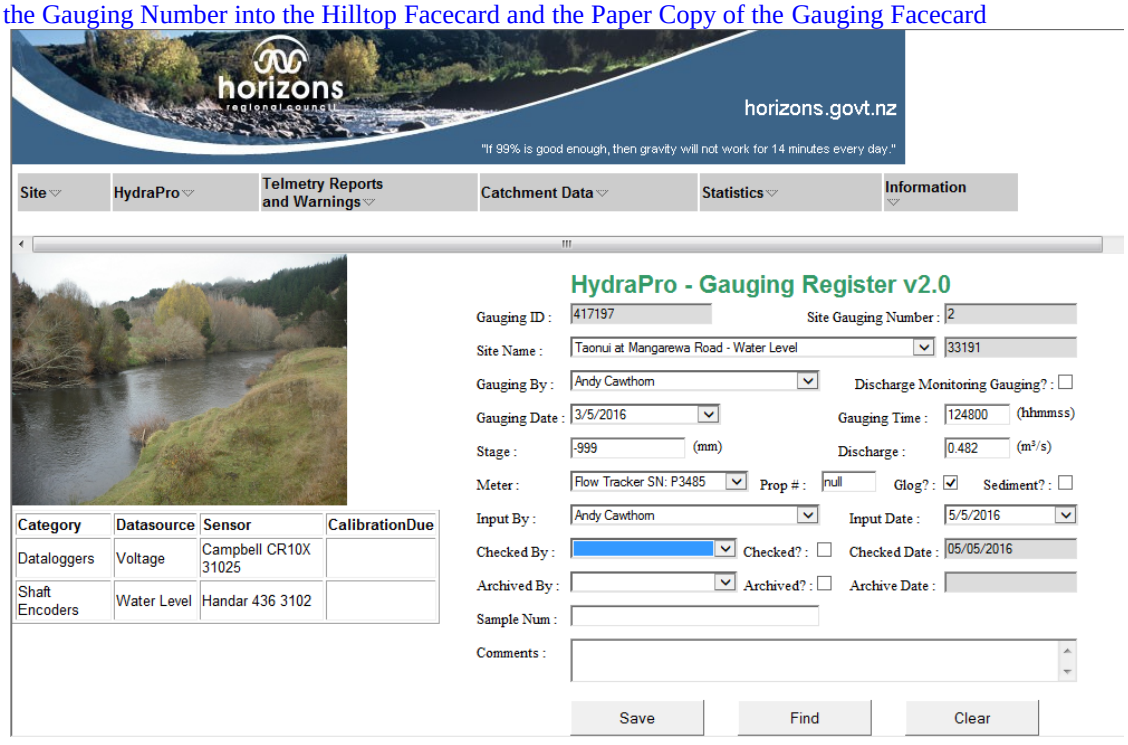
# ADCP – Sontek Data Entry

This opens the HydraPro – Gauging Register v whatever

Enter all the information from the Paper copy (or the digital copy if your not a dinosaur) into the respective fields. Enter any respective comments into the Comments field. Hit SAVE and this should spit out a Gauging ID and Site Gauging Number.




Transpose the Gauging Number into the Hilltop Facecard and the Paper Copy of the Gauging Facecard

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## ADCP – Sontek Data Entry

Print out the Hilltop Gauging Hydrometric information from Manager

Add the printed Discharge Measurement Summary, and the printed Hydrometric Gauging and staple this info to the back of the Hydrometric Gauging Facecard

**Done!**

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