**READ ME FILE FOR THE “Data Files for CHONe Publication Online” FILES.**

**This explains what is found in each file.**

**HSSR2017 - Analysis of Sponge Behaviour (Summary).xlsx**

* This is the summary file of all the analysis done on the sponges for my thesis and the MEPS paper. This is for the responses of the three sponge species: Farrea, Heterochone and Rhabdocalyptus.

**HSSR 2017 - Sediment Movement and Fishing Activity in Hecate Strait.xlsx**

* This file contains all the data necessary to understand sediment movement at Hecate Strait for the model used in the MEPS paper. Grain sizes from sediment tube cores, the breakdown of grain sizes between reefs (Hecate vs Fraser), and the calculations for how far and for how long sediment s would move through the water column at Hecate Strait. A breakdown of the Boutillier et al (2013) CSAS paper is included for reference as to what is known about sediment at the reefs.

**HSSR2017 - All Sediment Data Together.xlsx**

* This file contains all the sediment data recorded in Hecate Strait in 2017 by our research team. This is the entire record of the vector and Aquadopp OBS readings and converted into mg/l.

**HSSR2017 - Ambient Flow Velocities - All Sponges.xlsx**

* This file contains all the data necessary for averaging the ambient flow data at each sponge location used in the Hecate Strait 2017 work. This is the average of the thermistors, the vector and 0.5-1m above bottom Aquadopp recordings.

**HSSR2017 - Aquadopp-LZ-Velocities and Data.xlsx**

* This file contains all the data recorded from the Aquadopp-LZ for the entire 2017 Hecate Strait expedition. This includes the flow direction and flow speeds recorded from 0.5 to 5.25m above the bottom.

**HSSR2017 - Aquadopp-SL-Velocities and Data.xlsx**

* This file contains all the data recorded from the Aquadopp-SL for the entire 2017 Hecate Strait expedition. This includes the flow direction and flow speeds recorded from 0.5 to 5.25m above the bottom.

**HSSR2017 - Flow Relative to Sponge (Eugueni Work-up).xlsx**

* This is the work done by Eugueni to determine the direction of the current at each sponge that it was possible to get this data for. This includes the flow direction over the sponge’s entire record.

**HSSR2017 - Instrument Locations.csv**

* CSV file of the location of each instrument used during the 2017 Hecate Strait expedition. This was used to make maps for the MEPS paper.

**HSSR2017 - All Data - Statisitca.stw**

* Data file used in the program Statisitca Academic for analysis of parts of the sponge records. Statistical results.

**HSSR2017 - Data and Figures.JNB**

* Data file used in the program SigmaPlot 13.0 for analysis of parts of the sponge records. Used to make all MEPS figures and figures for thesis and presentations. **This file is good for looking at the data more clearly that the other excel files.**

**HSSR 2017 - Boot Sponge - Data.xlsx**

**(Used as primary Rhabdocalyptus sponge in all figures for MEPS paper, Figure 4)**

* This file contains all the data relevant to the Boot Sponge record. This includes a 24hr pumping period followed by Sediment Experiments 11, 11.1 (control = 11.1 - waving water but no sediment). Data includes date/time, comments, excurrent flow out of the sponge (thermistor), ambient flow (thermistor and vector), oxygen removal and suspended sediment concentration (vector only). 1s and 10s intervals are included. ‘Moving variance’ is used to determine possible arrests if variance of excurrent flow is above 0.25. Spearman’s correlation was used to determine areas of possible arrests. Correlating downward excurrent with increased SSC.

**HSSR 2017 - Dead Farrea - Data.xlsx**

* This file contains all the data relevant to the Dead Farrea record. This includes a undisturbed flow period as control out of dead Farrea to compare with live Farrea pumping. Data includes date/time, comments, excurrent flow out of the sponge (thermistor), ambient flow (thermistor and vector), oxygen removal and suspended sediment concentration (vector). 1s and 10s intervals are included.

**HSSR 2017 - Farrea Sponge 1 - Data.xlsx**

**(Used as primary Farrea sponge in all figures for MEPS paper, Data for Figure 6 came from this data, using thermistor excurrent, thermistor ambient and Vector OBS readings.)**

* This file contains all the data relevant to the Farrea Sponge 1. This includes 24hr pumping period followed by Sediment Experiments 1-3. Data includes date/time, comments, excurrent flow out of the sponge (thermistor), ambient flow (thermistor and vector), oxygen removal and suspended sediment concentration (vector and aquadopp). 1s and 10s intervals are included. ‘Moving variance’ is used to determine possible arrests if variance of excurrent flow is above 0.25. Spearman’s correlation was used to determine areas of possible arrests. Correlating downward excurrent with increased SSC.

**HSSR 2017 - Farrea Sponge 2 - Data.xlsx**

* This file contains all the data relevant to the Farrea Sponge 2. This includes a short undisturbed control flow period followed by Sediment Experiments 1-3. Farrea 2 is located directly behind Farrea 1 and was in the downstream current of the sediment experiments. All sediment experiments carried out on Farrea 1 affect Farrea 2 as well. Data includes date/time, comments, excurrent flow out of the sponge (thermistor), ambient flow (thermistor and vector), oxygen removal (Bad record!) and suspended sediment concentration (vector and aquadopp). 1s and 10s intervals are included. ‘Moving variance’ is used to determine possible arrests if variance of excurrent flow is above 0.25. Spearman’s correlation was used to determine areas of possible arrests. Correlating downward excurrent with increased SSC.

**HSSR 2017 - Farrea Sponge 3 - Data.xlsx**

* This file contains all the data relevant to the Farrea Sponge 3. In the log, this was recorded as Farrea 3 similar to ThD10-11 so this has been called Farrea 3 to avoid confusion (ThD10-11 has been called Farrea 3.5/Farrea 6). This includes a 24hr pumping period followed by Sediment Experiments 4-6. Data includes date/time, comments, excurrent flow out of the sponge (thermistor), ambient flow (thermistor and vector), oxygen removal (Bad record!) and suspended sediment concentration (Aquadopp only). 1s and 10s intervals are included. ‘Moving variance’ is used to determine possible arrests if variance of excurrent flow is above 0.25. Spearman’s correlation was used to determine areas of possible arrests. Correlating downward excurrent with increased SSC.

**HSSR 2017 - Farrea Sponge 3.5 or Farrea 6 - Data.xlsx**

* This file contains all the data relevant to the Farrea Sponge 3.5 (known as Farrea 6 in HSSR-Grant et al MEPS Paper). In the log, this was recorded as Farrea 3 similar to ThD12-13 so this has been called Farrea 3.5 to avoid confusion (ThD12-13 has been called Farrea 3). This includes an undisturbed control flow period followed by Sediment Experiment 7. Data includes date/time, comments, excurrent flow out of the sponge (thermistor), ambient flow (thermistor and vector), oxygen removal and suspended sediment concentration (vector only). 1s and 10s intervals are included. ‘Moving variance’ is used to determine possible arrests if variance of excurrent flow is above 0.25. Spearman’s correlation was used to determine areas of possible arrests. Correlating downward excurrent with increased SSC.

**HSSR 2017 - Farrea Sponge 4 - Data.xlsx**

* This file contains all the data relevant to the Farrea Sponge 4. This includes 24hr pumping period followed by Sediment Experiment 8 (a 15min continuous exposure to sediment). Data includes date/time, comments, excurrent flow out of the sponge (thermistor), ambient flow (thermistor and vector), oxygen removal and suspended sediment concentration (Aquadopp only). 1s and 10s intervals are included. ‘Moving variance’ is used to determine possible arrests if variance of excurrent flow is above 0.25. Spearman’s correlation was used to determine areas of possible arrests. Correlating downward excurrent with increased SSC.

**HSSR 2017 - Farrea Sponge 5 - Data (Failed Sponge Record).xlsx**

* This file contains all the data relevant to the Farrea Sponge 5 (THIS SPONGE RECORD DID NOT WORK, THERMISTOR HIT SPONGE BODY WALL). This included Sediment Experiments 9 and 9.1 (control = 9.1 - waving water but no sediment) and then recovery period of ~24hrs. Data includes date/time, comments, excurrent flow out of the sponge (thermistor), ambient flow (thermistor and vector), oxygen removal and suspended sediment concentration (Aquadopp only). 1s and 10s intervals are included. Spearman’s correlation was used to determine areas of possible arrests. Correlating downward excurrent with increased SSC.

**HSSR 2017 - Heterochone 1 - Data.xlsx**

**(Used as primary Heterochone sponge in all figures for MEPS paper, Figure 5)**

* This file contains all the data relevant to the Heterochone Sponge 1. This includes an undisturbed control 24hr pumping period followed by Sediment Experiments 10, 10.1 (control = 10.1 - waving water but no sediment). Data includes date/time, comments, excurrent flow out of the sponge (thermistor), ambient flow (thermistor and vector), oxygen removal and suspended sediment concentration (vector and aquadopp). 1s and 10s intervals are included. ‘Moving variance’ is used to determine possible arrests if variance of excurrent flow is above 0.25. Spearman’s correlation was used to determine areas of possible arrests. Correlating downward excurrent with increased SSC.

**HSSR 2017 - Heterochone 2 - Data.xlsx**

* This file contains all the data relevant to the Heterochone Sponge 2. This includes an undisturbed pumping period followed by Sediment Experiment 12. Data includes date/time, comments, excurrent flow out of the sponge (thermistor), ambient flow (thermistor and vector), oxygen removal and suspended sediment concentration (vector and aquadopp). 1s and 10s intervals are included. ‘Moving variance’ is used to determine possible arrests if variance of excurrent flow is above 0.25. Spearman’s correlation was used to determine areas of possible arrests. Correlating downward excurrent with increased SSC.

**HSSR 2017 - Heterochone 3 - Data (Control Sponge - No Disturbance).xlsx**

* This file contains all the data relevant to the Heterochone Sponge 3. This includes an undisturbed control 24hr pumping period followed by no sediment disturbances. THIS WAS A PURELY CONTROL SPONGE. Data includes date/time, comments, excurrent flow out of the sponge (thermistor), ambient flow (thermistor and vector) and oxygen removal (Bad record!). 1s and 10s intervals are included. ‘Moving variance’ is used to determine possible arrests if variance of excurrent flow is above 0.25.