

## Halifax Harbour Water Quality Monitoring Project Survey Summary #129

**Survey Date:** 8 May 2007  
**Nature of Survey:** Complete Survey  
**Report File (this document):** HHWQMP\_report129\_070508.doc  
**Data File:** HHWQMP\_data129\_070508.xls

### Data Return:

Profile:	94%
Bacteria:	97%
Chemical:	86%
<b>Overall:</b>	<b>93%</b>

### Sample Notes:

Site B2 was not sampled due to waves.  
 The CTD data at EE3 did not pass QA. The data is plotted but deleted from the data file.

### QA/QC samples:

#### Chemical Analysis

Detectable Parameter	Units	D2 - 10m	
		reference sample	QA/QC
Ammonia (as N)	mg/L	0.06	<0.05
Total Suspended Solids	mg/L	1.6	3.9
Copper	ug/L	0.7	0.4
Iron	ug/L	2	2
Zinc	ug/L	2	1

#### Fecal Coliform (CFU/100ml)

Site	E1-10m	DYC-10m	BRB-10m	D2-10m
Reference	4200	1	31	20
QA/QC	1000	2	54	19

### Comments:

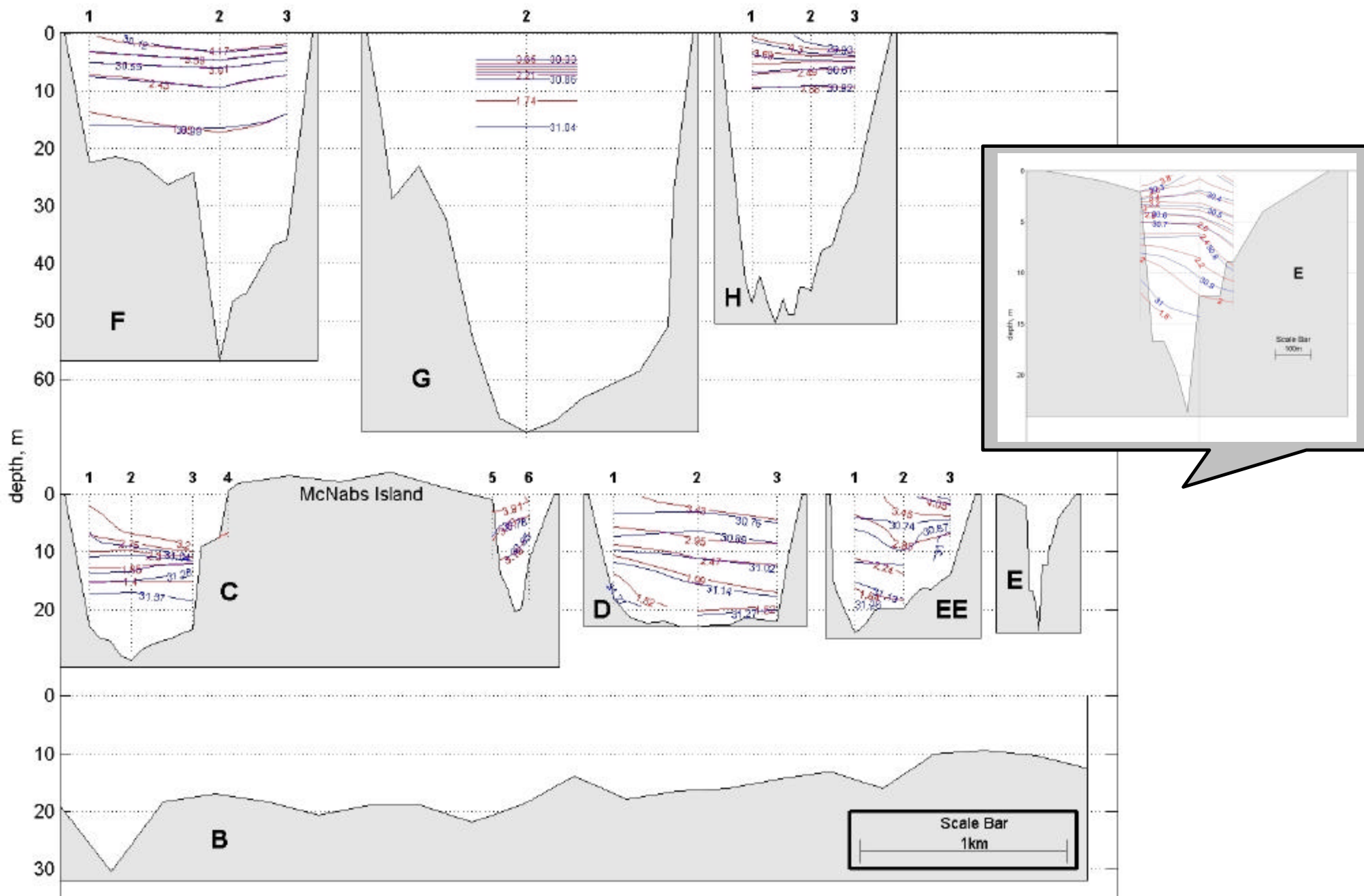
**General:** The weather has been dry and the previously noted freshet in the Sackville River has subsided. The result is a more saline and relatively lightly stratified Harbour. There are small freshwater signatures at stream outlets BYC, DYC and HC. There is a surface lens of very slightly less dense water at HP1. This is likely associated with the Tribune Head outfall, as it is also associated with a high fecal coliform (fc) level. The fecal coliform levels are relatively quite low. The high values in the Narrows are likely associated with the ongoing sewage diversion to the Fairview Cove CSO. Based on field notes, the very high fc value at EE3 is associated with the plume from the Peace Pavilion outfall. The water was very murky, with visible detritus.

**Fluorescence:** The profile maximums are moderate at 6-8 mg/L throughout the Harbour. The maximums occur at about 10 m in the Basin and deeper (15-20 m) going out of the Harbour. In the Outer Harbour (HP sites) the fluorescence is low (max <1.6 mg/L @ 20m)

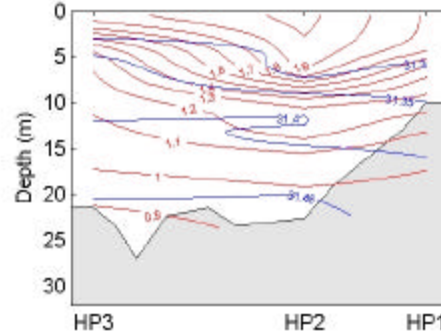
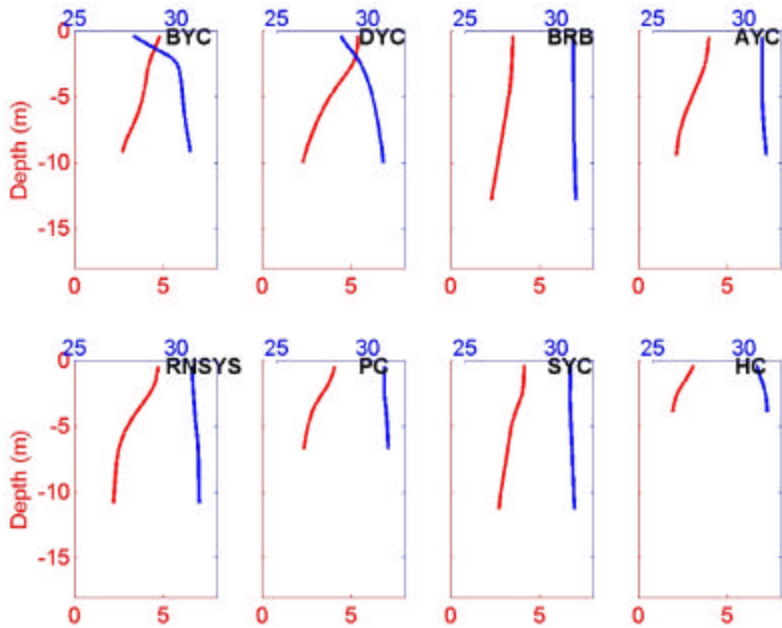
**Ammonia:** There are detectable levels in all but one of the Inner Harbour and Basin samples. The highest values are in the 10m samples in the northern Basin. This coincides with high TSS and the fluorescence maximums.

**TSS:** The TSS values are mostly relatively low (1.8-3.3 mg/L). The exceptions are the 10 m samples in the northern Basin (G2 and H2 - see ammonia discussion) and the 1 m sample at D2.

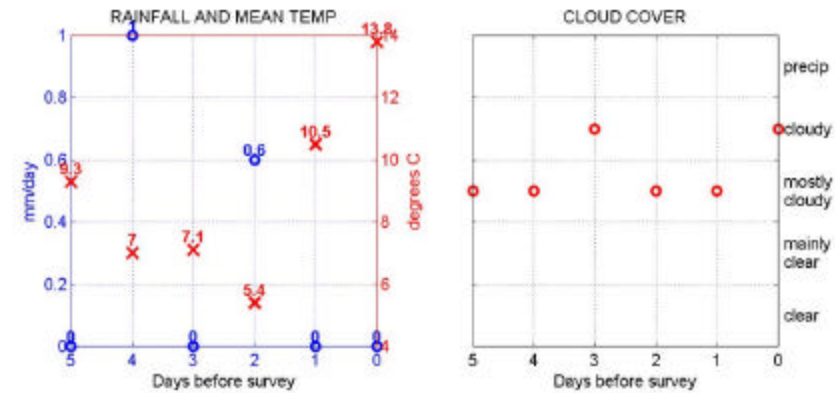
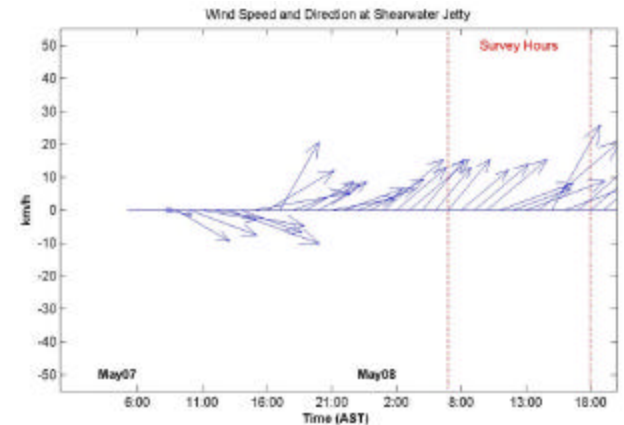
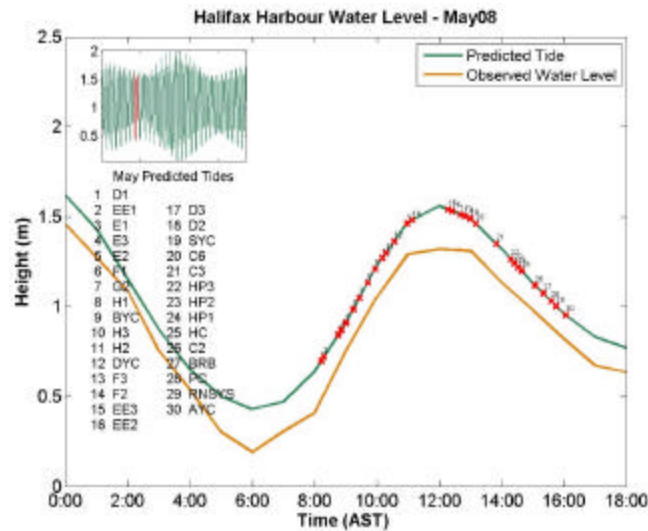
**Dissolved Oxygen:** The dissolved oxygen (DO) data indicate that the DO levels are generally about 8.0 mg/L at the surface throughout the harbour. In the Basin the values drop to about 7.4-7.5 at 20 m. The Basin Bottom water remains relatively well oxygenated, dropping to only about 6.8 mg/L at the bottom of G2. Elsewhere in the Harbour, the values are all about 8.0 mg/L. The only values below applicable guidelines are in the bottom few metres in the centre of the Basin (site G2). The DO data is not ground-truthed and absolute values are questionable (see DO discussion in QR#1).



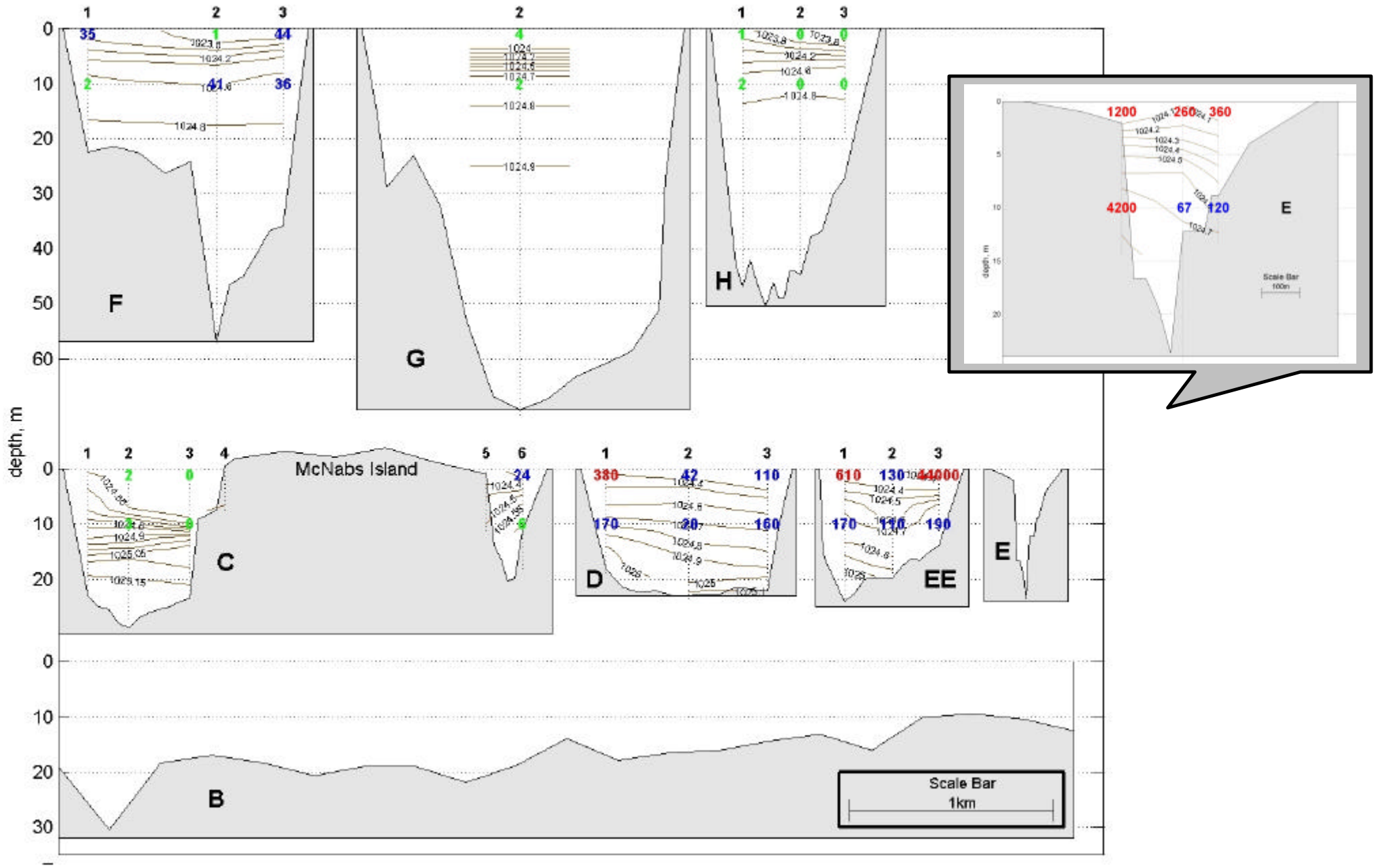
# Yacht Clubs



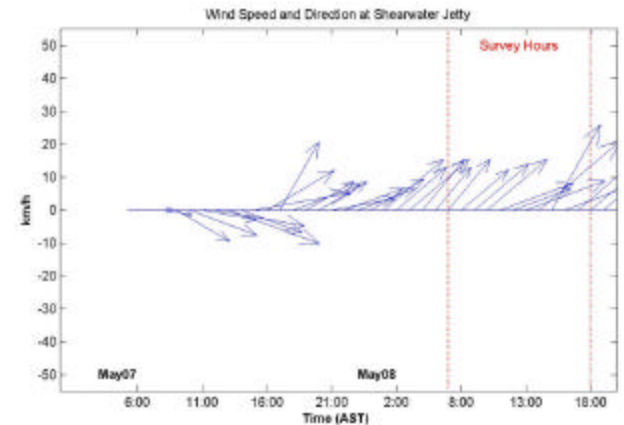
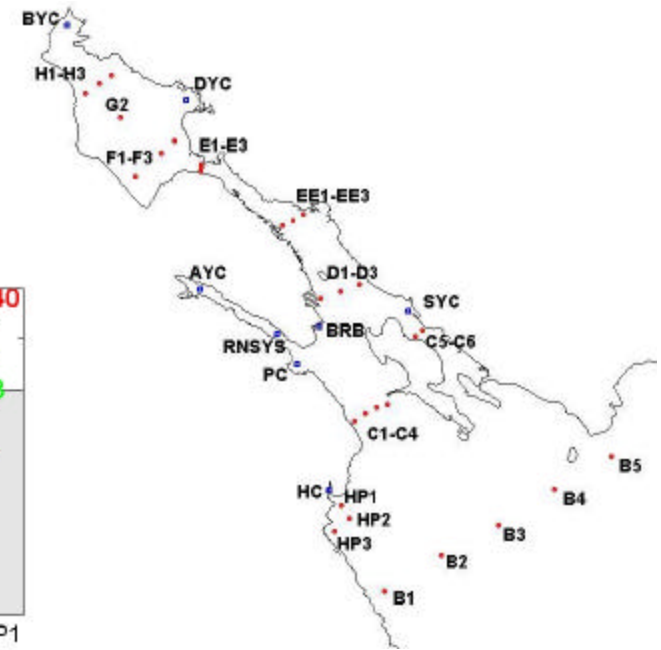
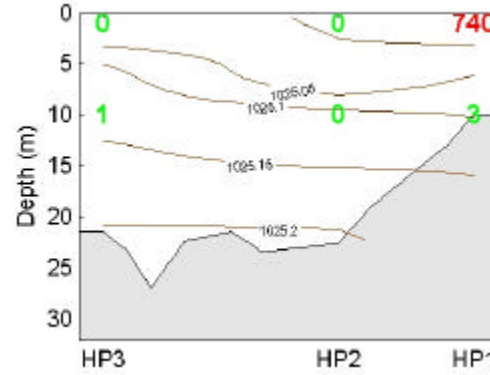
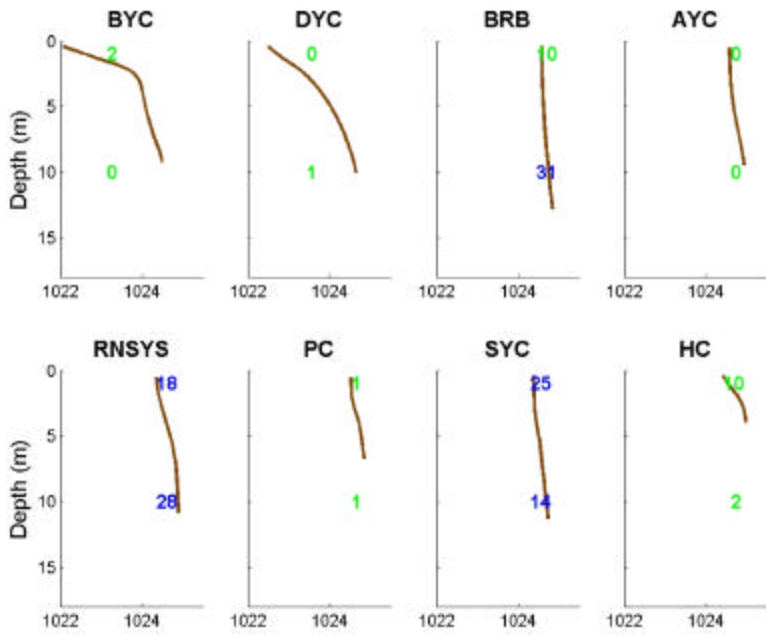
Rainfall and temperature data collected at Shearwater Autoport.  
Cloud cover data collected at Shearwater Airport



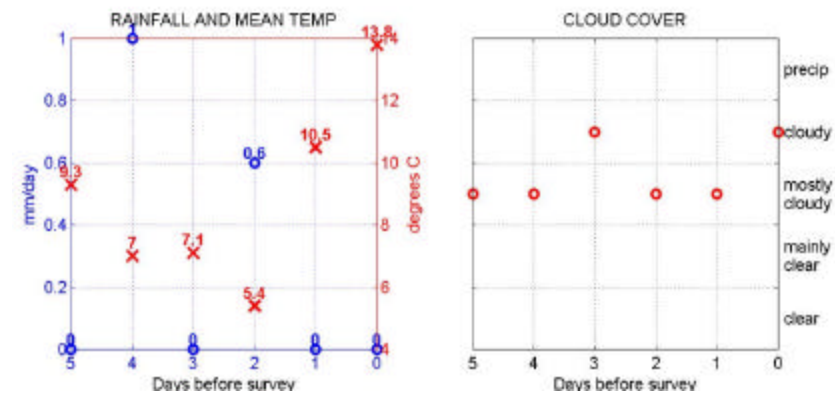
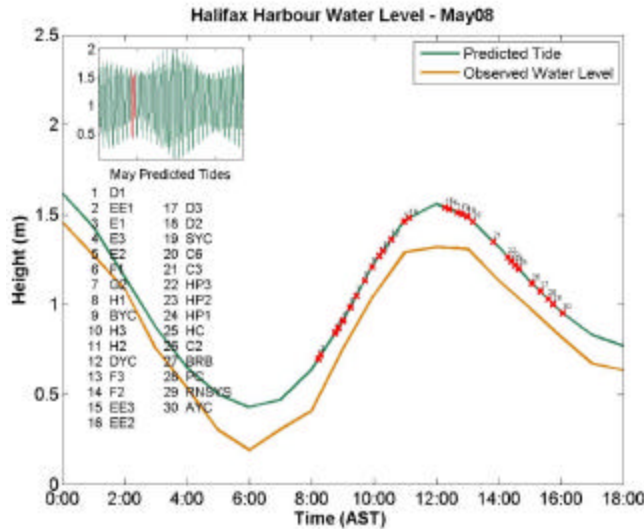
Salinity in PSU      Temperature in °C



# Yacht Clubs



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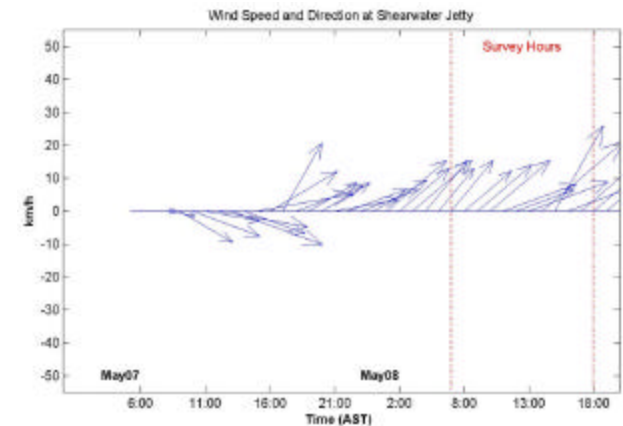
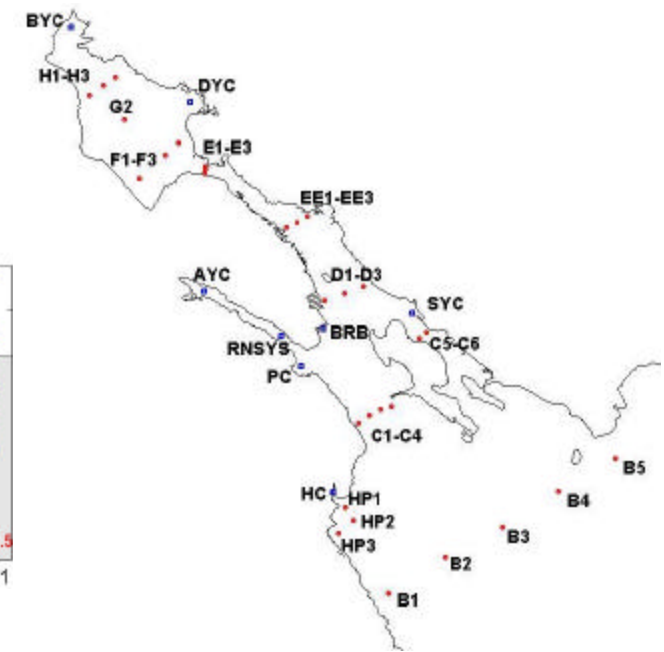
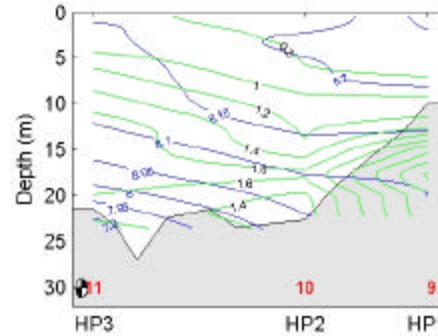
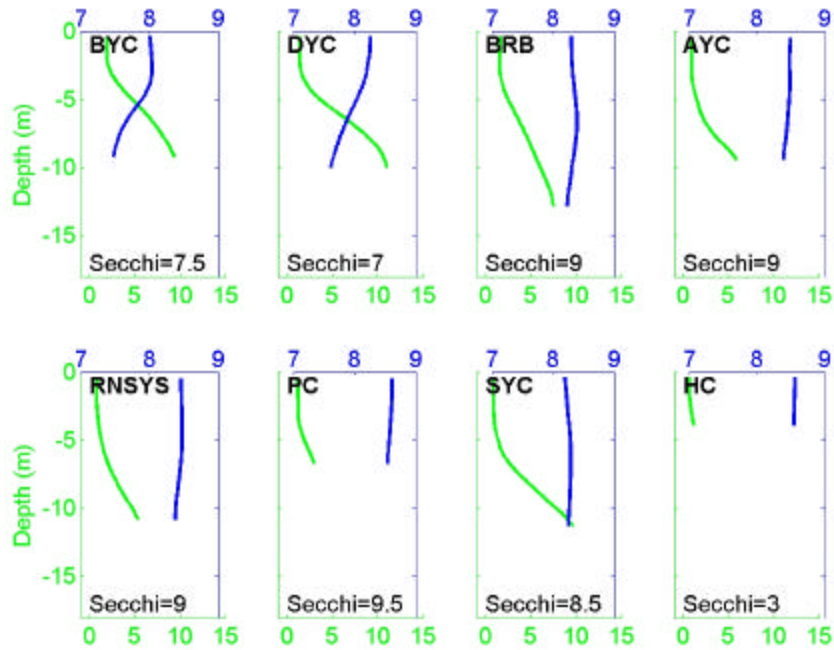
Potential Density in kg/m<sup>3</sup>

Fecal coliform: above swimming limit (200 cfu/100mL)  
above shellfish limit (14 cfu/100mL)  
below limits

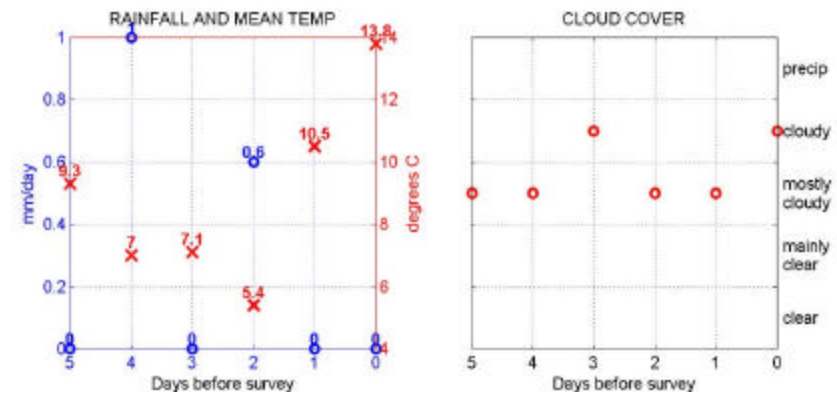
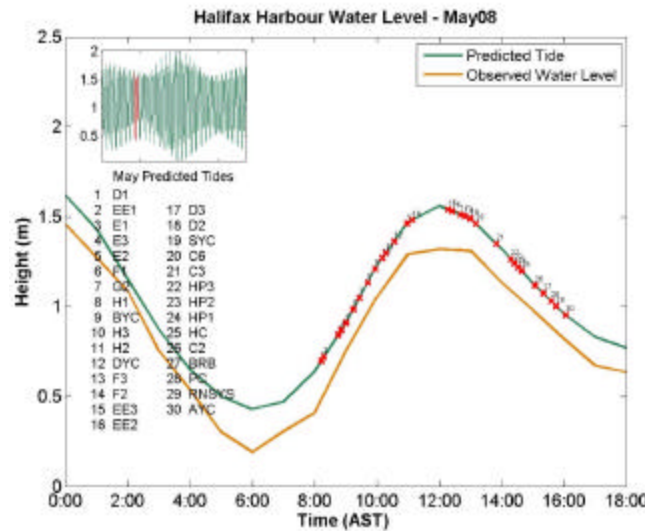




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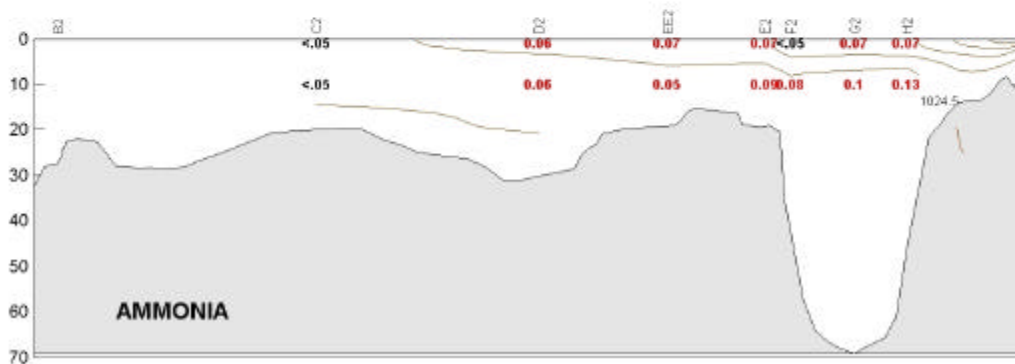
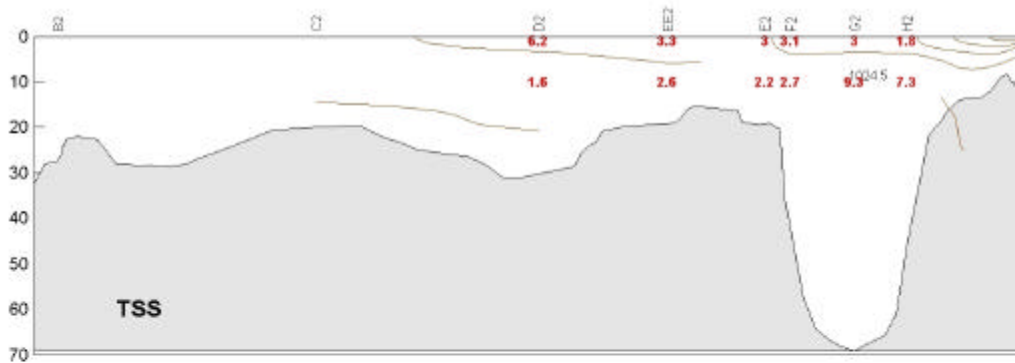


Rainfall and temperature data collected at Shearwater Autoport.  
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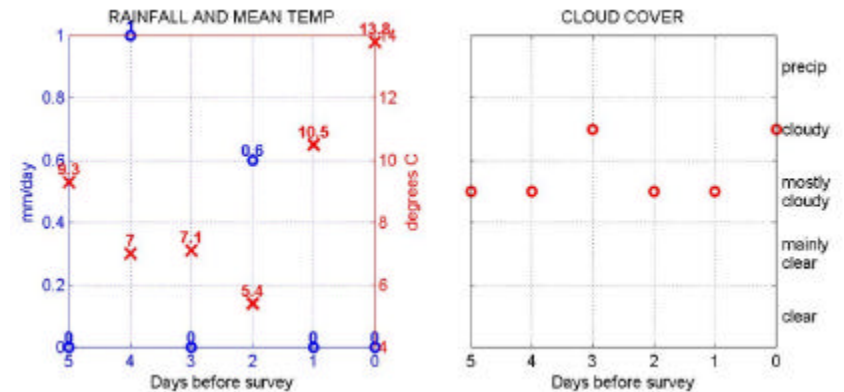
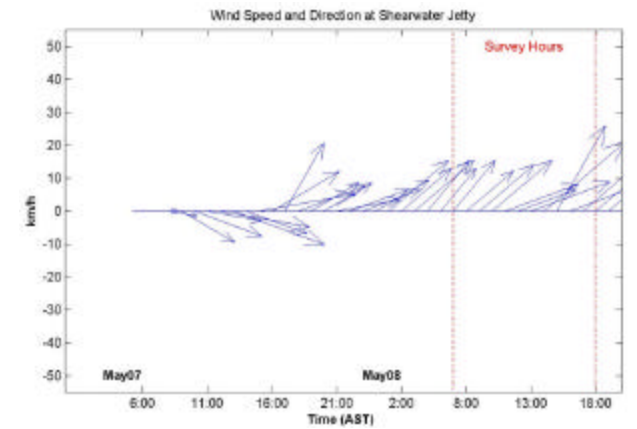
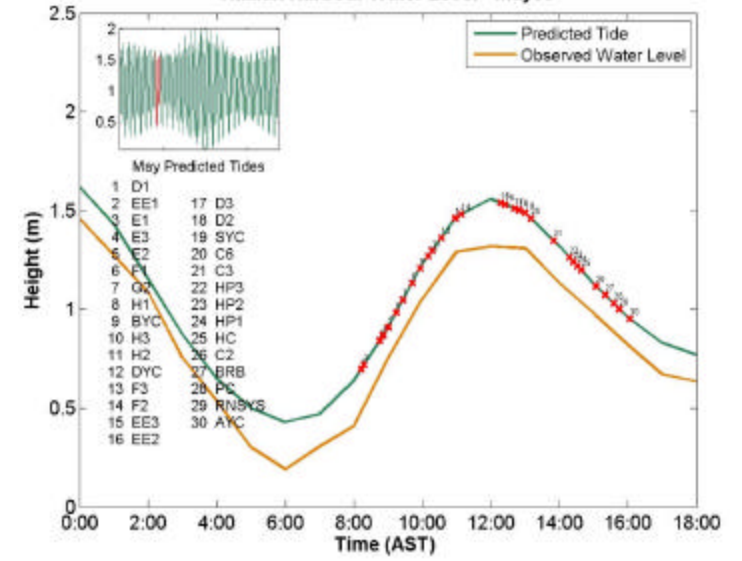
DO in mg/L

Chlorophyll in mg/m<sup>3</sup>



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Halifax Harbour Water Level - May08

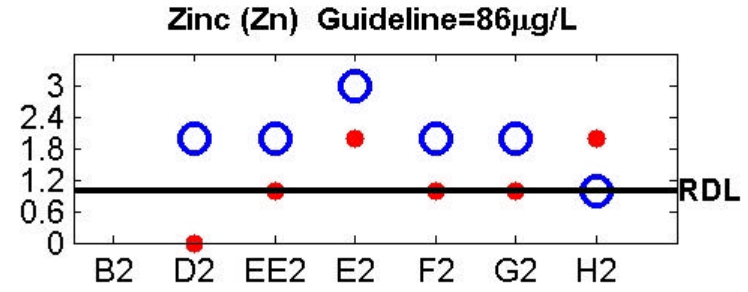
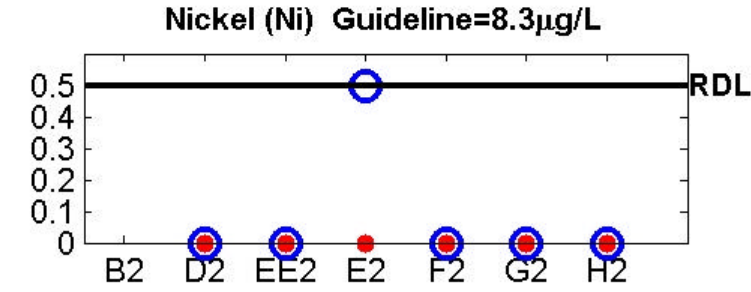
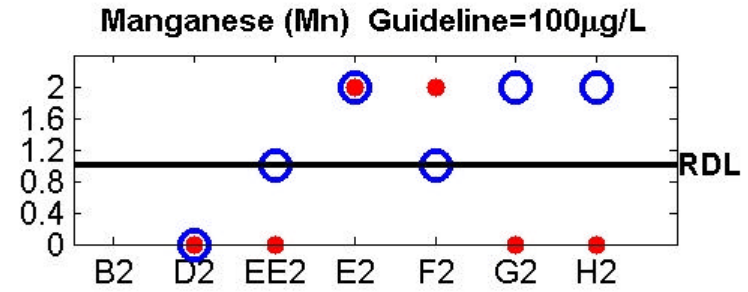
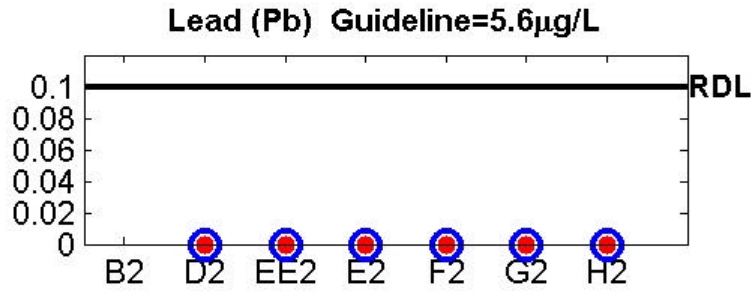
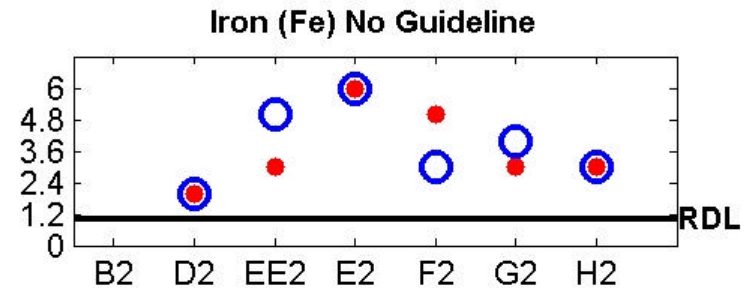
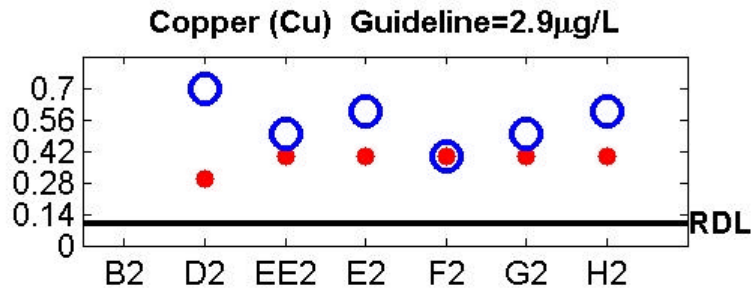
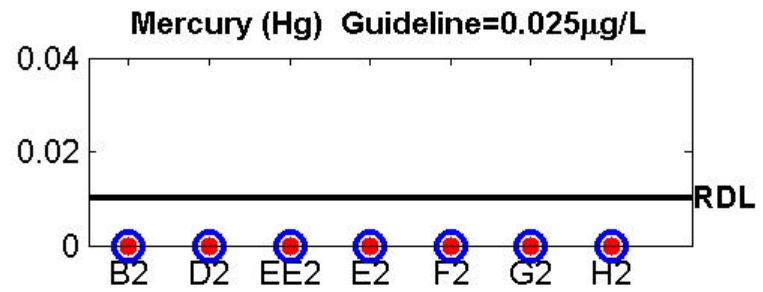
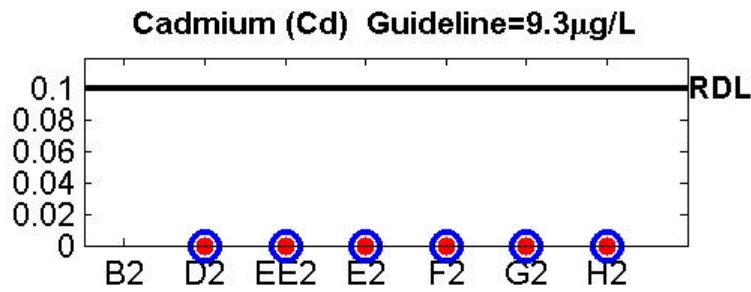


Potential Density in kg/m<sup>3</sup>

Ammonia in mg/L

TSS in mg/L





**LEGEND**

- = Ten Metre Sample
- = One Metre Sample
- RDL = Reportable Detection Limit