

Halifax Harbour Water Quality Monitoring Project Survey Summary #189

Survey Date: 26 May 2010
Nature of Survey: Complete Survey
Report File (this document): HHWQMP_report189_100526.doc
Data File: HHWQMP_data189_100526.xls

Data Return:
 Chemical: 100%
 Bacteria: 100%
 Profile: 0%
Overall: 64%

Sample Notes:

A cell in the (eight cell) CTD battery pack failed causing power loss on the first CTD profile. There is no CTD data this survey.

This is the first survey in which enterococci are measured at all "bacteria" sites. This will continue from now on. The data has been added to the density contour/fecal coliform page.

QA/QC samples:

Detectable Parameter	Units	E2-1m	
		Reference Sample	QA/QC
Ammonia (as N)	mg/L	ND	ND
Total Suspended Solids	mg/L	2.0	1.0
Copper	ug/L	0.8	0.8
Iron	ug/L	16.0	23.0
Lead	ug/L	0.2	0.2
Manganese	ug/L	4.0	3.0
Mercury	ug/L	0.030	0.015
Zinc	ug/L	5.0	5.0

ND – Not Detected

Bacteria (cells/100ml)

	Site	C6-10m	DYC-1m	PC-10m	E2-1m
Fecal Coliform	Reference	3	1	ND	28
	QA/QC	1	18	ND	32
Enterococci	Reference	ND	ND	ND	7
	QA/QC	ND	3	ND	12

ND – Not Detected

Comments:

General: The lack of CTD data limits the understanding of the oceanographic state of the Harbour. High bacteria levels (in excess of swimming guidelines) are restricted to the Inner Harbour, i.e. sections D and EE and the 10m sample off Black Rock Beach (BRB-10m). The correspondence of Fecal Coliform and Enterococci, in terms of swimming guideline exceedance, is almost exact. Remarkable is that there are no detectable bacteria levels at the HP sites. There remain low levels of coliform contamination in Herring Cove. This may be from local sources (septic systems).

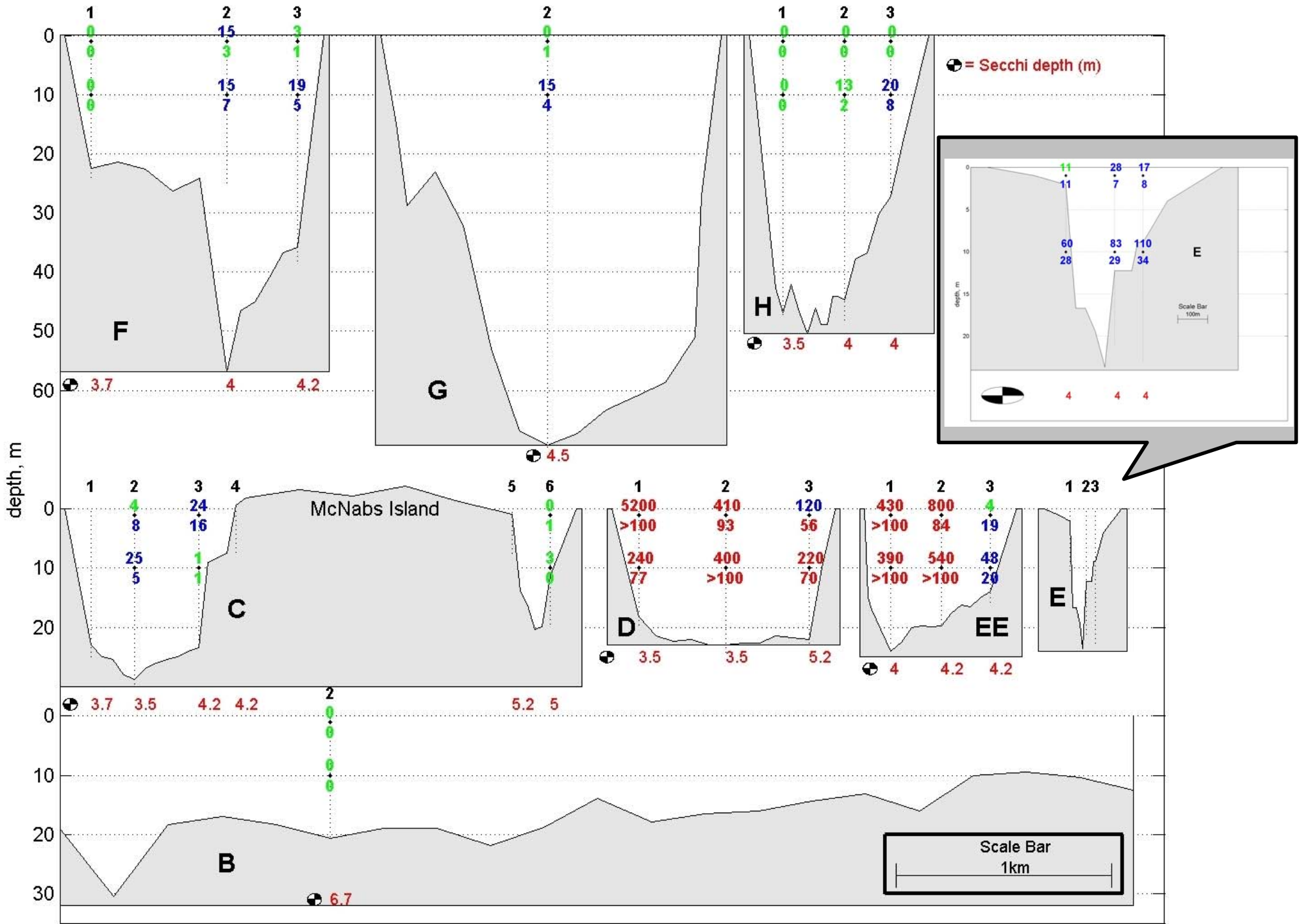
Fluorescence: There is no fluorescence data this survey.

TSS: The average TSS levels are relatively low (3.2 mg/L). There was a single value of 13 mg/L at EE2-10m. The lowest values (<0.5 mg/L) are in the Outer Harbour at B2.

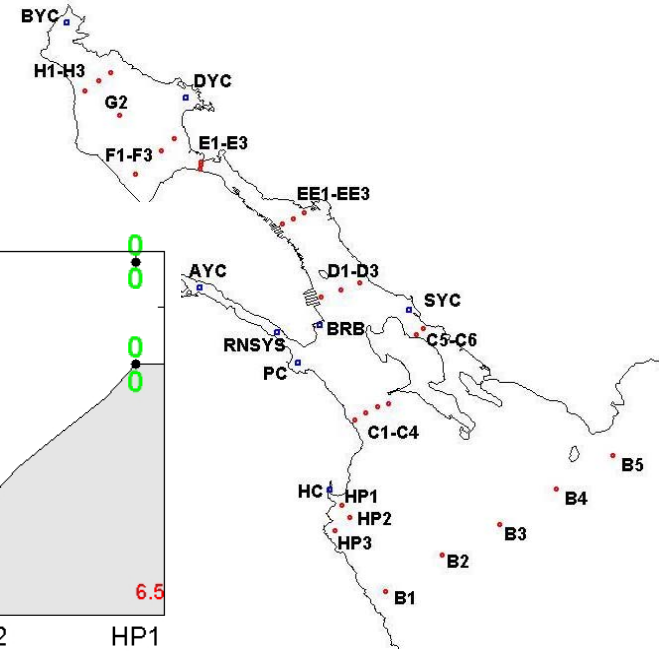
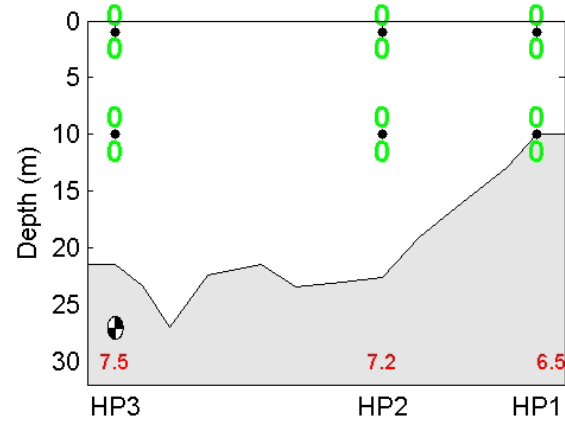
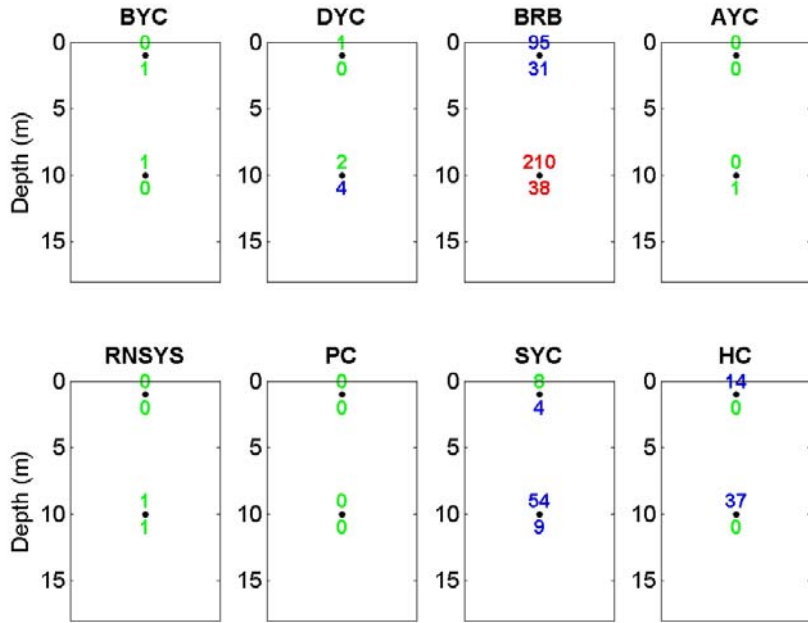
Ammonia: The ammonia levels are moderate with most values around the detection limit of 0.05 mg/L. Of fourteen samples, eight had values at or above the detection limit with highest values (0.07-0.08 mg/L) in the Inner Harbour (sections D and EE).

Metals: There are 8 of 14 mercury samples distributed throughout the harbour with concentrations approaching or slightly exceeding the water quality guideline of 0.025 µg/L. All but three samples have detectable values (>0.013 µg/L). There are no other guideline exceedances.

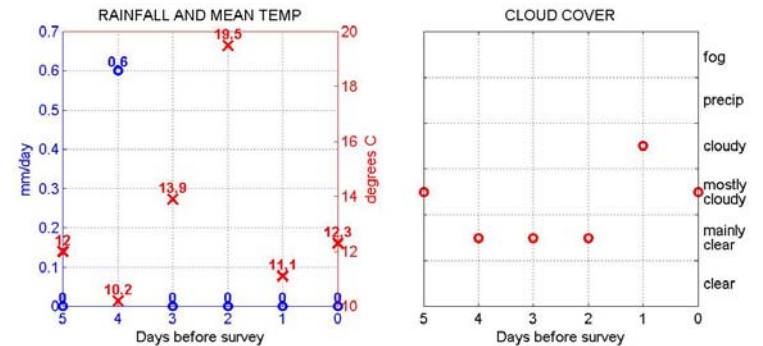
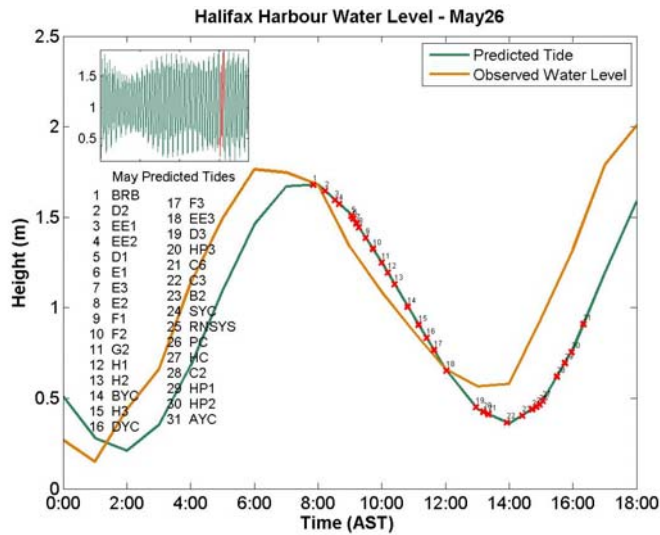
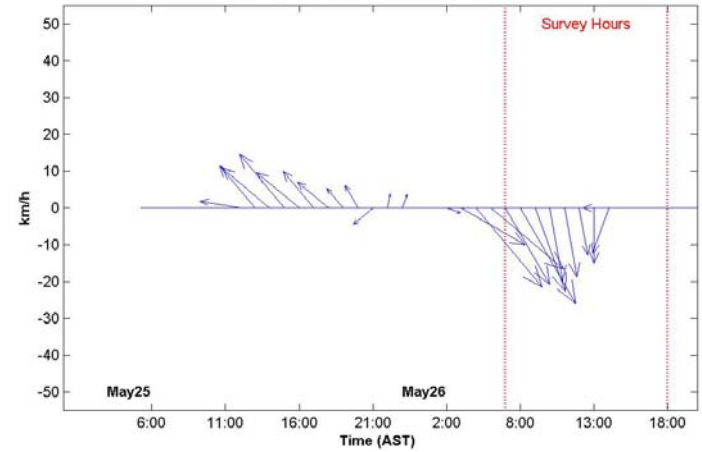
Dissolved Oxygen: There is no CTD dissolved oxygen data this survey. The YSI surface measurements indicate that the dissolved oxygen at the surface is high (10.2-10.6 mg/L). This compares well to 10.6 mg/L reported at the LOBO buoy in the NW Arm.



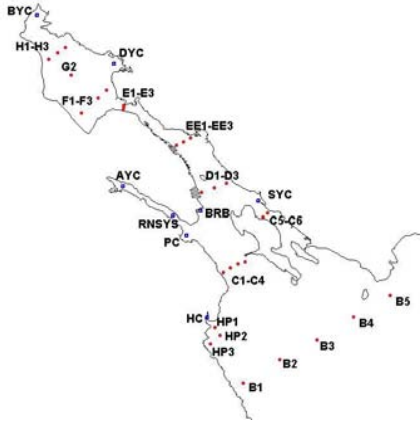
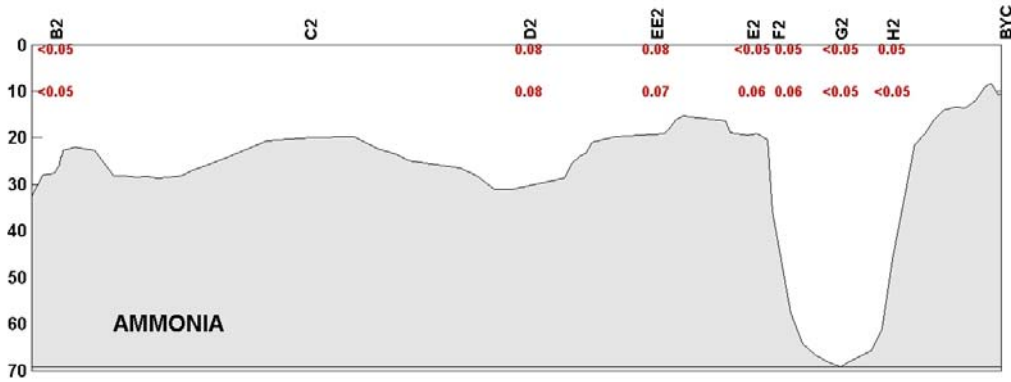
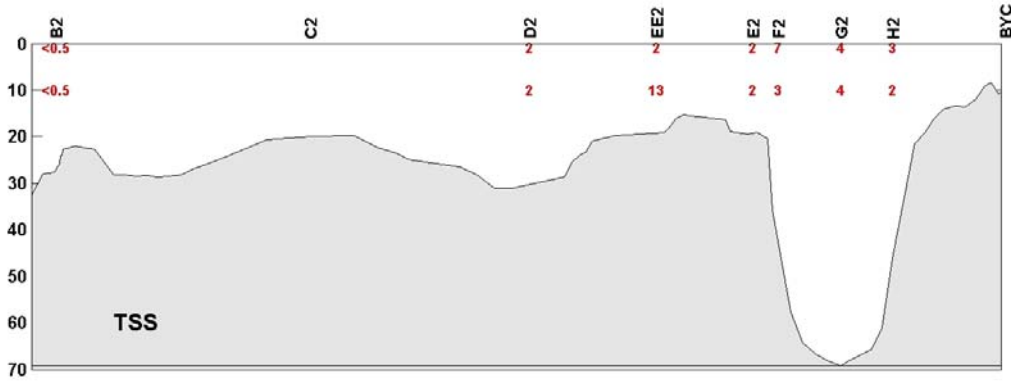
Yacht Clubs



Wind Speed and Direction at Shearwater Jetty



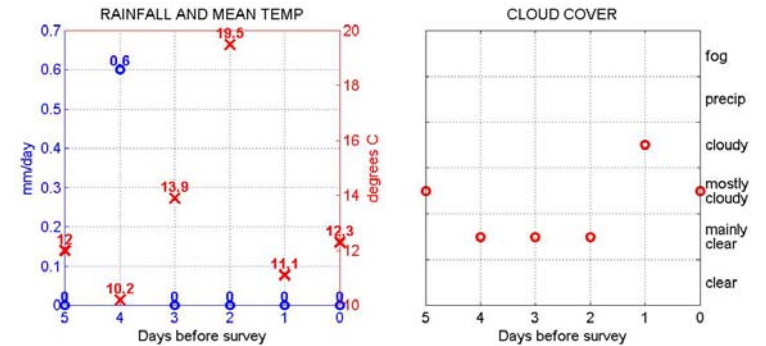
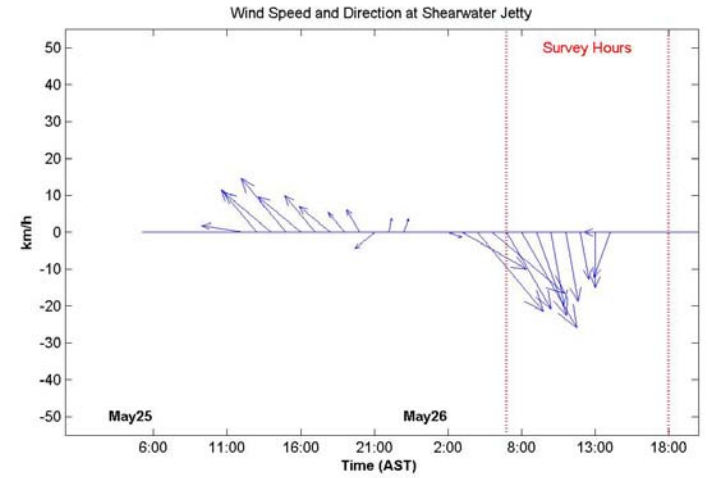
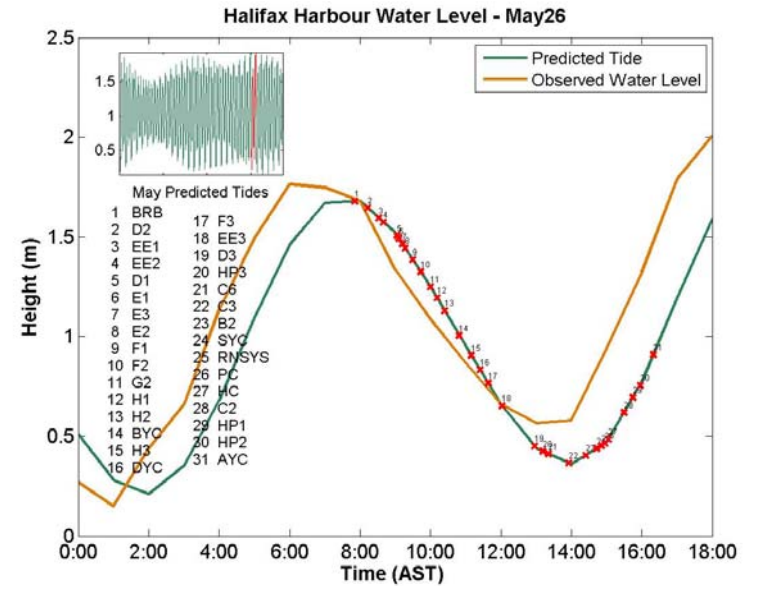
● Above swimming limit 200 MPN/100mL
● Above shellfish limit 14 MPN/100mL
● Below limits
● Fecal Coliform
● Enterococci 35 CFU/100mL 4 CFU/100mL

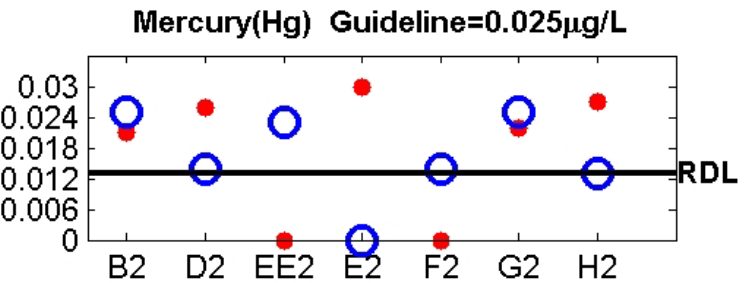
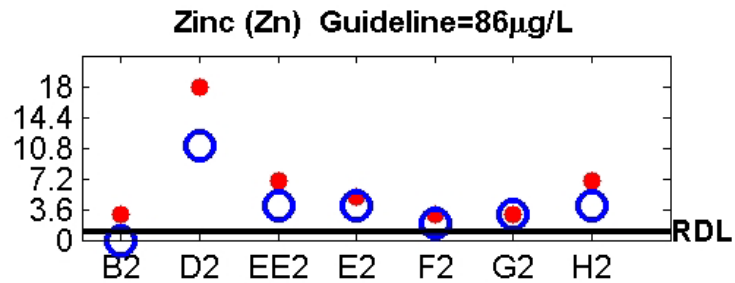
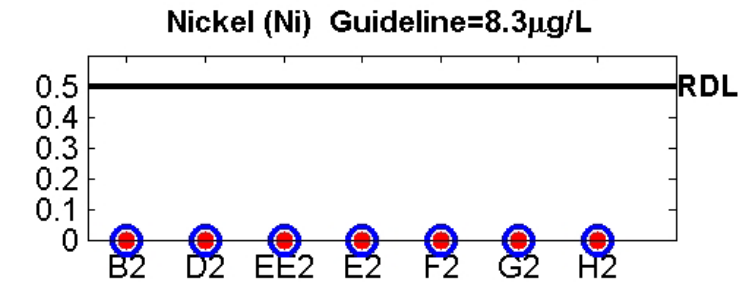
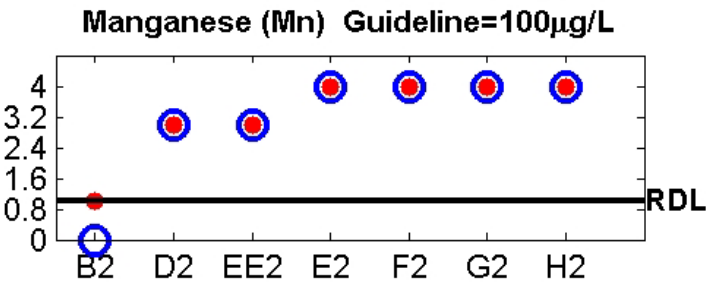
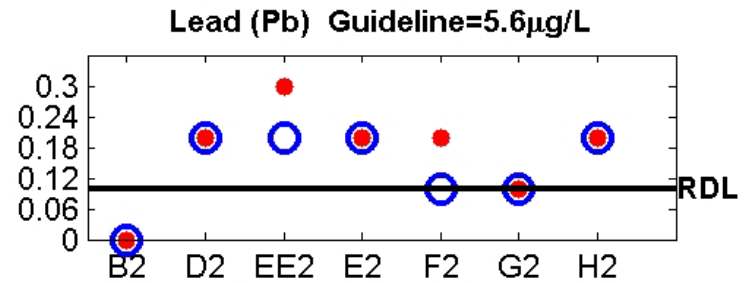
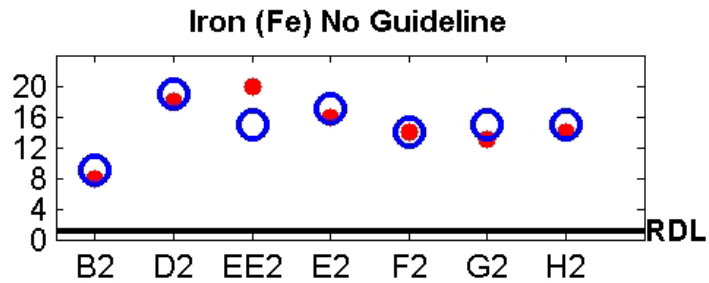
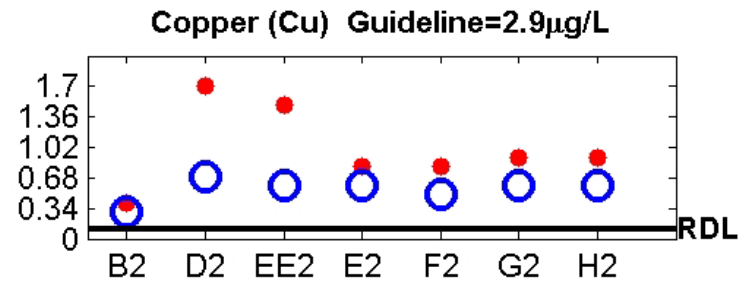
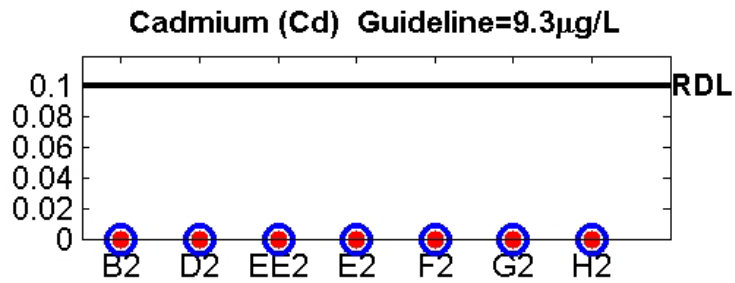


Rainfall and temperature data collected at Shearwater Autoport.
Cloud cover data collected at Shearwater Airport

Ammonia in mg/L

TSS in mg/L





○ = Ten Metre Sample
● = One Metre Sample
 RDL = Reportable Detection Limit
 0 = Not Detected

HRM Water Quality Monitoring Bacteria Summary – May 26, 2010

