

Halifax Harbour Water Quality Monitoring Project

Weekly Summary #89

Survey Date: 28 February 2006
Nature of Survey: Complete Survey
Report File (this document): HHWQMP_report089_060228.doc
Data File: HHWQMP_data089_060228.xls

Data Return:

Profile: 94%
 Bacteria: 95%
 Chemical: 100%
Overall: 96%

Sample Notes:

Site DYC was frozen and not sampled.

The fecal coliform value for the D1-1m sample was missing from the lab report.

Alternate BYC site was sampled at ice edge. Location: 44° 42.962' N, 63° 39.847' W

The CTD experienced stabilization problems at PC, making the profile data questionable. The data is plotted here but has been deleted from the data file.

QA/QC samples:

Chemical Analysis		F2 - 10m	
		reference sample	QA/QC
Detectable Parameter	units		
Ammonia (as N)	mg/L	<0.05	<0.05
Total Suspended Solids	mg/L	11	9

Fecal Coliform (CFU/100ml)

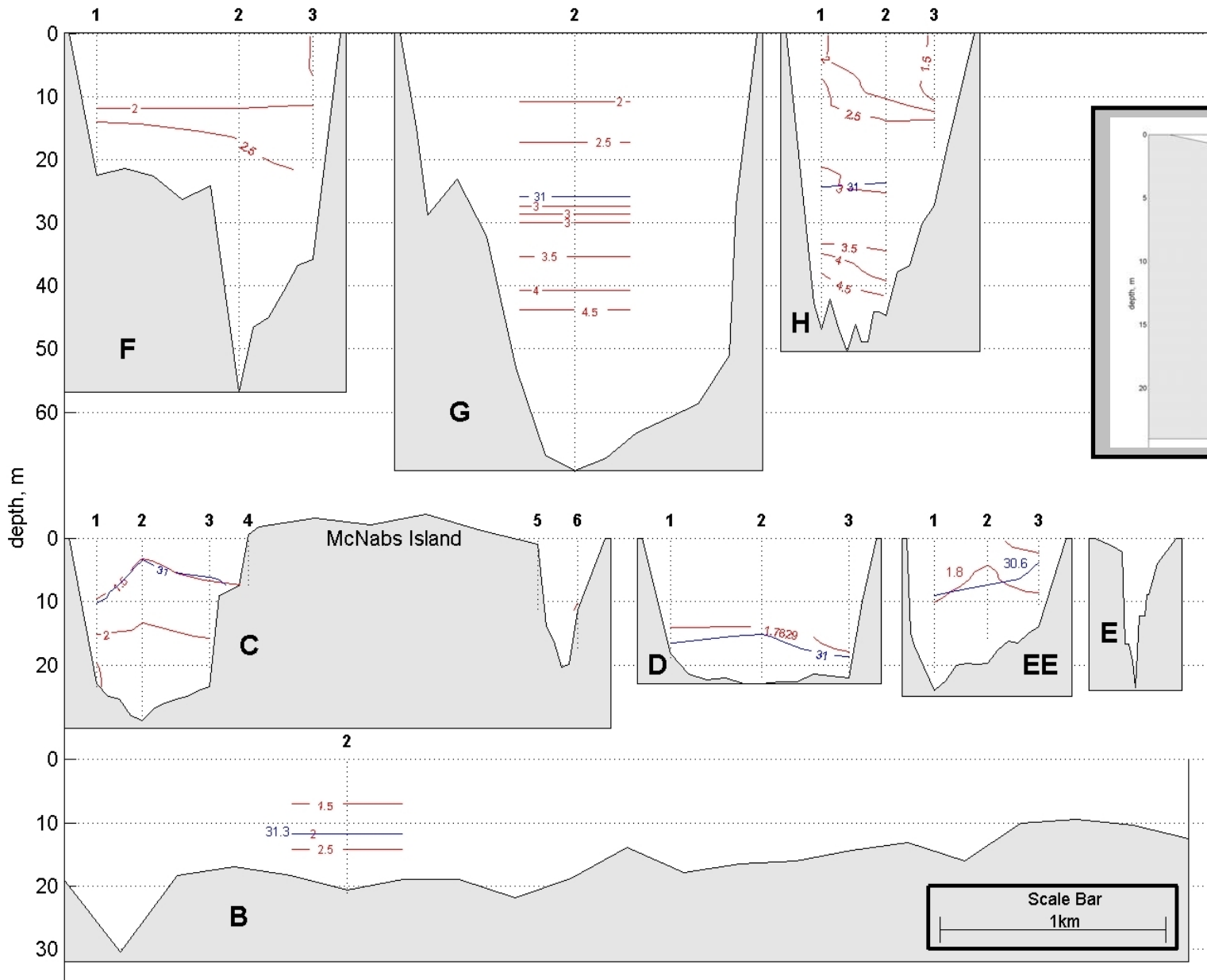
Site	SYC-1m	H1-10m	D2-10m	F2-10m
Reference	87	43	120	36
QA/QC	410	73	420	21

Comments:

General: The Harbour is more saline than last week, and is less stratified. This is likely a result of continuation of the intrusion evident last week that may have replaced much of the surface water in the harbour with saltier water. The intrusion does not seem to have appreciably affected conditions in the deep Basin. There has been no significant precipitation. Overall the water temperature has dropped slightly, consistent with overall seasonal cooling and the below freezing temperatures of the previous week. The fecal coliform concentrations are generally quite low and unusually vertically uniform. This may also be in part due to enhanced mixing/flushing in the recent intrusion. The highest values are in the EE section and the D section near Inner Harbour outfalls. The highest value, 44,000 cfu/100 mL, at EE3 is consistent with the sample being taken in the outfall plume from the Peace Pavillion outfall. Visible detritus was documented in the field notes. The sample was taken on a falling tide, which in the absence of other sources of currents, puts the sample site downstream from the outfall.

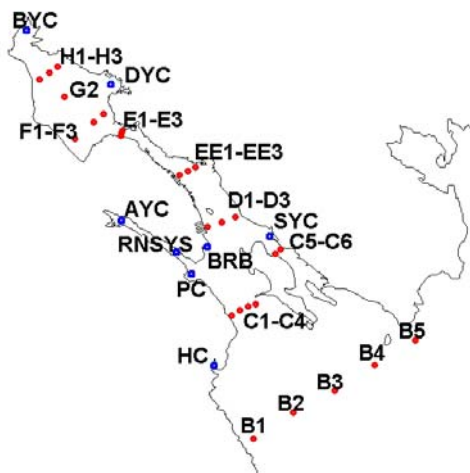
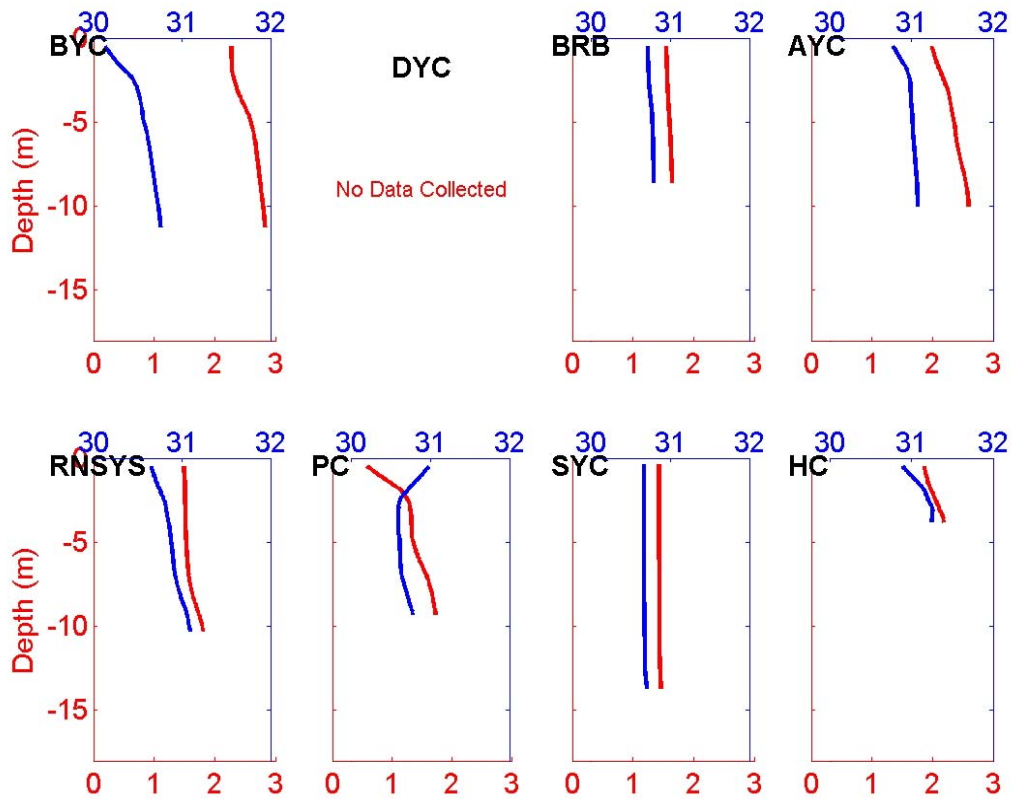
Chlorophyll: The chlorophyll levels in throughout the harbour are significantly elevated with profile maximum values in the teens throughout most of the Inner harbour and Basin. In the outer harbour the values are lower (<10 mg/m³) and at B2 the values are <2 mg/m³ or at about usual "background" levels.

Dissolved Oxygen: The dissolved oxygen levels are somewhat higher than last week. The data indicate that the surface values everywhere in the harbour are approaching or greater than 9 mg/L. South of the Narrows the values are very vertically uniform. The DO in the bottom water in the Basin continues to drop and is now just over 3 mg/L. The Basin deep water represents the only values below the applicable use-specific guidelines this week. The DO data is not ground-truthed and absolute values are questionable (see DO discussion in QR#1).



Unless otherwise labeled:
 - salinity contour interval is 1 PSU
 - temperature contour interval is 1°C.

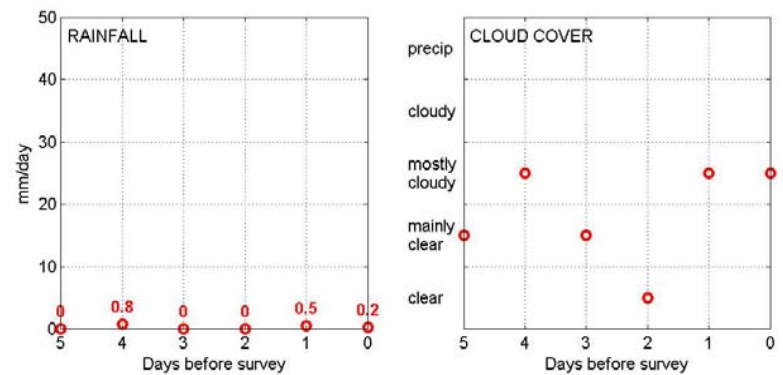
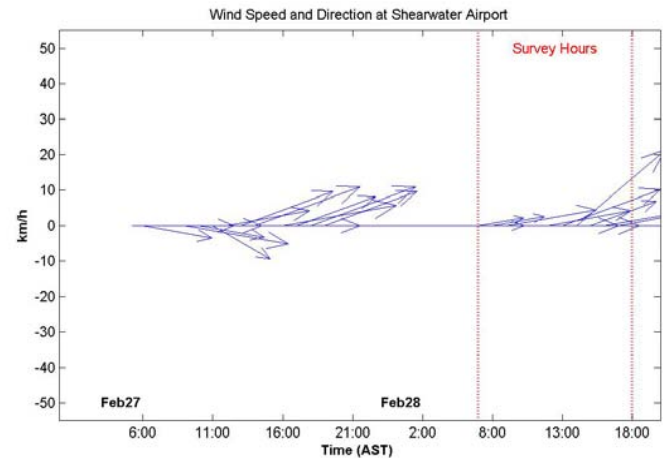
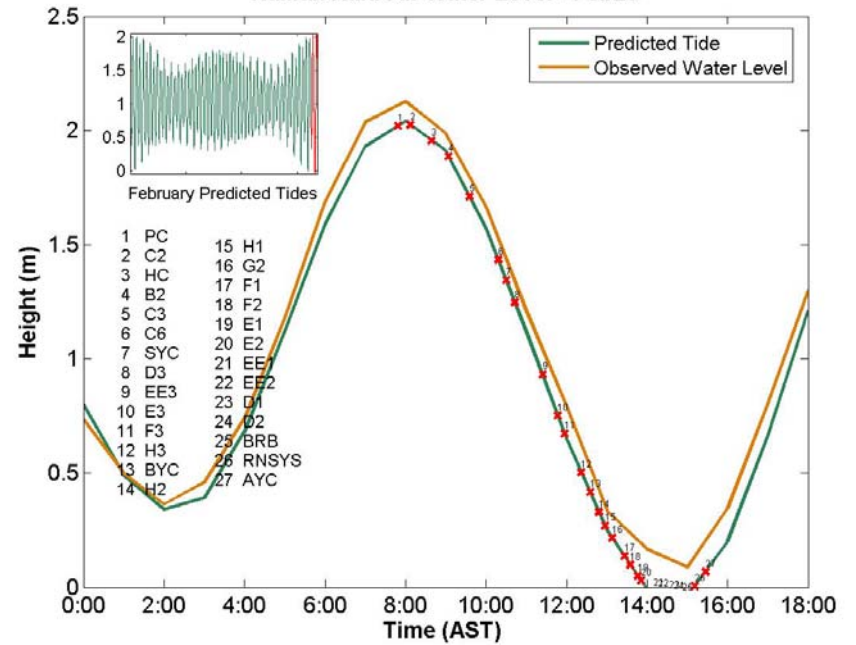
Yacht Clubs

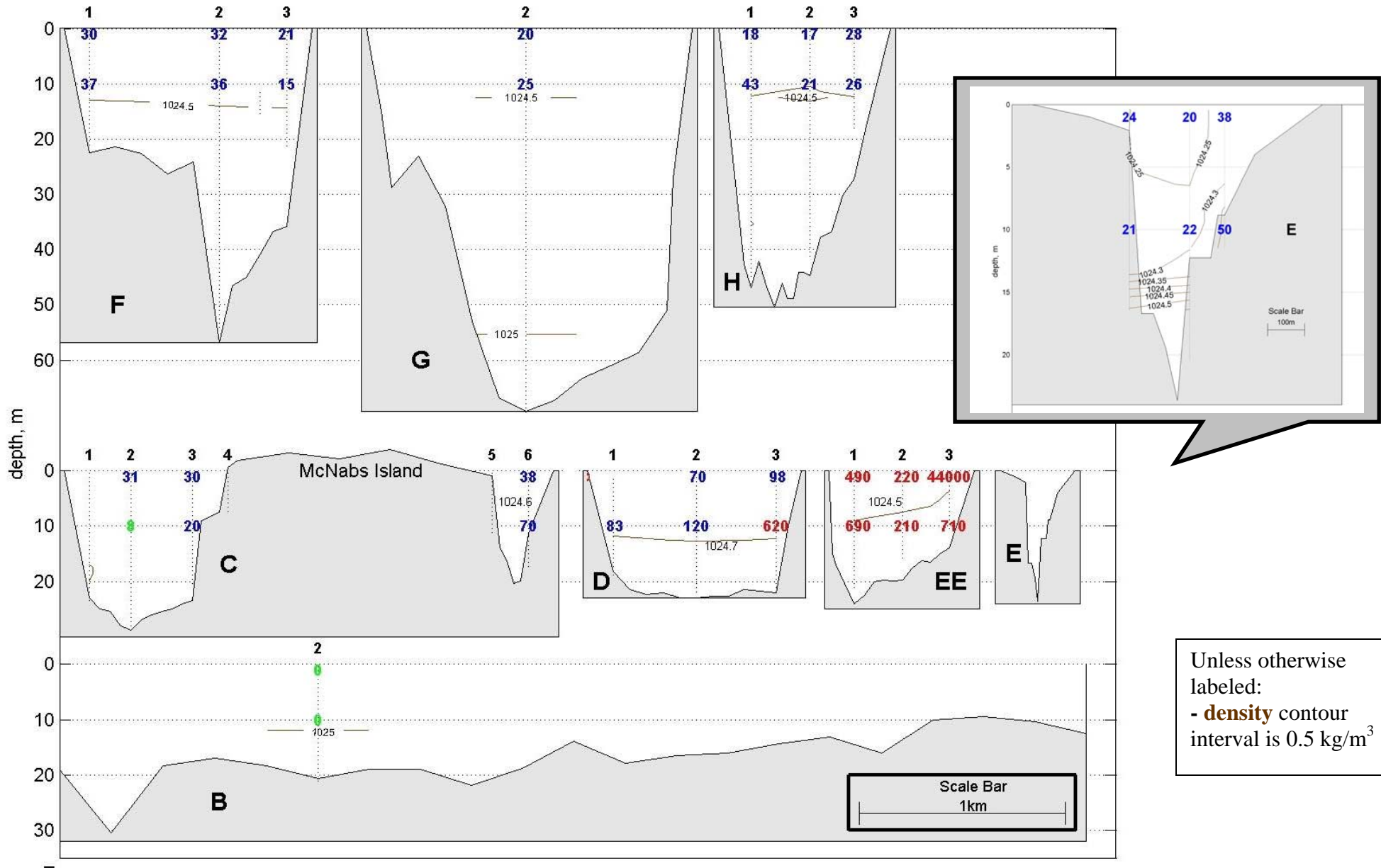


Salinity in PSU Temperature in °C

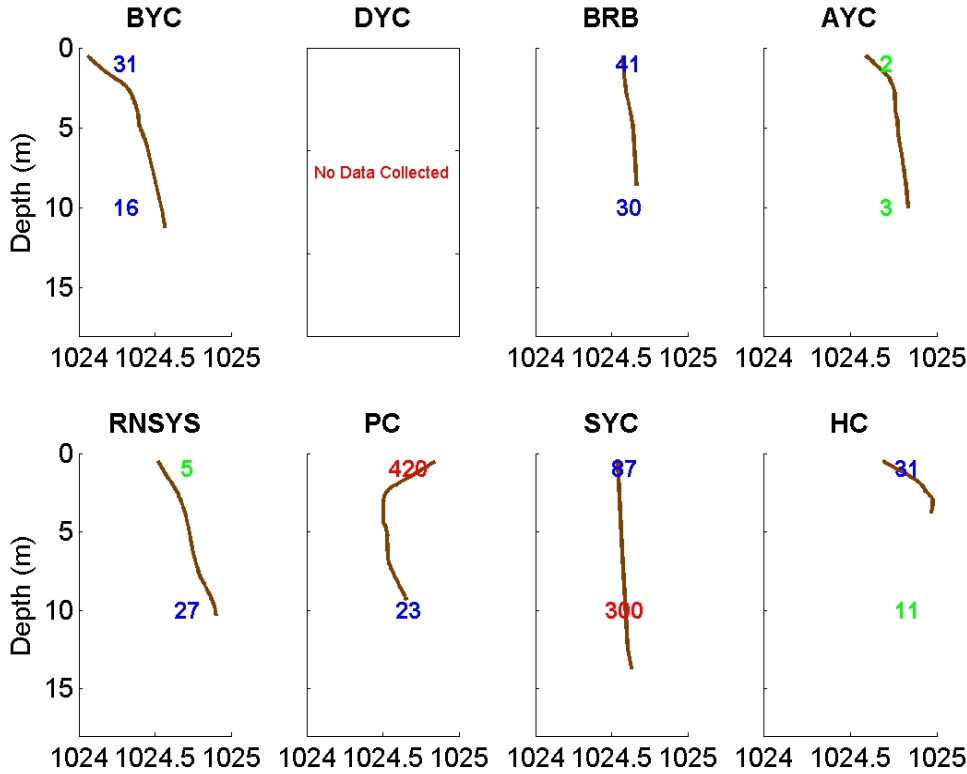
Weather data collected at the Shearwater Airport

Halifax Harbour Water Level - Feb28

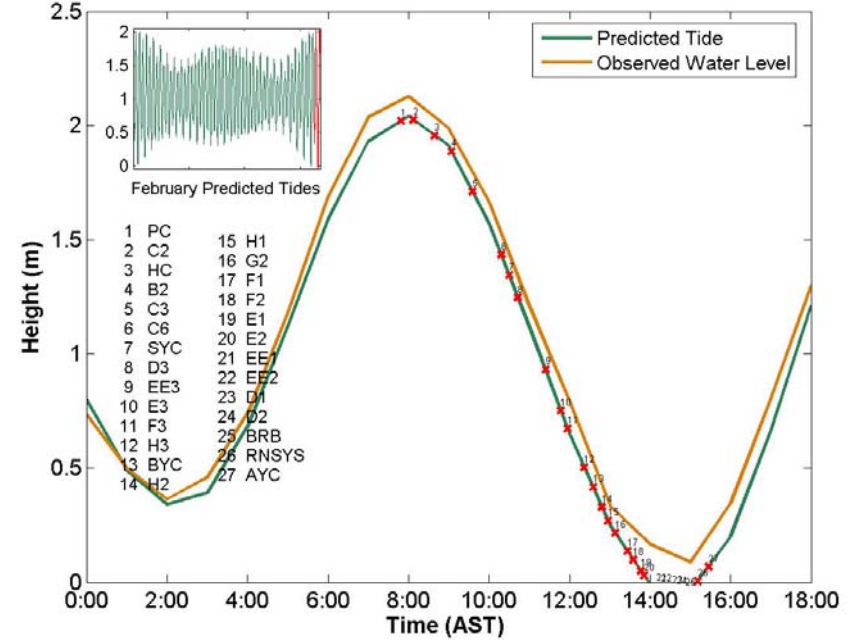




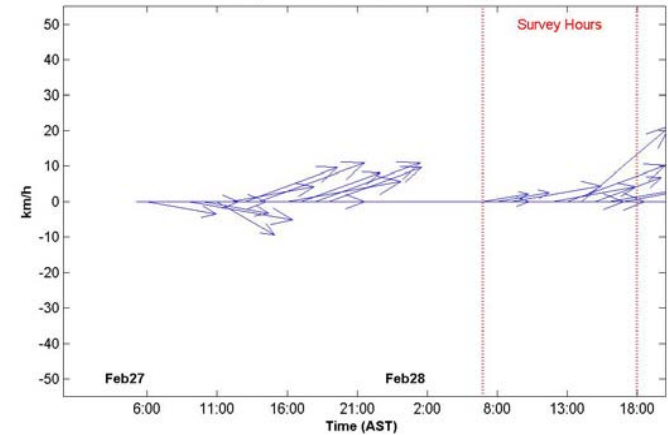
Yacht Clubs



Halifax Harbour Water Level - Feb28

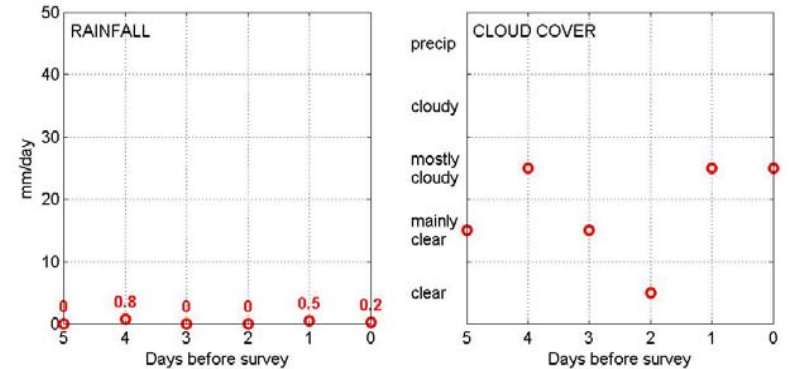


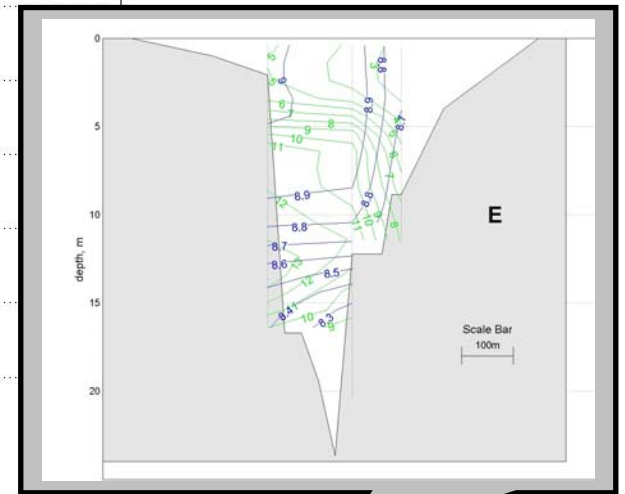
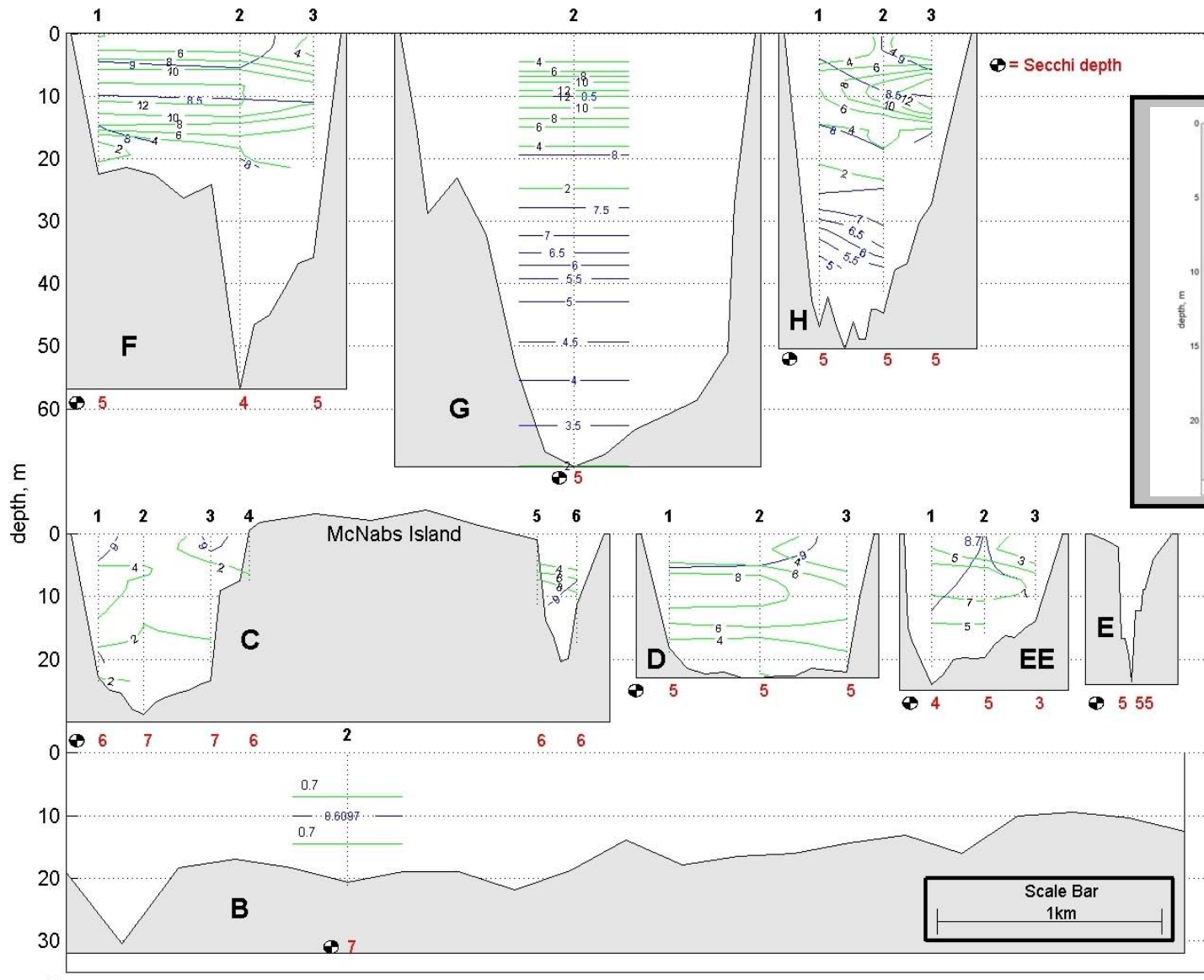
Wind Speed and Direction at Shearwater Airport



Weather data collected at the Shearwater Airport

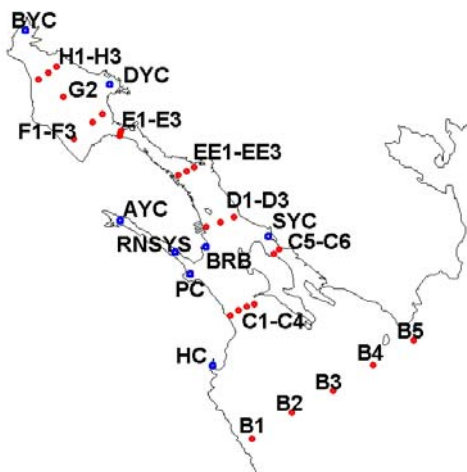
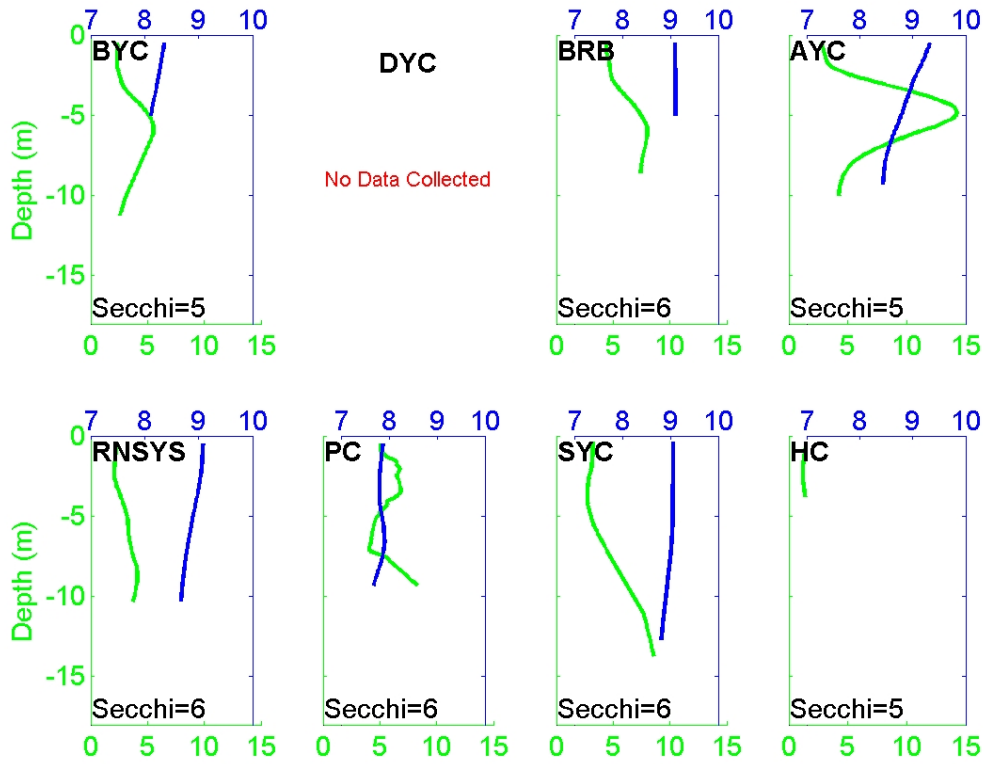
Potential Density in kg/m^3 Fecal coliform: above swimming limit (200 cfu/100mL)
 above shellfish limit (14 cfu/100mL)
 below limits





Unless otherwise labeled:
 - **dissolved oxygen** contour interval is 1 mg/L
 - **chlorophyll** contour interval is 2 mg/m³.

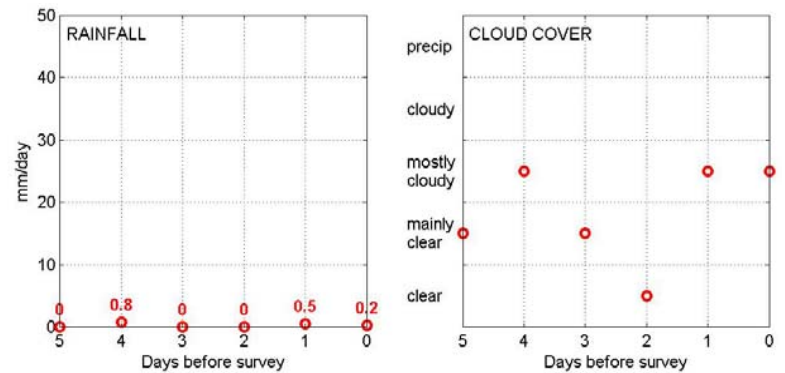
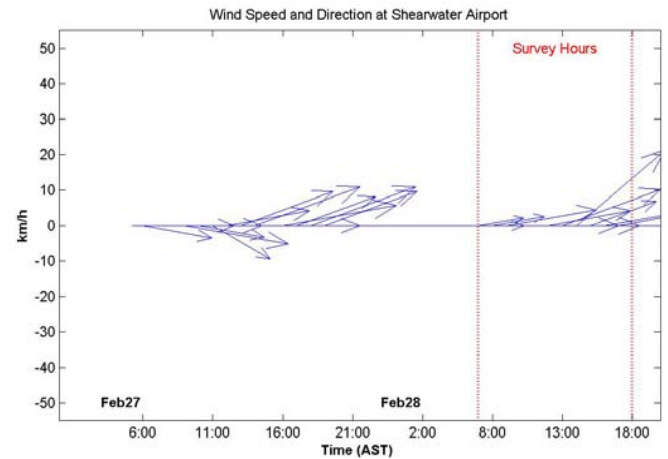
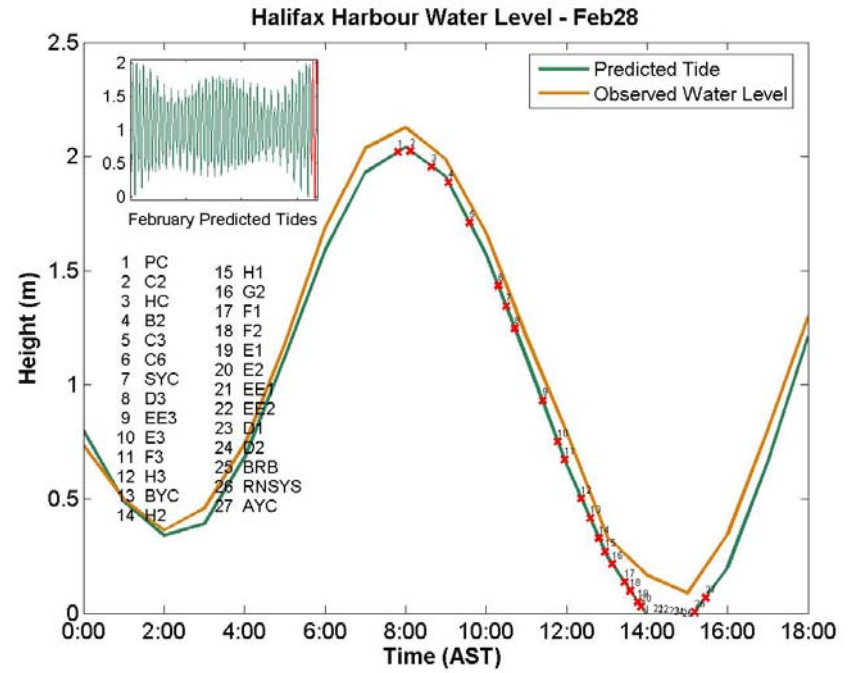
Yacht Clubs



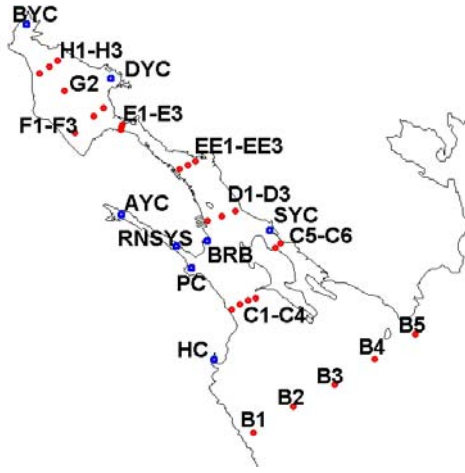
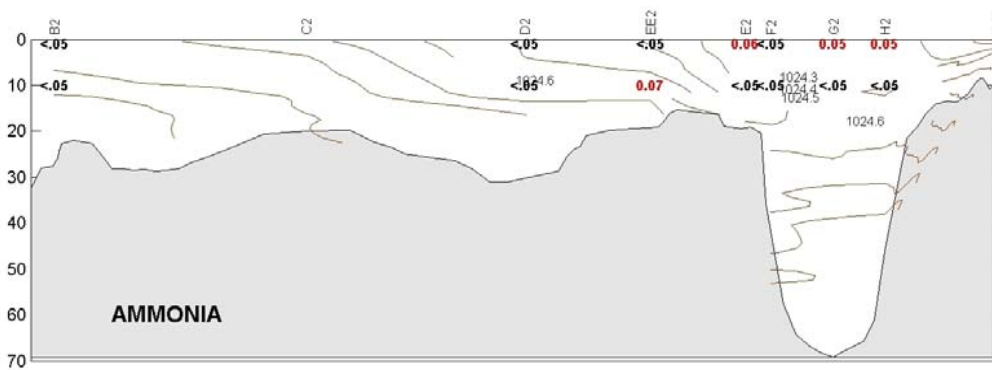
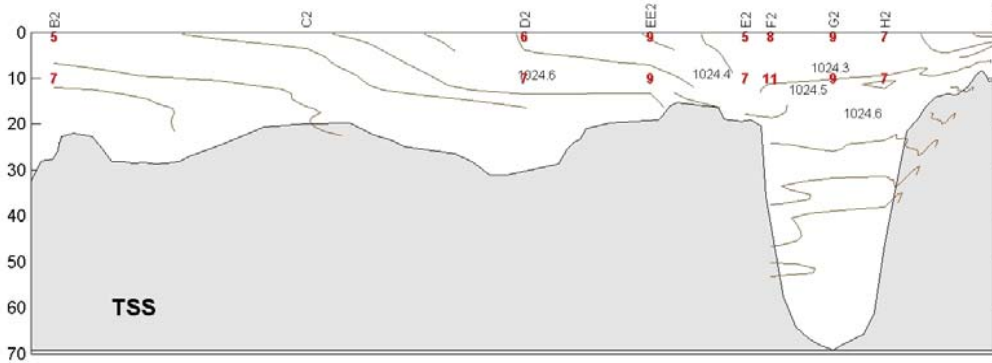
Weather data collected at the Shearwater Airport

DO in mg/L

Chlorophyll in mg/m³



CHEMISTRY



Weather data collected at the Shearwater Airport

Potential Density in kg/m^3

Ammonia in mg/L

TSS in mg/L

Halifax Harbour Water Level - Feb28

