

# Halifax Harbour Water Quality Monitoring Project

## Weekly Summary #93

**Survey Date:** 28 March 2006  
**Nature of Survey:** Complete Survey  
**Report File (this document):** HHWQMP\_report093\_060328.doc  
**Data File:** HHWQMP\_data093\_060328.xls

**Data Return:**  
 Profile: 100%  
 Bacteria: 100%  
 Chemical: 100%  
**Overall: 100%**

**Sample Notes:**

N/A

**QA/QC samples:**

Chemical Analysis		D2-10m		
Detectable Parameter	units	Reference	QA/QC	Dup
Ammonia (as N)	mg/L	< 0.05	< 0.05	
Total Suspended Solids	mg/L	7	11	11

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

Site	F1-1m	H1-1m	C2-1m	D2-10m
Reference	13	4	12	220
QA/QC	17	2	8	250

**Comments:**

General: The Harbour remains relatively un-stratified throughout. Overall, the Harbour is very slightly less saline and warmer than last week. There has been no precipitation during the previous five days. Though the temperature has been mostly

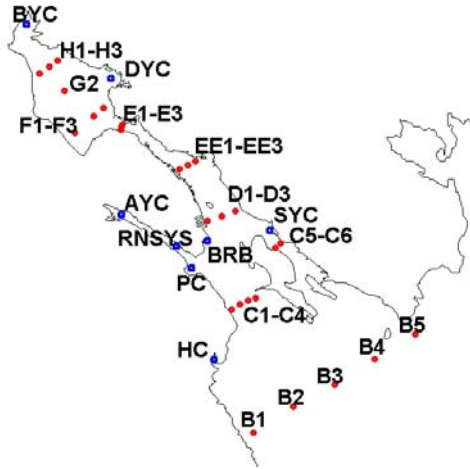
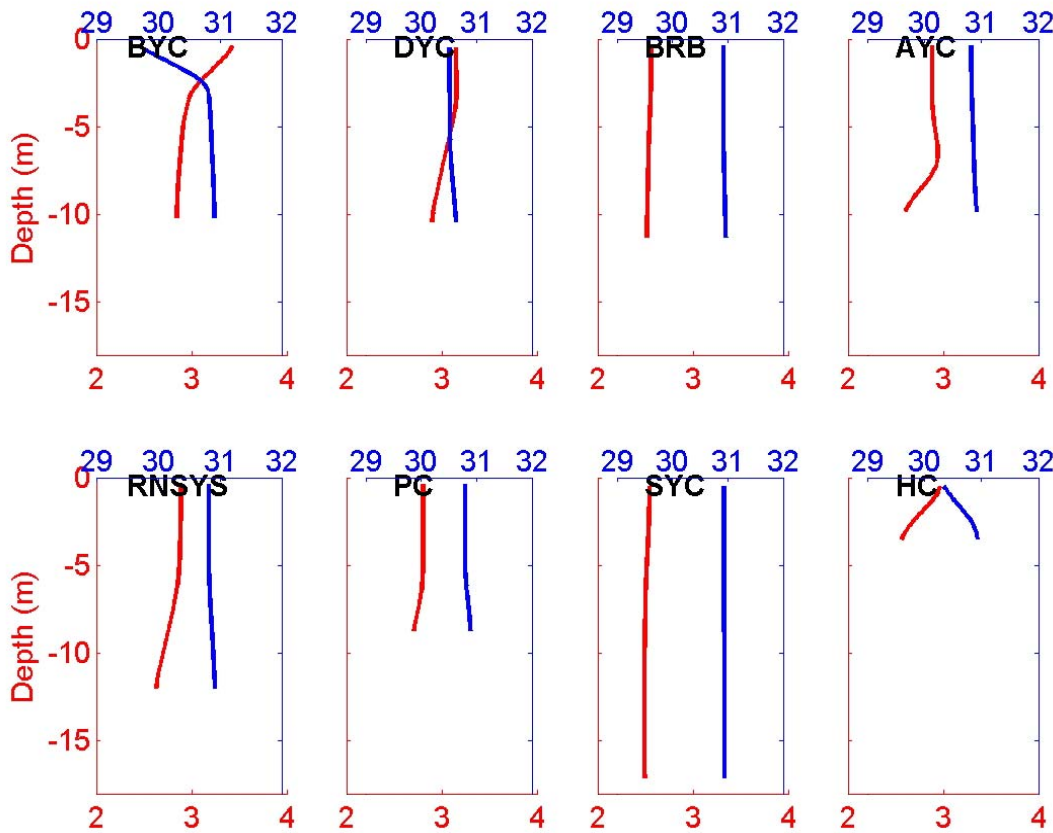
above freezing, there has been negligible snow on the ground. Environment Canada data indicate that the water levels in the Sackville River have actually dropped slightly. The change in salinity may be due to shelf input as the reduction in salinity is higher at station B2 in the Outer Harbour than in the Basin, where some sites have increased in salinity. The water temperature is slightly higher than last week (perhaps 0.4-0.8 degrees) but still quite uniform at 2.5–3.0 °C everywhere. The warmest water is at the bottom of the Basin, which remains unchanged at about 4.2° C. Fecal coliform levels are generally quite low in most of the Harbour. Fecal coliform values greater than the 200 fc/100 mL swimming limit are concentrated in the Inner Harbour sections D and EE. The highest values, observed, at D1 and EE3, are both accompanied by field notes that indicate that the samples were taken in the visible plumes from the nearby up harbour outfalls. This is consistent with the down Harbour wind during sampling. The vertical distribution is mainly typical, with higher values in the 1m samples in the Inner Harbour, but higher in the 10m samples in the Basin. More unusually the values in the 10 m samples in the Outer Harbour are slightly higher than in the 1m samples.

Fluorescence: The phytoplankton bloom evident in the harbour over previous weeks appears to be continuing at about the same relatively low level as last week, however the distribution has changed. In general, the profile maximums increase in value and occur lower in the water column further out of the Harbour. In the Basin the maximum values are around 10 mg/m<sup>3</sup> at around 10m, while throughout the Inner Harbour profile maximums are about 15 mg/m<sup>3</sup> at 11-20 m. The highest value (32 mg/m<sup>3</sup>) is near bottom (19 m) at B2 in the Outer Harbour.

Dissolved Oxygen: The data indicate that the surface values everywhere in the Harbour are between 8.6 and 9.7 mg/L, slightly lower than last week. Outside the Basin the profiles are very uniform vertically, with most sites being 0.1-0.2 mg/L higher at the bottom than at the surface. The DO values in the bottom water in the Basin continue to drop and are now at just under 3.5 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).



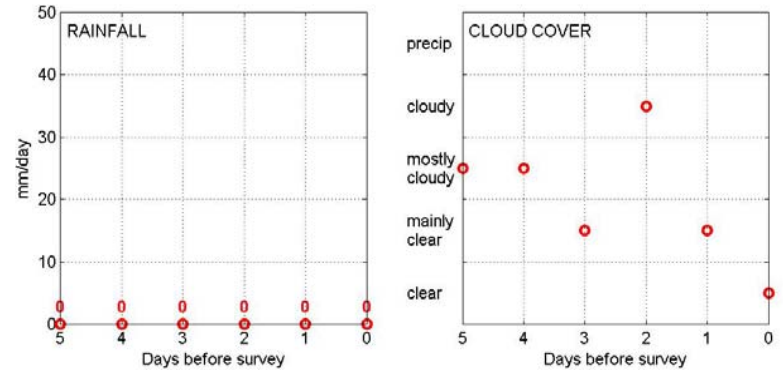
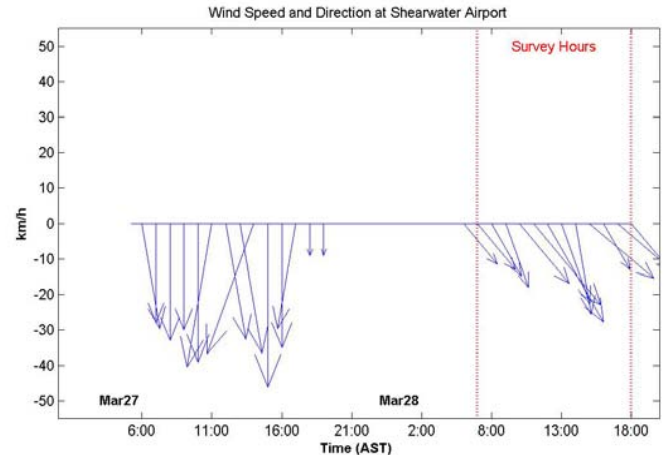
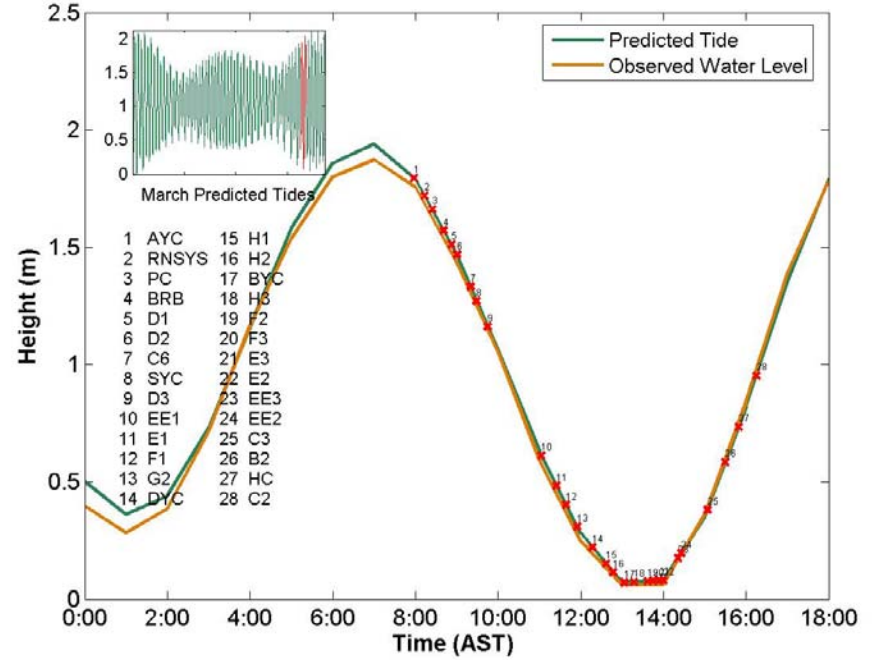
# Yacht Clubs

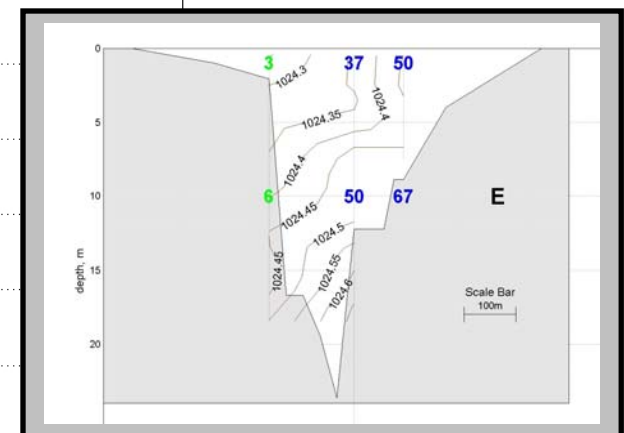
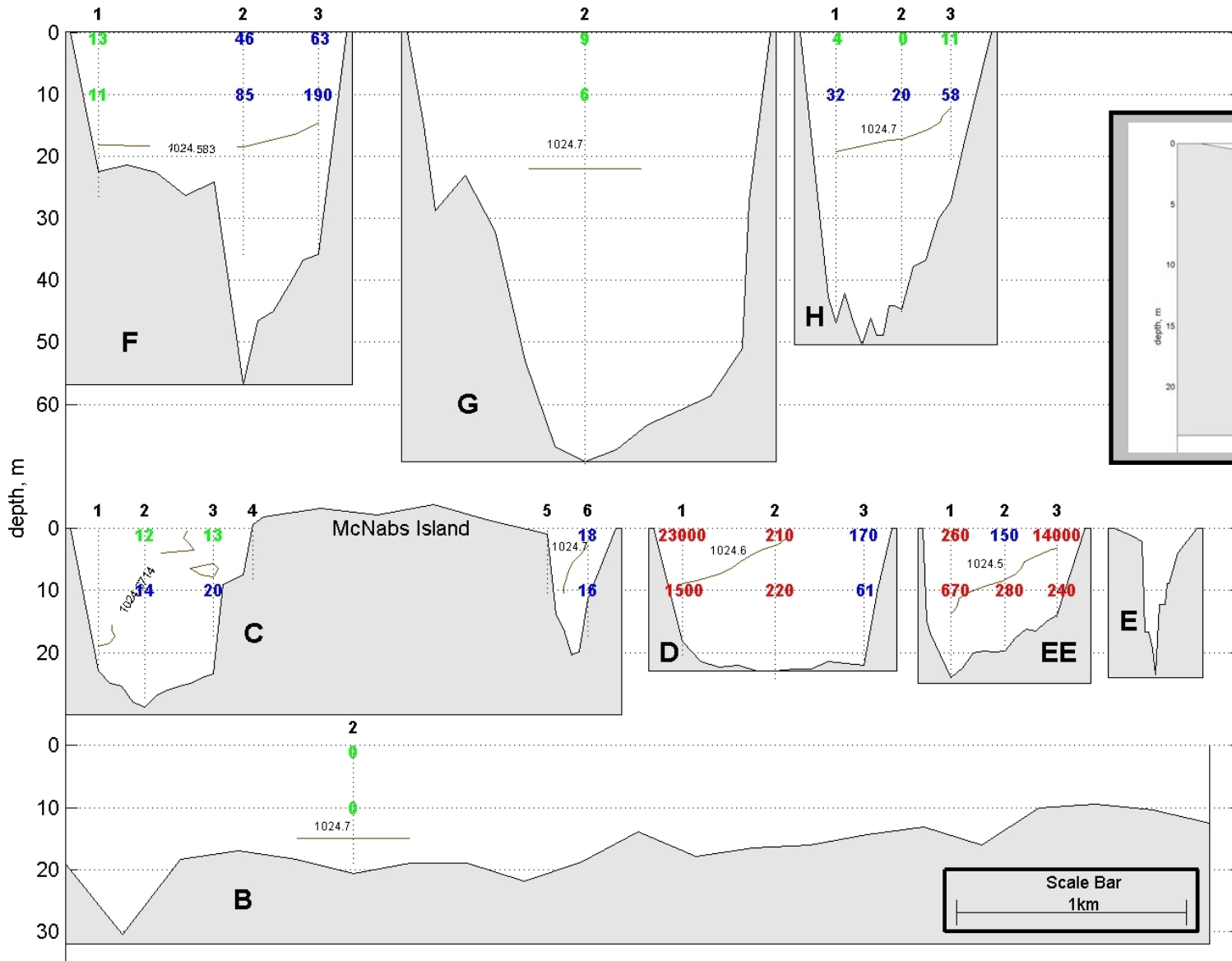


Salinity in PSU      Temperature in °C

Weather data collected at the Shearwater Airport

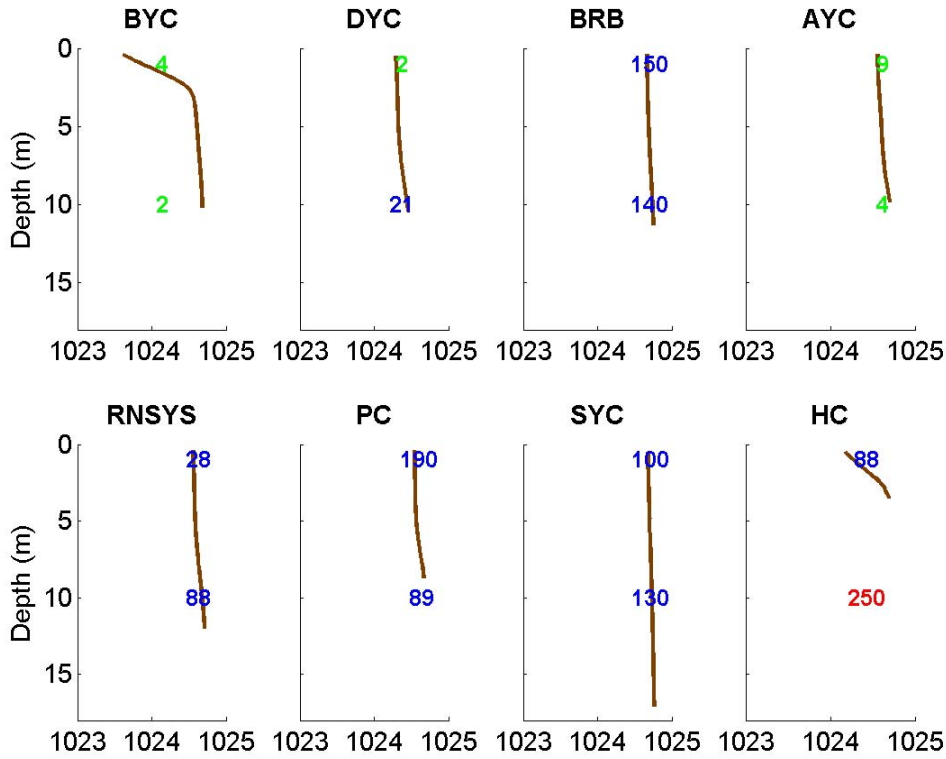
## Halifax Harbour Water Level - Mar28



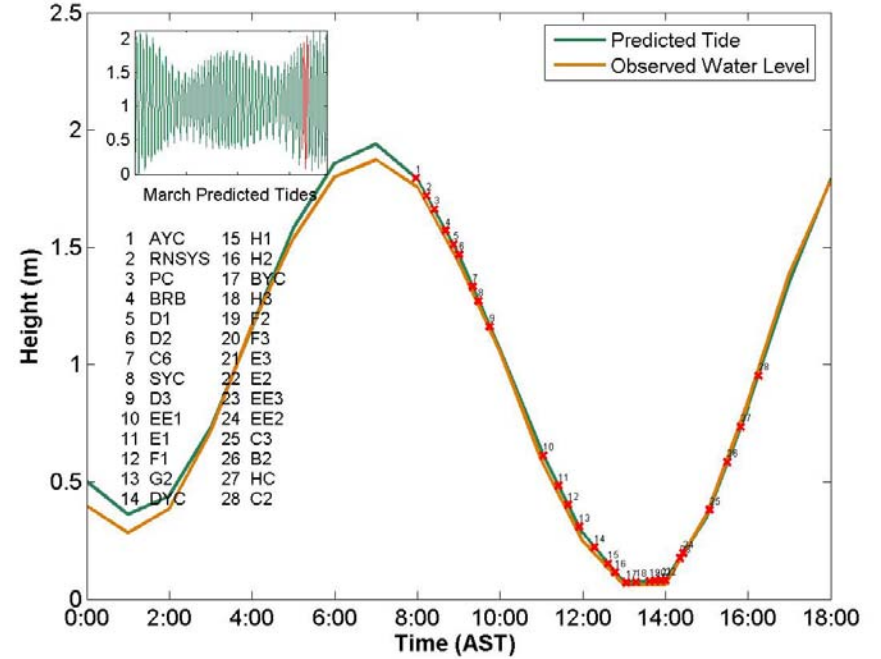


Unless otherwise labeled:  
 - **density** contour interval is 0.5 kg/m<sup>3</sup>

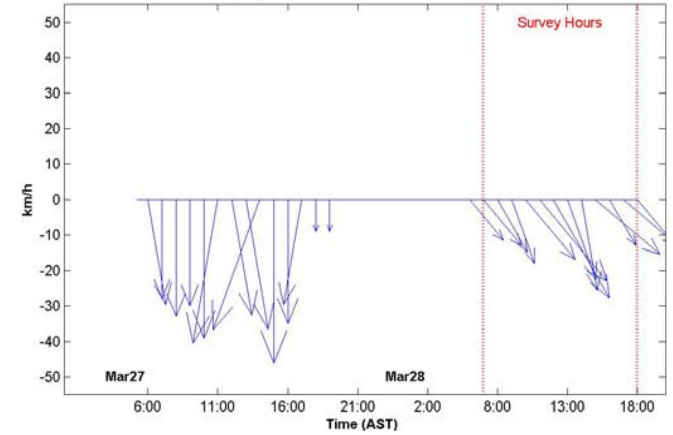
# Yacht Clubs



# Halifax Harbour Water Level - Mar28



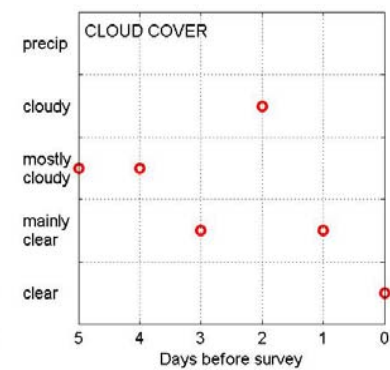
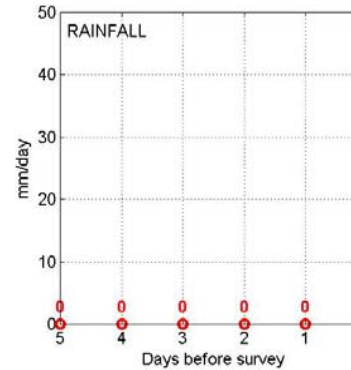
# Wind Speed and Direction at Shearwater Airport

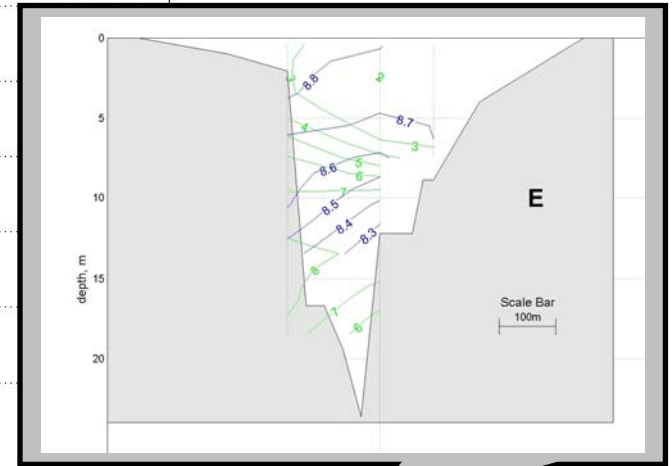
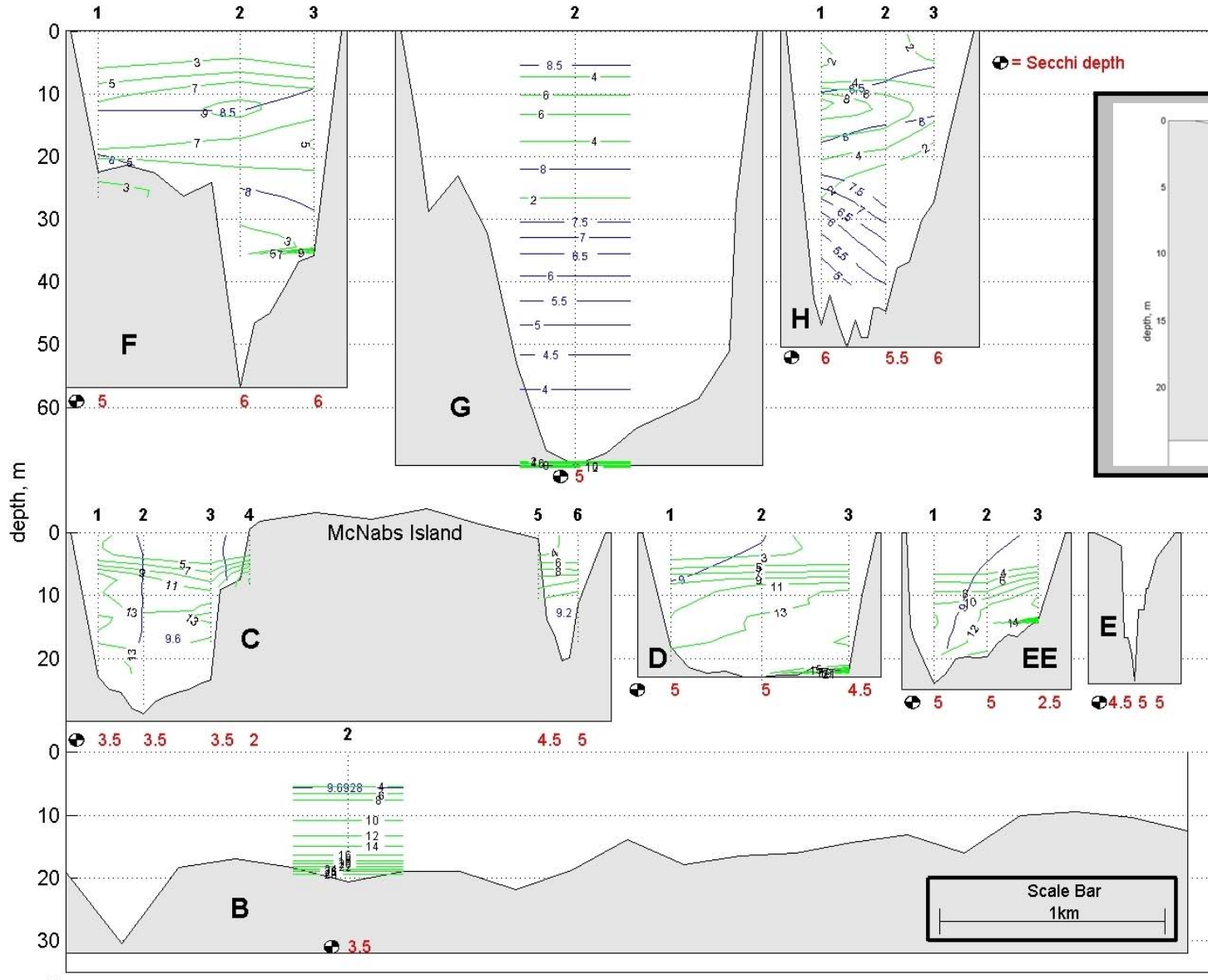


Weather data collected at the Shearwater Airport

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

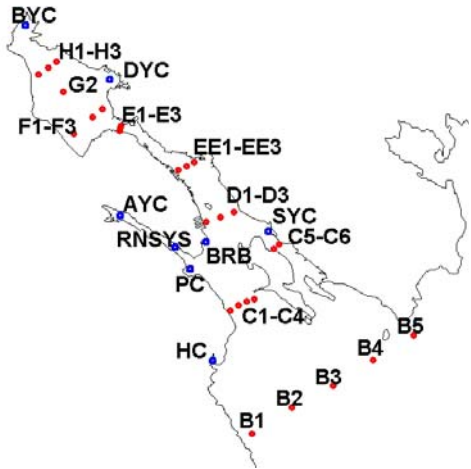
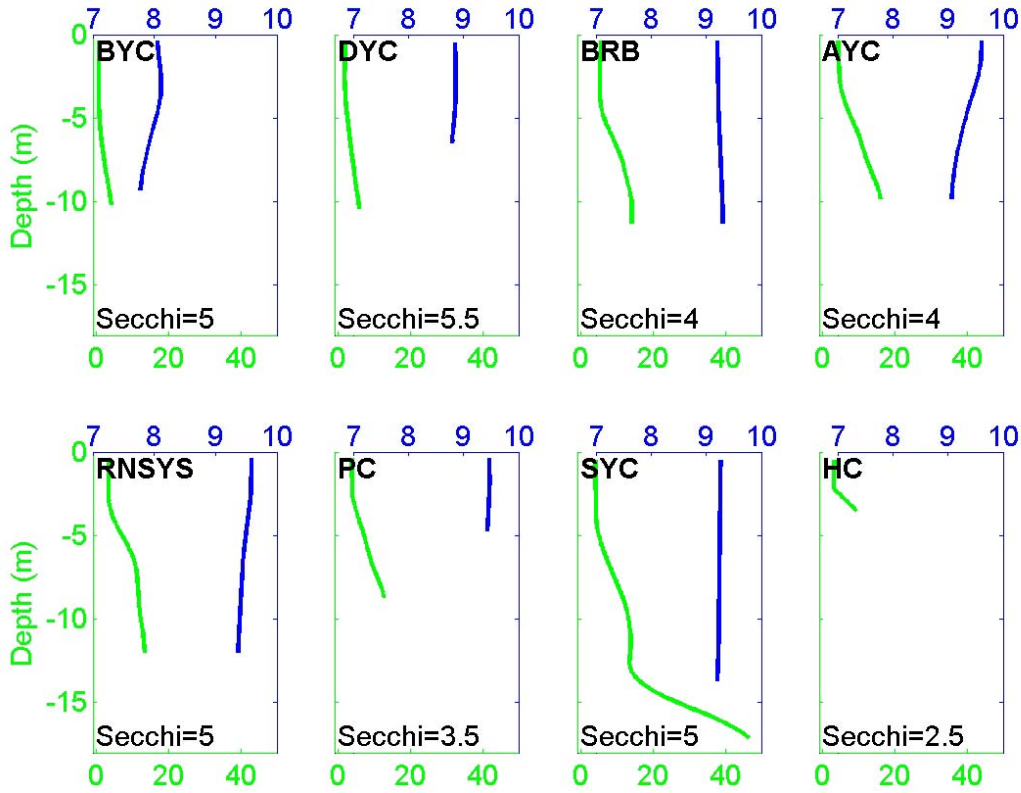
Fecal coliform: above swimming limit (200 cfu/100mL)  
 above shellfish limit (14 cfu/100mL)  
 below limits





Unless otherwise labeled:  
 - **dissolved oxygen** contour interval is 1 mg/L  
 - **chlorophyll** contour interval is 2 mg/m<sup>3</sup>.

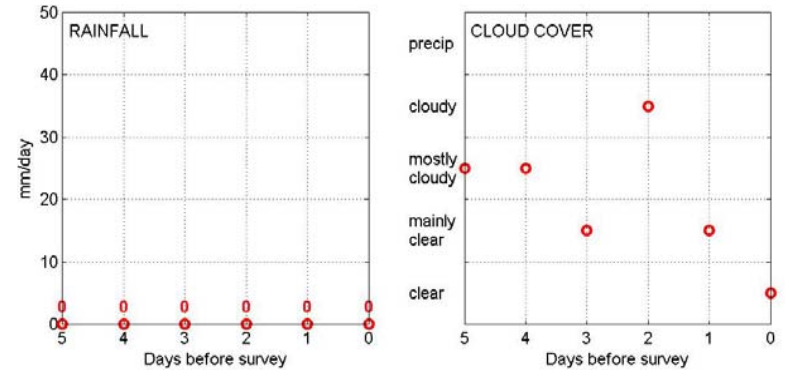
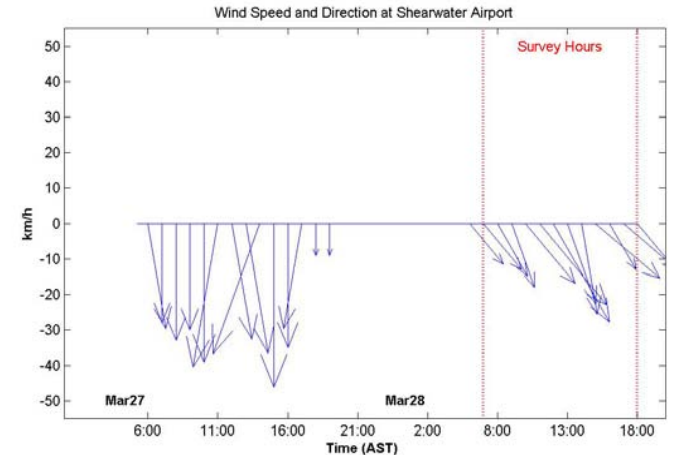
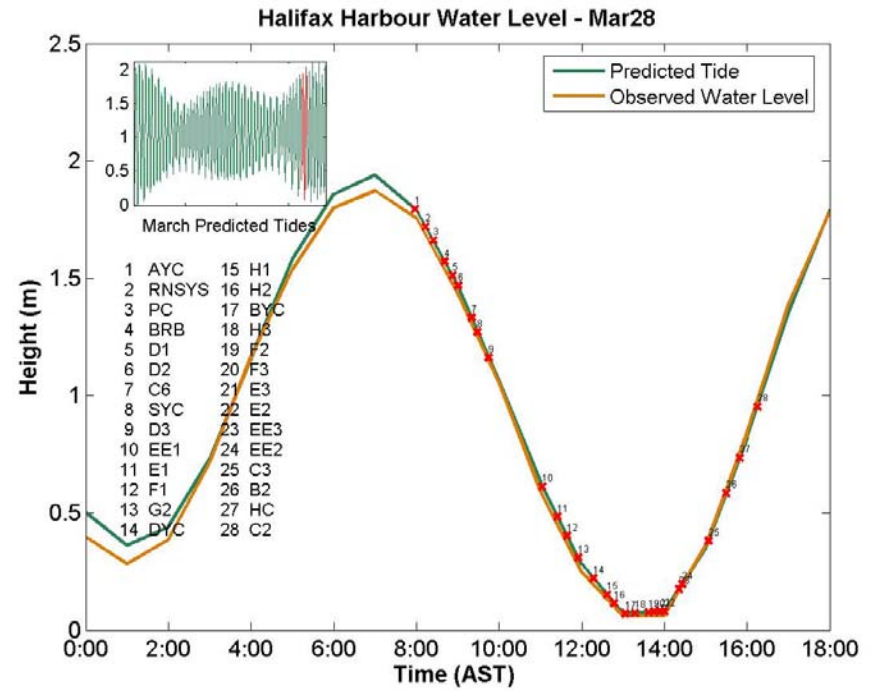
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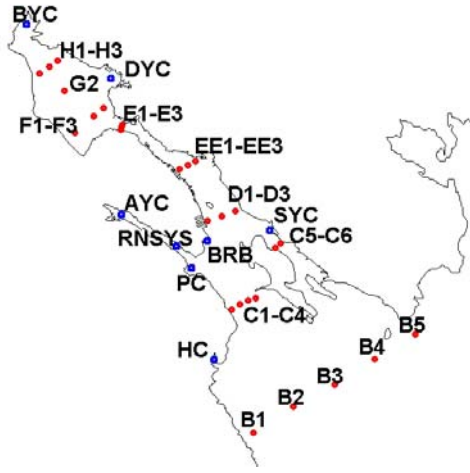
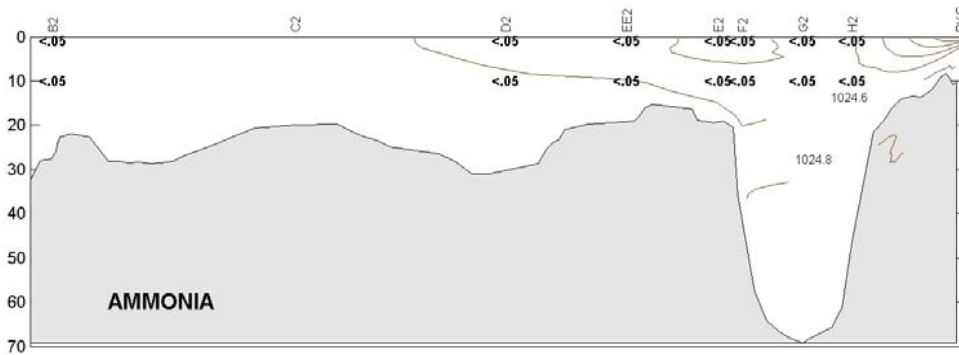
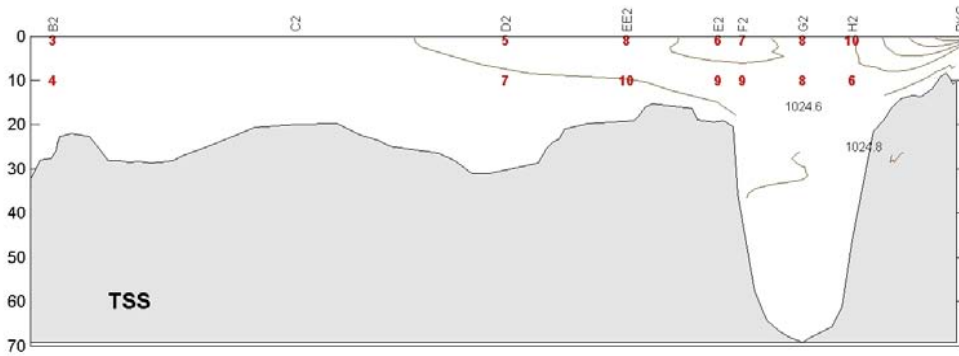


DO in mg/L

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

Weather data collected at the Shearwater Airport





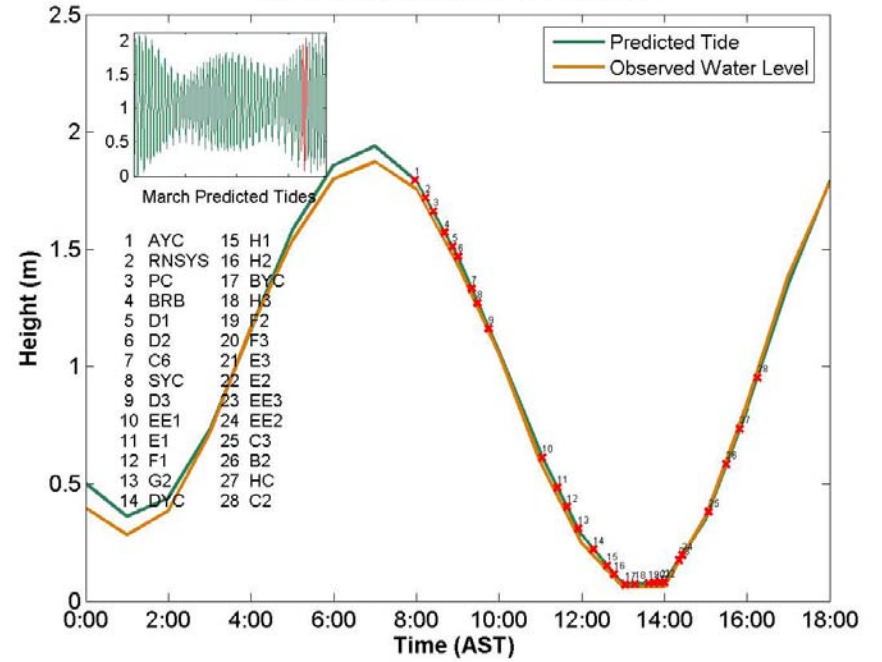
Weather data collected at the Shearwater Airport

Potential Density in  $\text{kg/m}^3$

Ammonia in  $\text{mg/L}$

TSS in  $\text{mg/L}$

Halifax Harbour Water Level - Mar28



Wind Speed and Direction at Shearwater Airport

