

# Halifax Harbour Water Quality Monitoring Project

## Weekly Summary #87

**Survey Date:** 15 February 2006  
**Nature of Survey:** Complete Survey  
**Report File (this document):** HHWQMP\_report087\_060215.doc  
**Data File:** HHWQMP\_data087\_060215.xls

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

### Sample Notes:

An alternate location was sampled at BYC due to ice. The sample was taken at the ice edge, position 44.7134° N, 63.6630° W.

### QA/QC samples:

Chemical Analysis		D2 - 10m		F2-10m		
Detectable Parameter	units	ref sample	Dup	ref sample	QA/QC	Dup
Ammonia (as N)	mg/L	<0.05	<0.05	0.15	0.05	
Total Suspended Solids	mg/L	4		6	5	5

### Fecal Coliform (CFU/100ml)

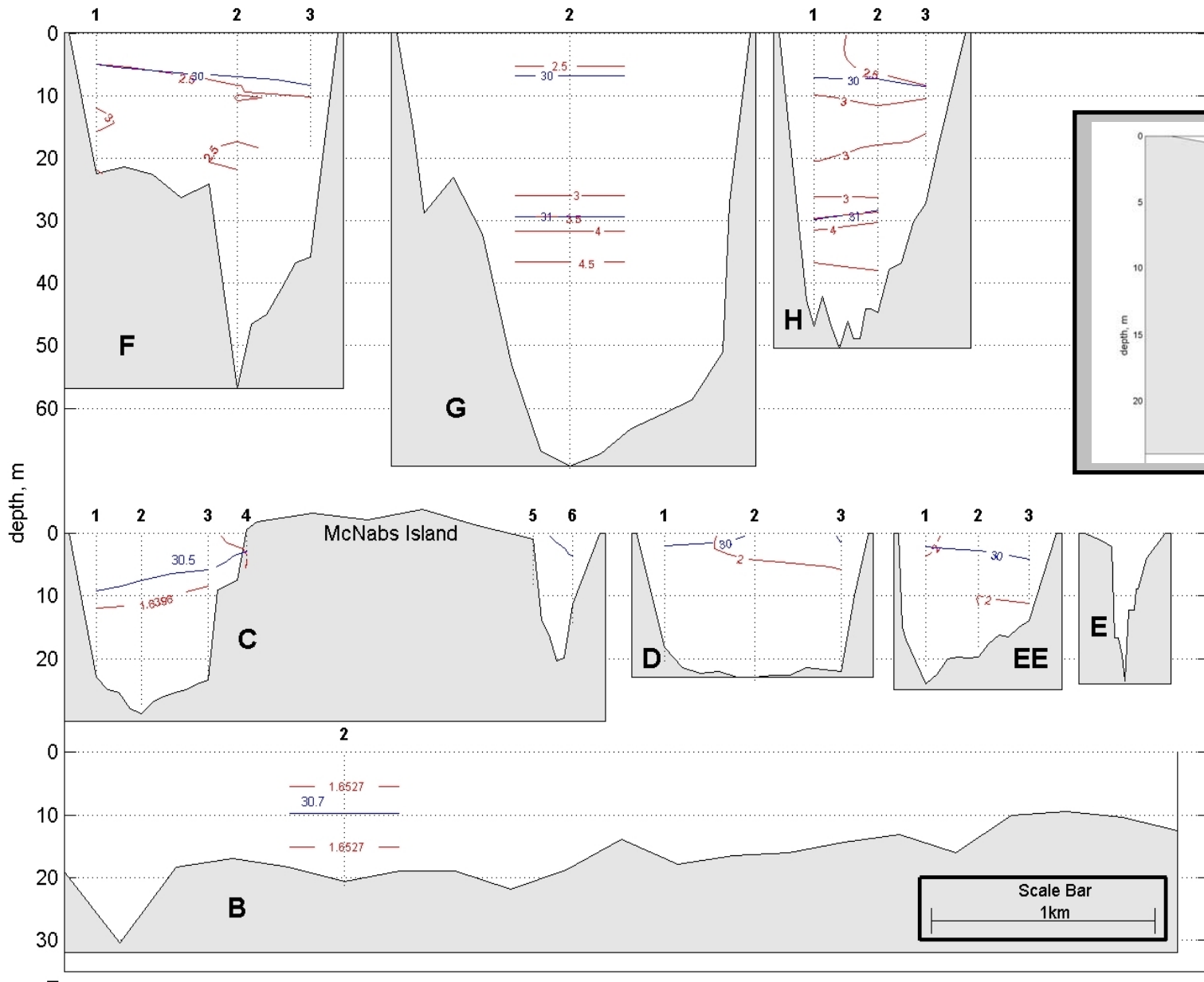
Site	F3-1m	H1-10m	E1-1m	F2-10m
Reference	8	17	30	53
QA/QC	12	23	37	44

### Comments:

The large freshwater feature evident in the Basin and Inner Harbour last week has pretty much dissipated. There has been snow during the week and the temperature has been mostly below freezing. Below a depth of 10m the water structure has changed little but the water above 10m is much more saline. Further out of the Harbour the water column is relatively well mixed, but more saline than last week. The overall water temperature continues to drop on average about 0.6°C since last week. The average temperature is about 2.2°C, slightly cooler in the Outer Harbour. The fecal coliform concentrations are quite low overall, with a typical pattern of higher values at 10m in the southern Basin. Values above 200 fc/100 mL exist only in the innermost D and EE sections. The highest values at EE3 coincide with a field observation that there was visible detritus at the site, indicating that the sample was probably taken directly in the plume from the Peace Pavillion outfall. This is corroborated by a secchi depth of 3.5 m compared with values of 5-6 m in the rest of the Harbour. This is also consistent with a falling tide enhanced by a negative water level surge (> 10 cm) which puts the sample site downstream from the outfall.

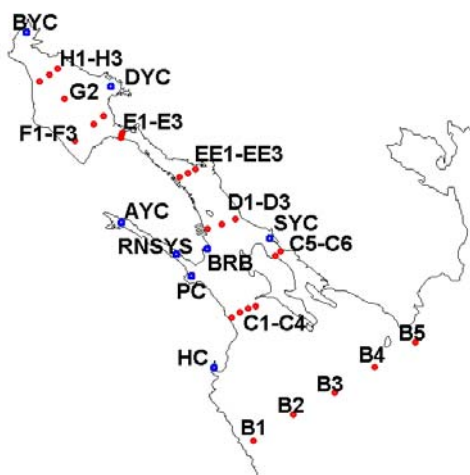
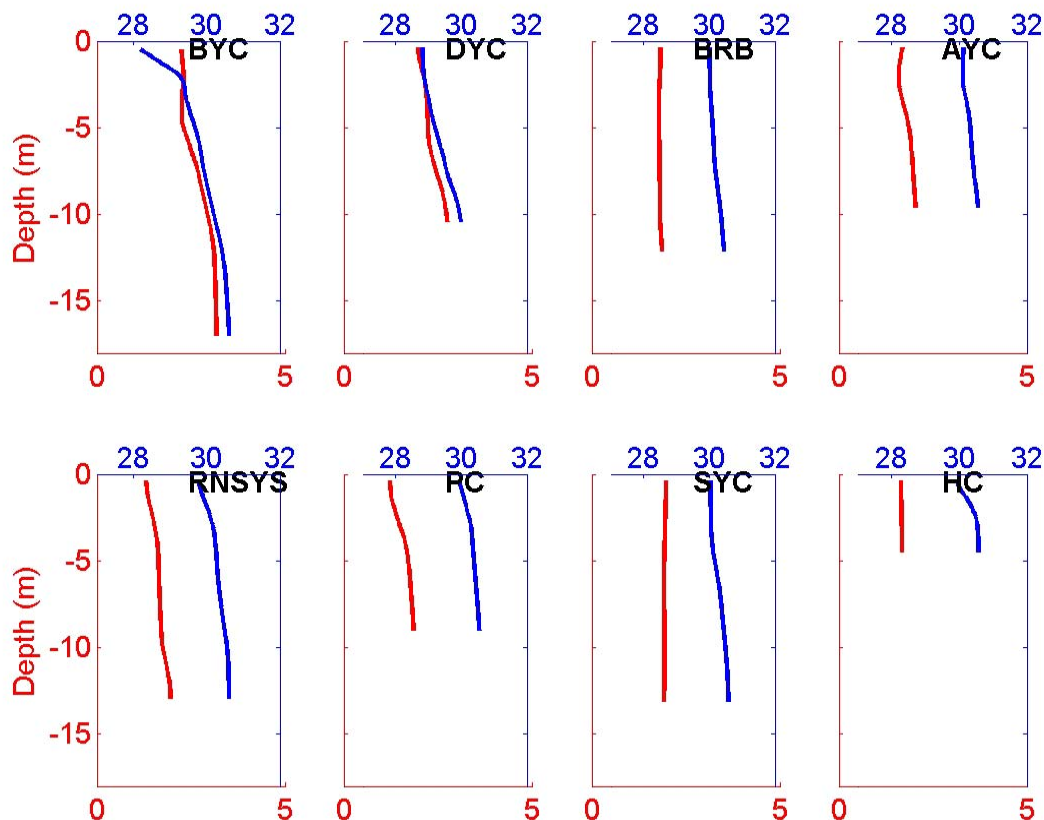
**Chlorophyll:** The chlorophyll levels in the Basin, have dropped quite a bit since last week, to levels still generally above the winter "background" values of 1-2 mg/m<sup>3</sup>. The highest value observed (10.8 mg/m<sup>3</sup>) is at BYC and profile maximum levels of 3-4 mg/m<sup>3</sup> are observed throughout the Basin. Values are somewhat lower in the remainder of the Harbour.

**Dissolved Oxygen:** The dissolved oxygen levels are similar to, or slightly higher than last week. The data indicate that the surface values everywhere in the Harbour are greater than 8.5 mg/L. South of the Narrows the values are very vertically uniform. The DO in the bottom water in the Basin continues to drop below 4 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).



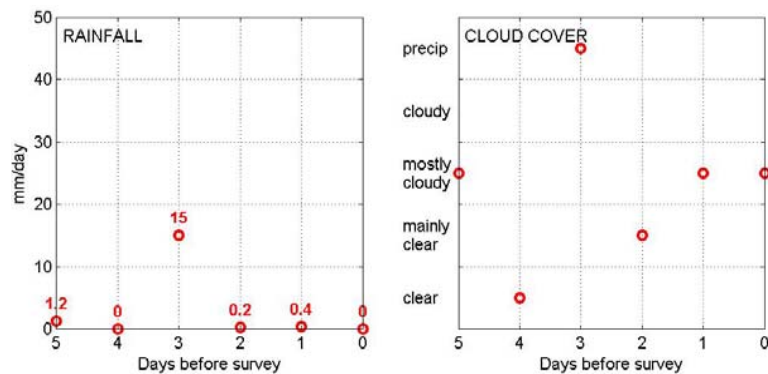
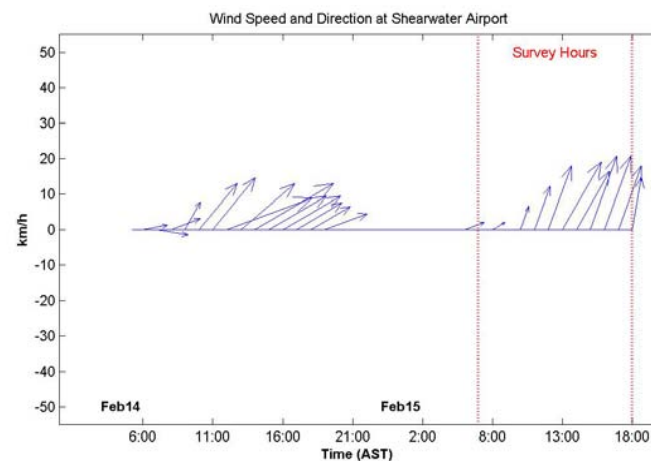
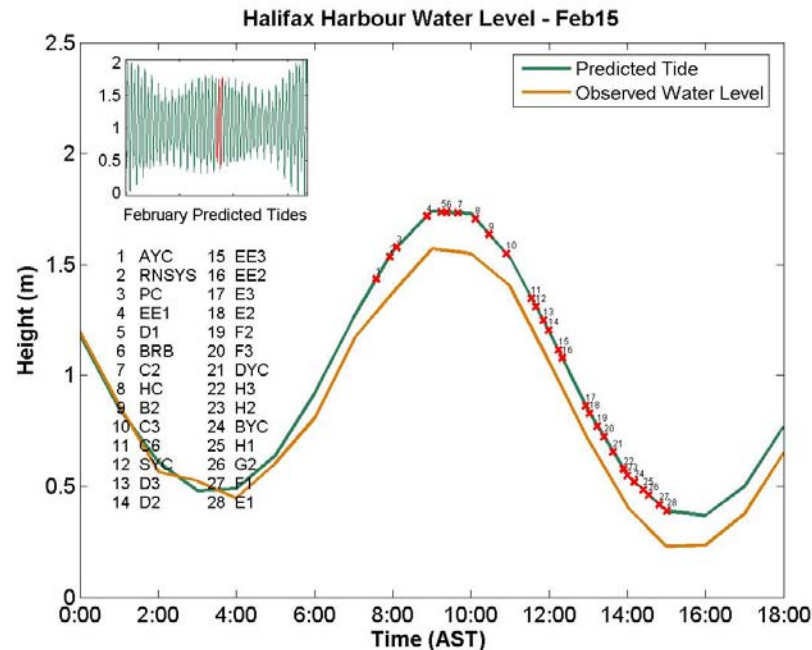
Unless otherwise labeled:  
 - salinity contour interval is 1 PSU  
 - temperature contour interval is 1°C.

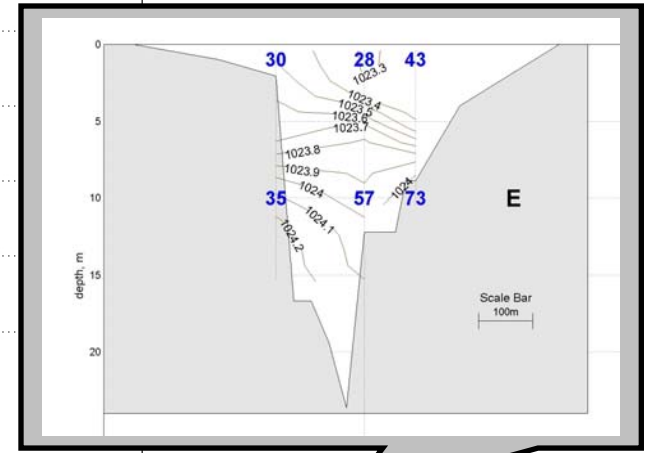
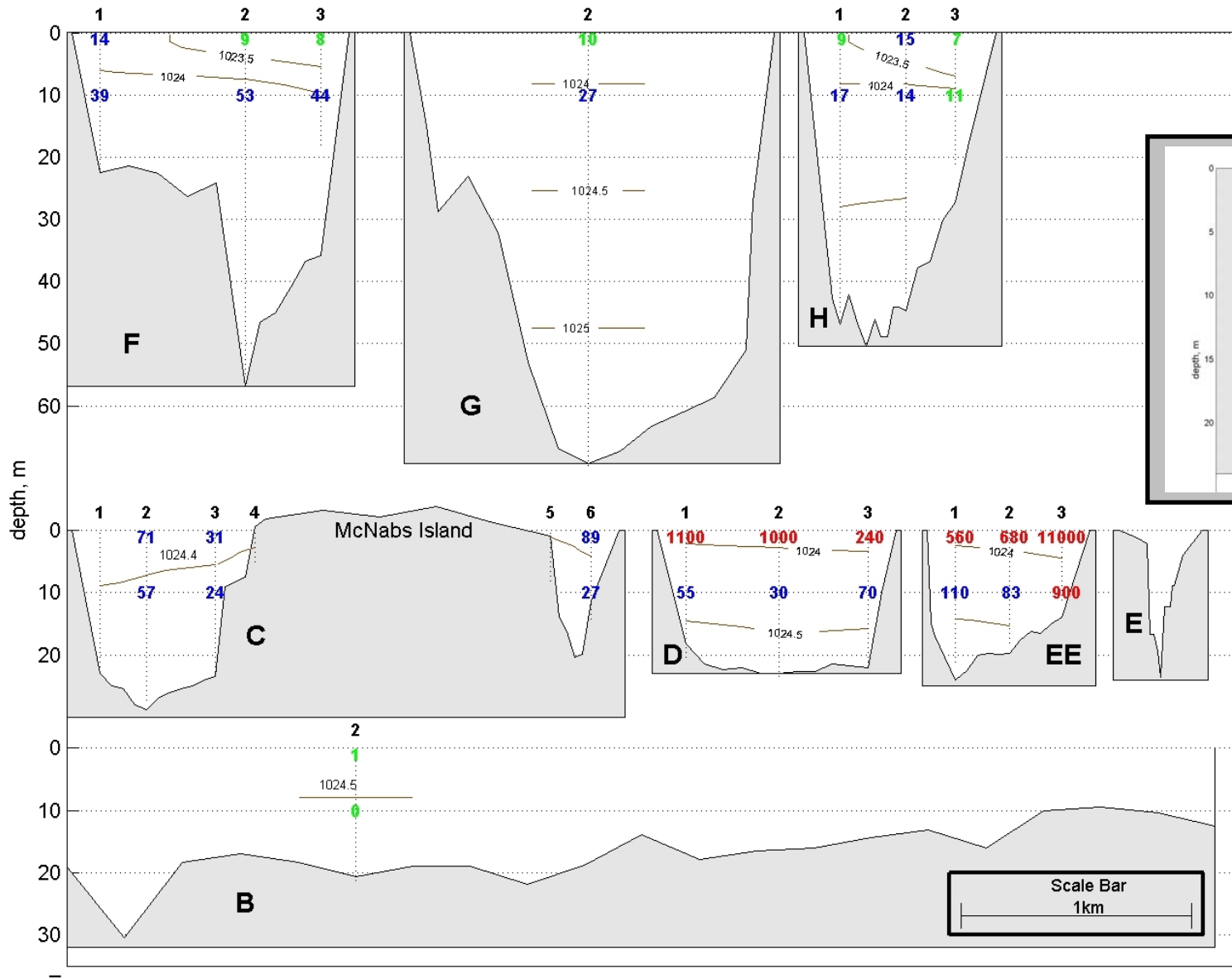
# Yacht Clubs



Salinity in PSU      Temperature in °C

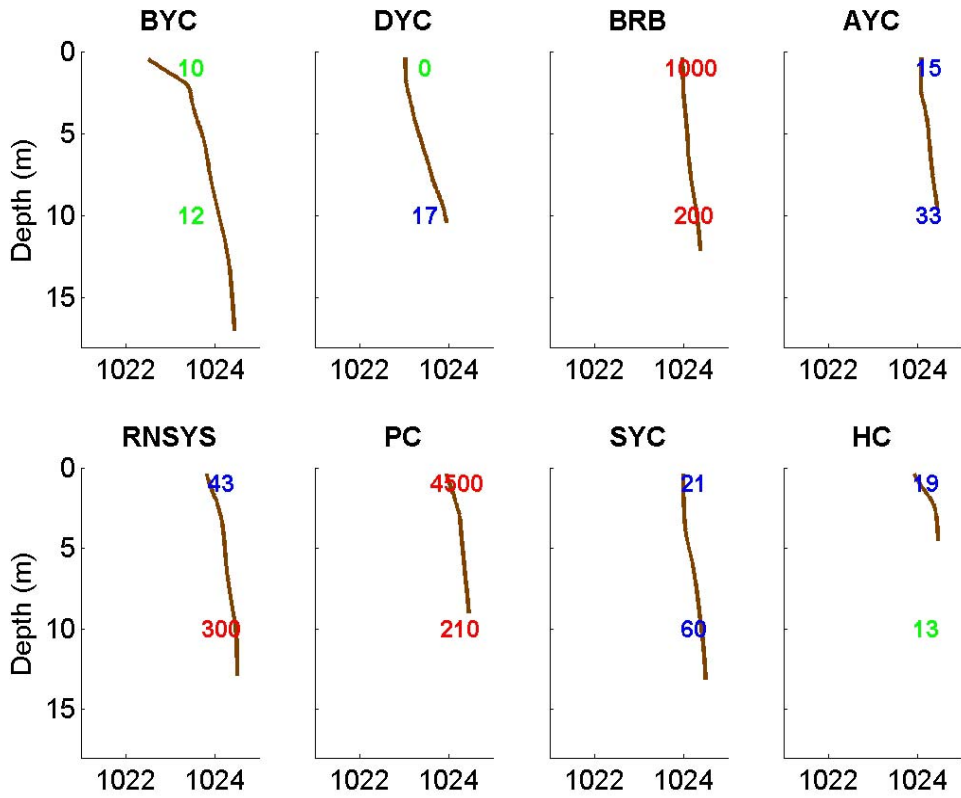
Weather data collected at the Shearwater Airport



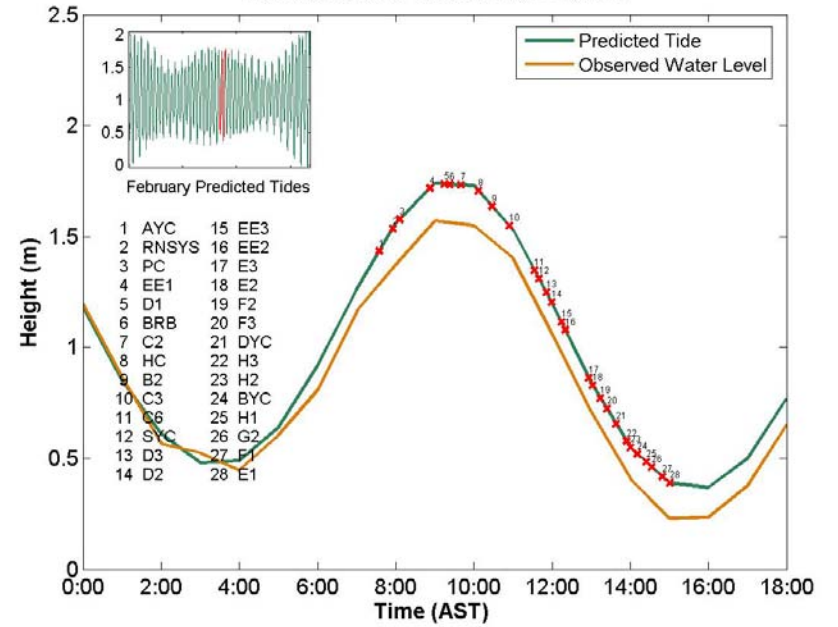


Unless otherwise labeled:  
 - **density** contour interval is 0.5 kg/m<sup>3</sup>

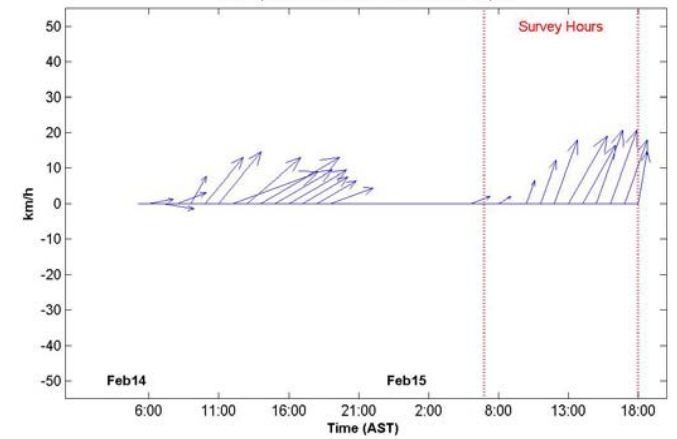
# Yacht Clubs



# Halifax Harbour Water Level - Feb15



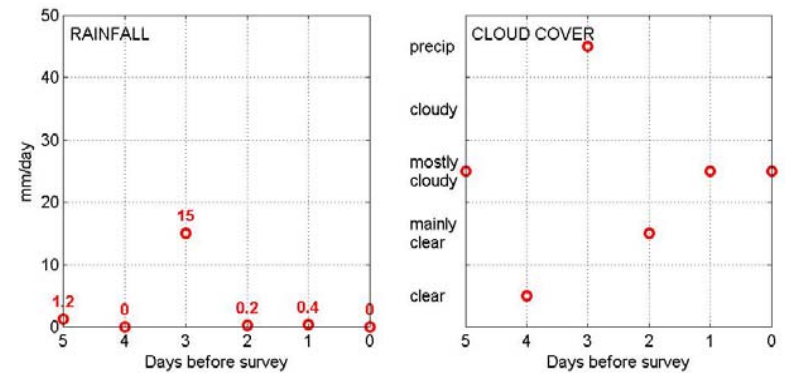
# Wind Speed and Direction at Shearwater Airport

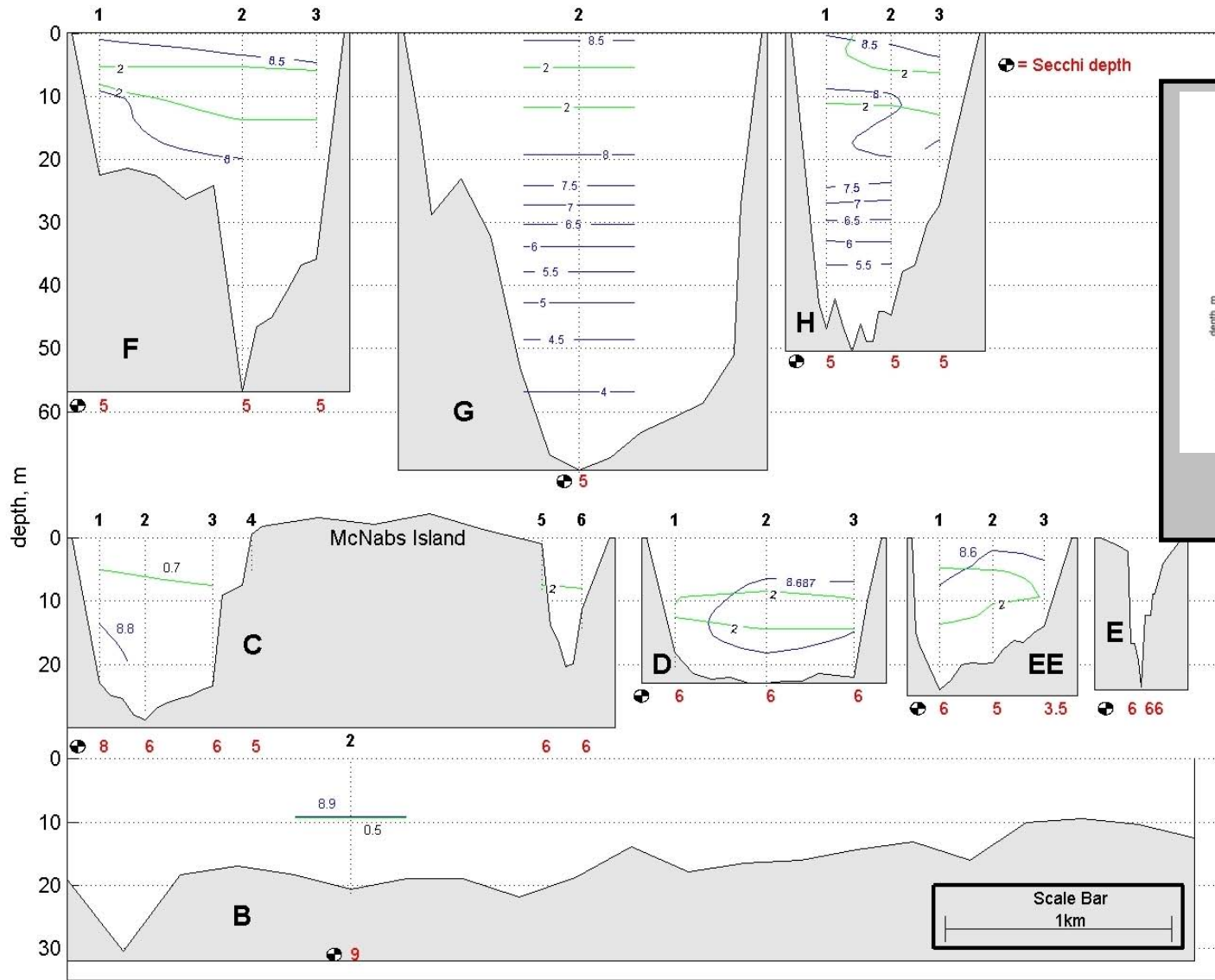


Weather data collected at the Shearwater Airport

Potential Density in  $kg/m^3$

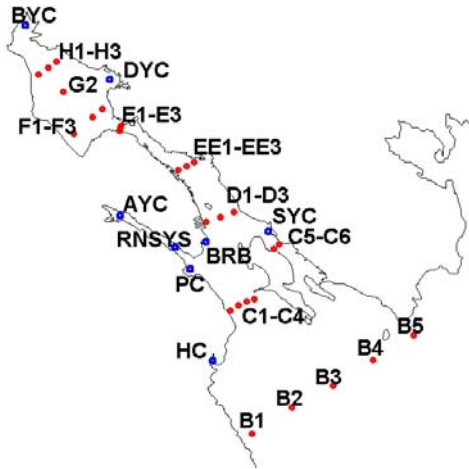
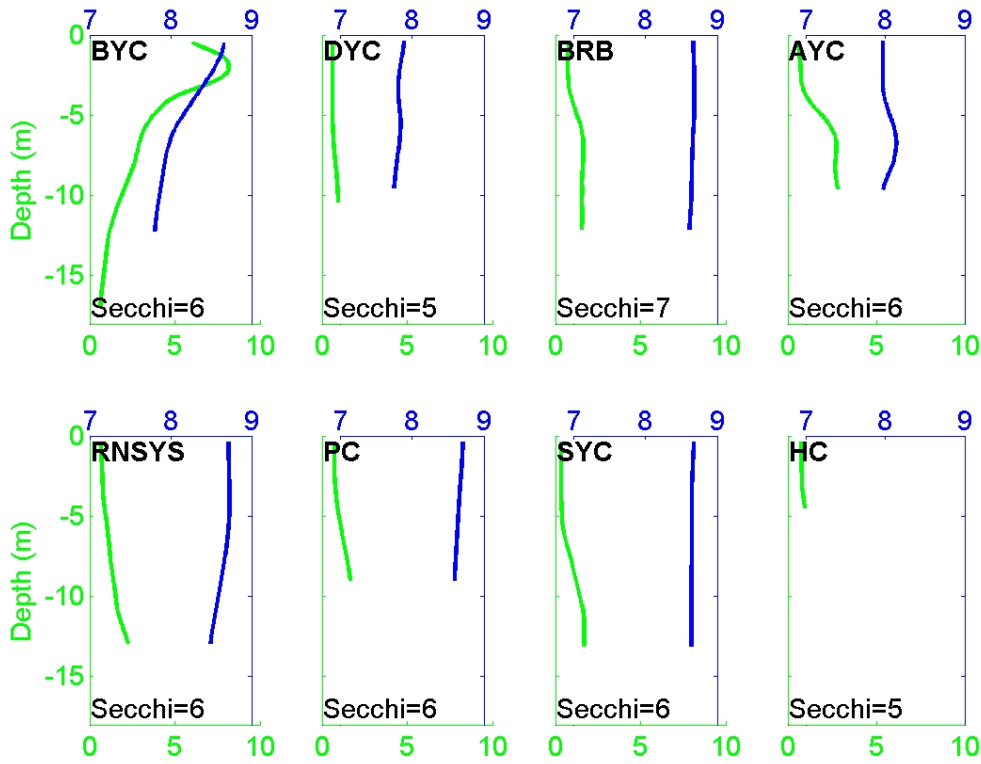
Fecal coliform: **above swimming limit (200 cfu/100mL)**  
**above shellfish limit (14 cfu/100mL)**  
 below limits





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

# Yacht Clubs

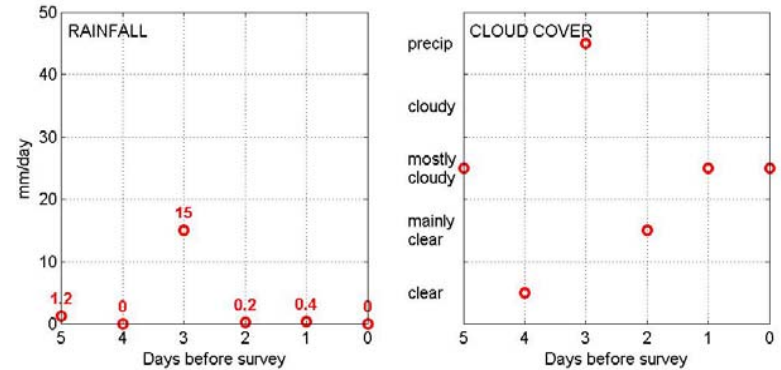
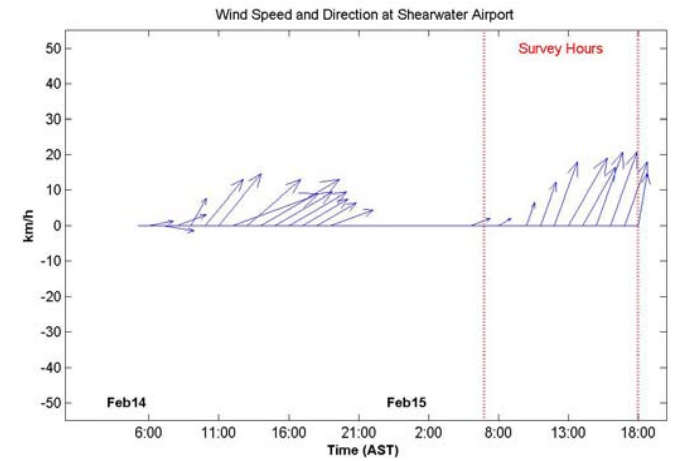
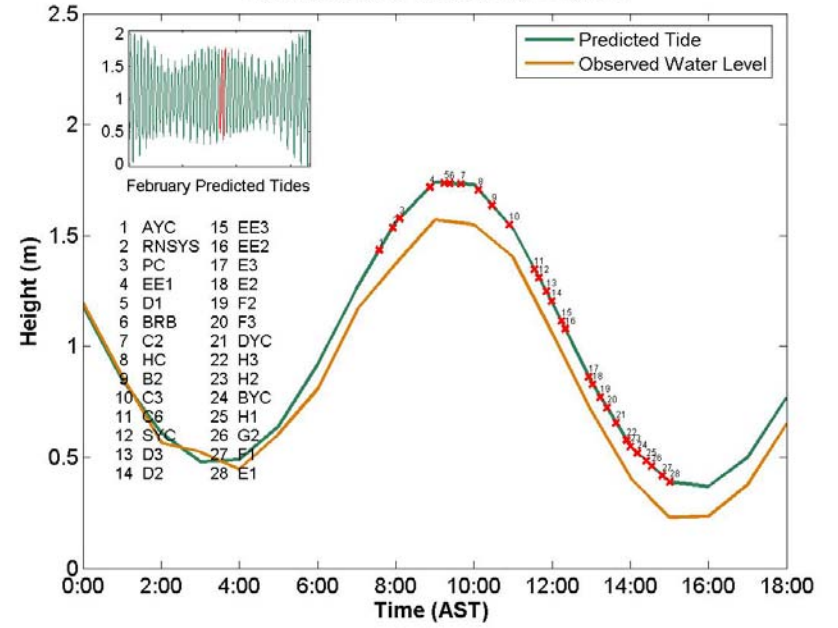


DO in mg/L

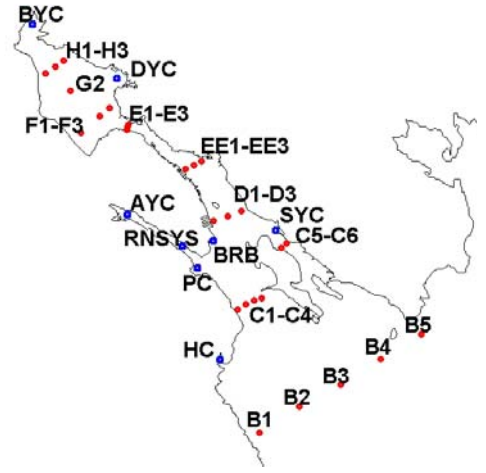
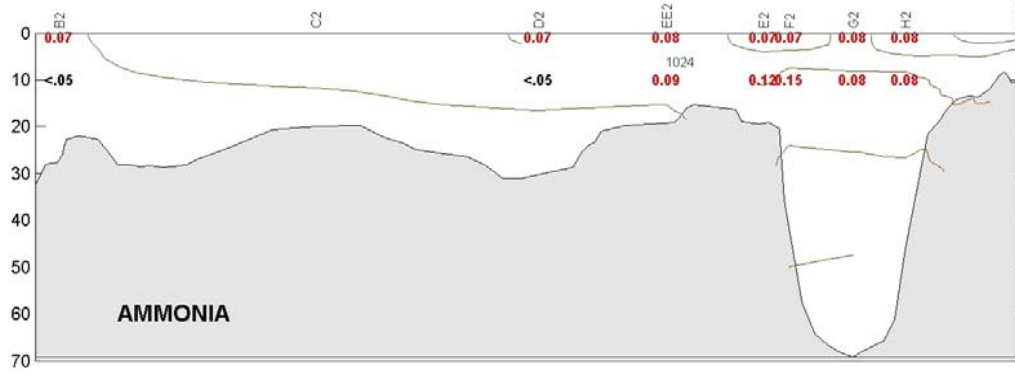
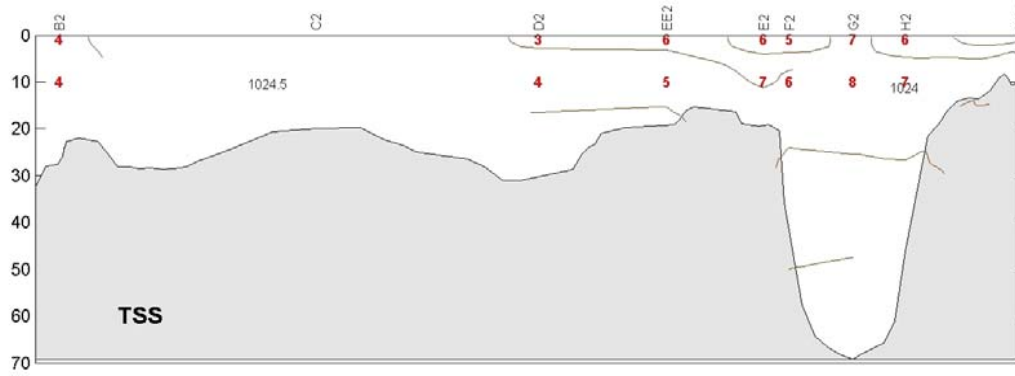
Chlorophyll in mg/m<sup>3</sup>

Weather data collected at the Shearwater Airport

## Halifax Harbour Water Level - Feb15



**CHEMISTRY**



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 - Feb15**

