

Halifax Harbour Water Quality Monitoring Project

Weekly Summary #95

Survey Date: 11 April 2006
Nature of Survey: Complete Survey
Report File (this document): HHWQMP_report095_060411.doc
Data File: HHWQMP_data095_060411.xls

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

Sample Notes:

N/A

QA/QC samples:

Chemical Analysis		E2-1m		H2- 10m		
Detectable Parameter	units	Ref sample	Dup	Ref sample	QA/QC	Dup
Ammonia (as N)	mg/L	<0.05		<0.05	0.07	
Total Suspended Solids	mg/L	7	9	7	10	9

Fecal Coliform (CFU/100ml)

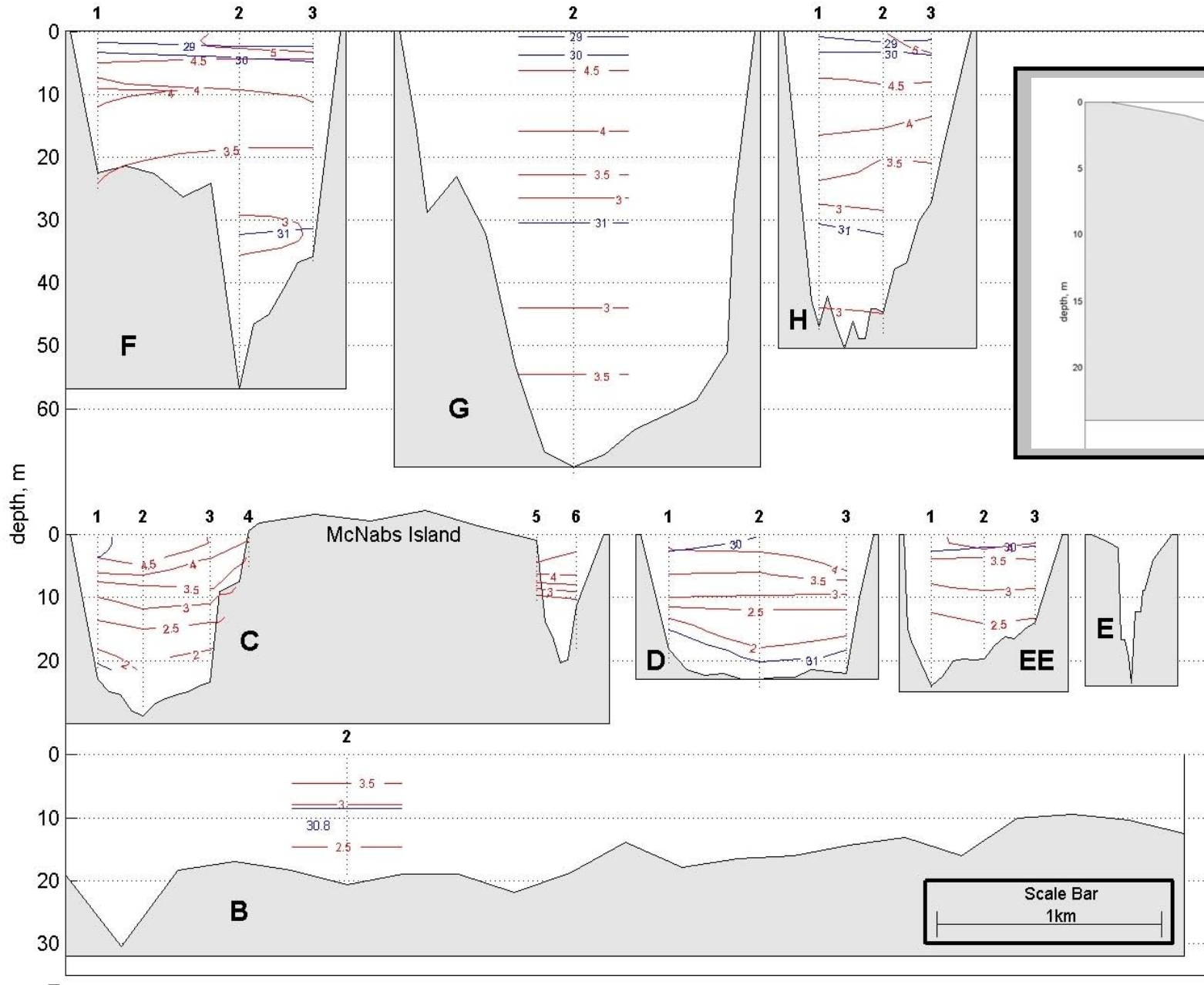
Site	C2-10m	D2-10m	RNSYS-10m	H2-10m
Reference	8	40	52	21
QA/QC	10	120	43	18

Comments:

General: The Harbour is warmer (on average about 0.5° C throughout the water column). In the Basin, there is a layer of colder water (<°3 C) at a depth of between 30 – 40 m. There is a distinct layer of fresher water about 5 m thick in the Basin, likely the result of moderate rainfall (>30 mm) 4 or 5 days before the survey. This layer extends to the Narrows but has a very slight signature south of that. Overall the harbour is somewhat more density stratified than the very uniform conditions of last week. The bottom water in the Basin is quite uniform in density and there is water of similar density as far up harbour as the EE section. This water does not extend to the Narrows but the possibility of an intrusion over the sill exists. The fecal coliform values are very low, except near shore in the Inner Harbour. The highest values were observed at EE3, where detritus in the water was visible. This is consistent with a falling tide and generally north wind, which puts the sample site downstream of the Peace Pavilion outfall. Elsewhere the values are quite low, even lower than last week. Values are generally higher in the 10m samples in the Basin and in the 1m samples South of the Narrows, which is a familiar pattern. There is a seemingly anomalous high value (460 cfu/100 mL) in the surface sample at RNSYS. This sample was collected at the end of the day on a rising tide when the wind had shifted to the south, putting this site downstream from the surface plume from the Chain Rock outfall.

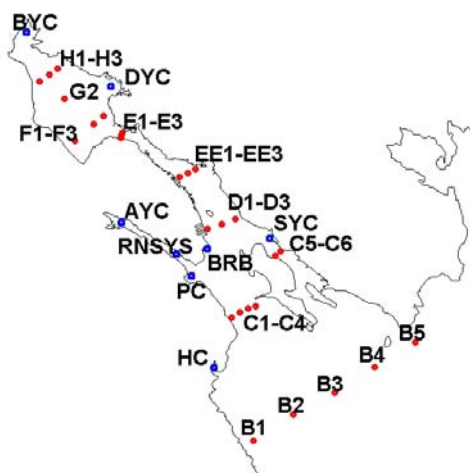
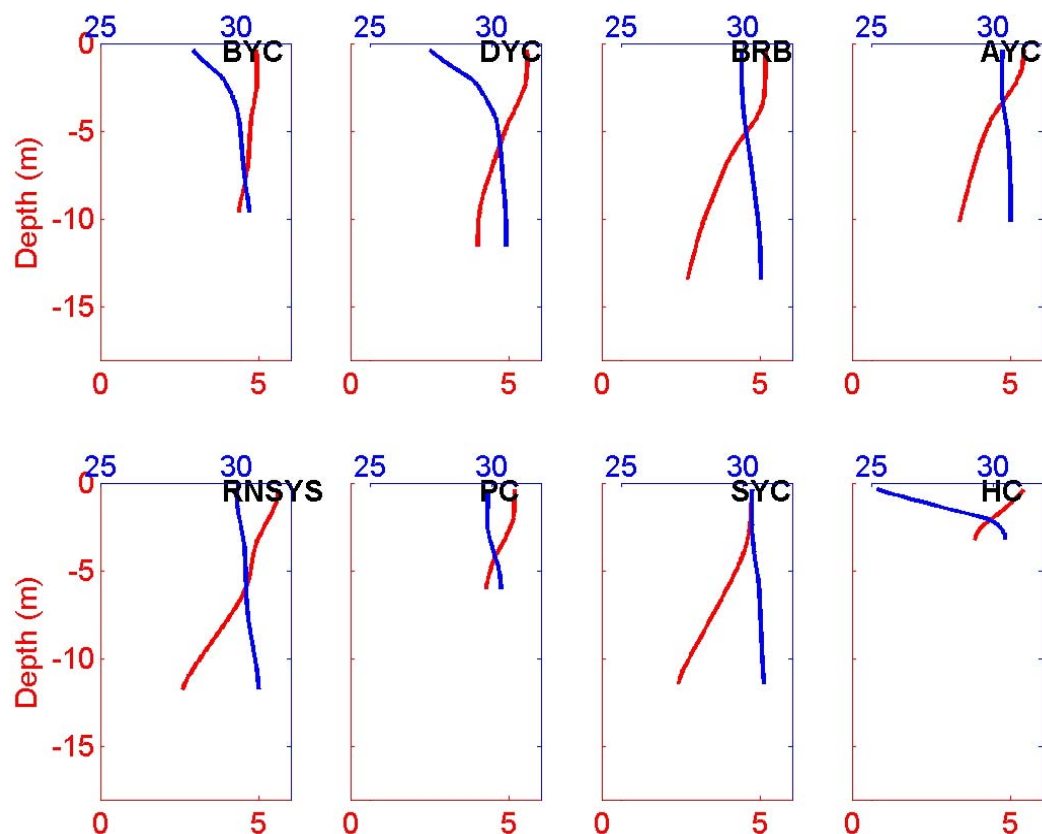
Fluorescence: The phytoplankton bloom evident in the Harbour in previous weeks appears to be continuing at a low level, somewhat reduced from last week. There is no appreciable peak in the Basin this week. The profile maximum levels in the rest of the harbour are relatively unchanged from last week, at about 10-16 mg/m³, although they are shallower at a depth of approximately 10m. The maximum values are deeper in the Outer Harbour, sections B and C.

Dissolved Oxygen: The data indicate that the DO values are very uniform and have changed very little since last week. If anything, the values are slightly higher (perhaps 0.1 – 0.2 mg/L). The DO values in the bottom water in the Basin are stable at about 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).



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

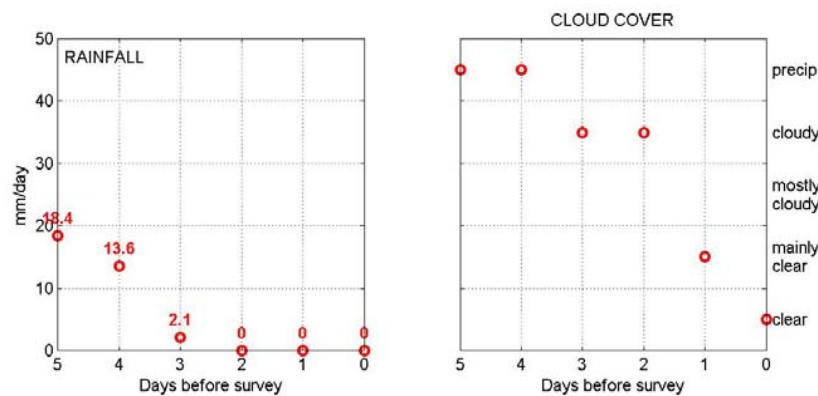
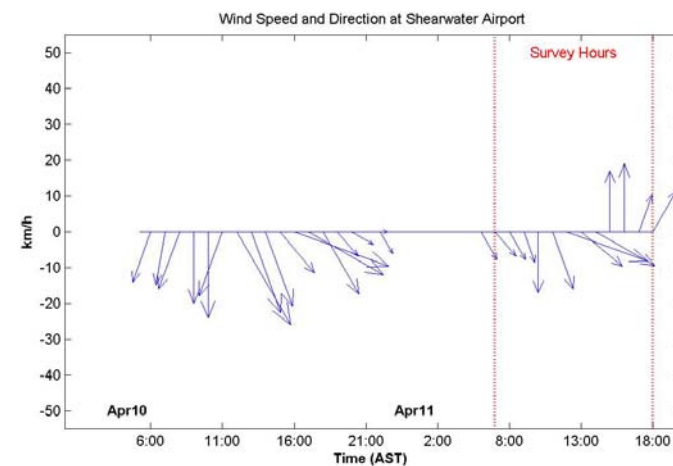
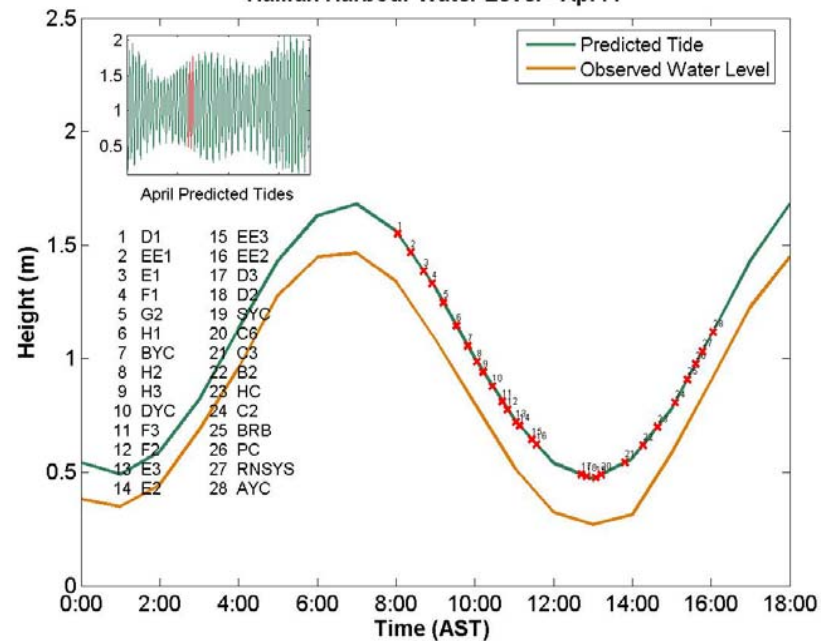
Yacht Clubs

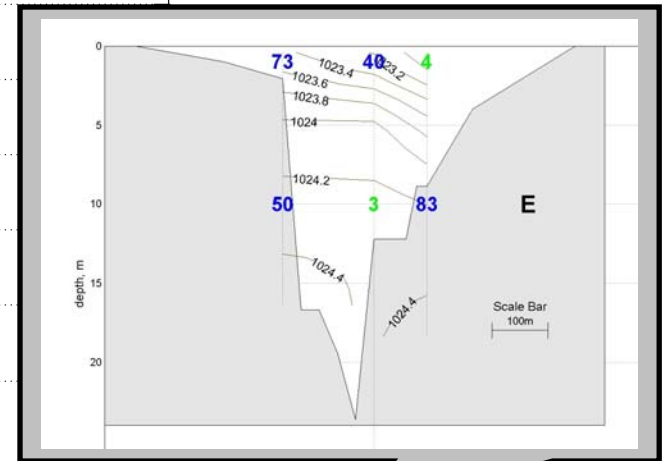
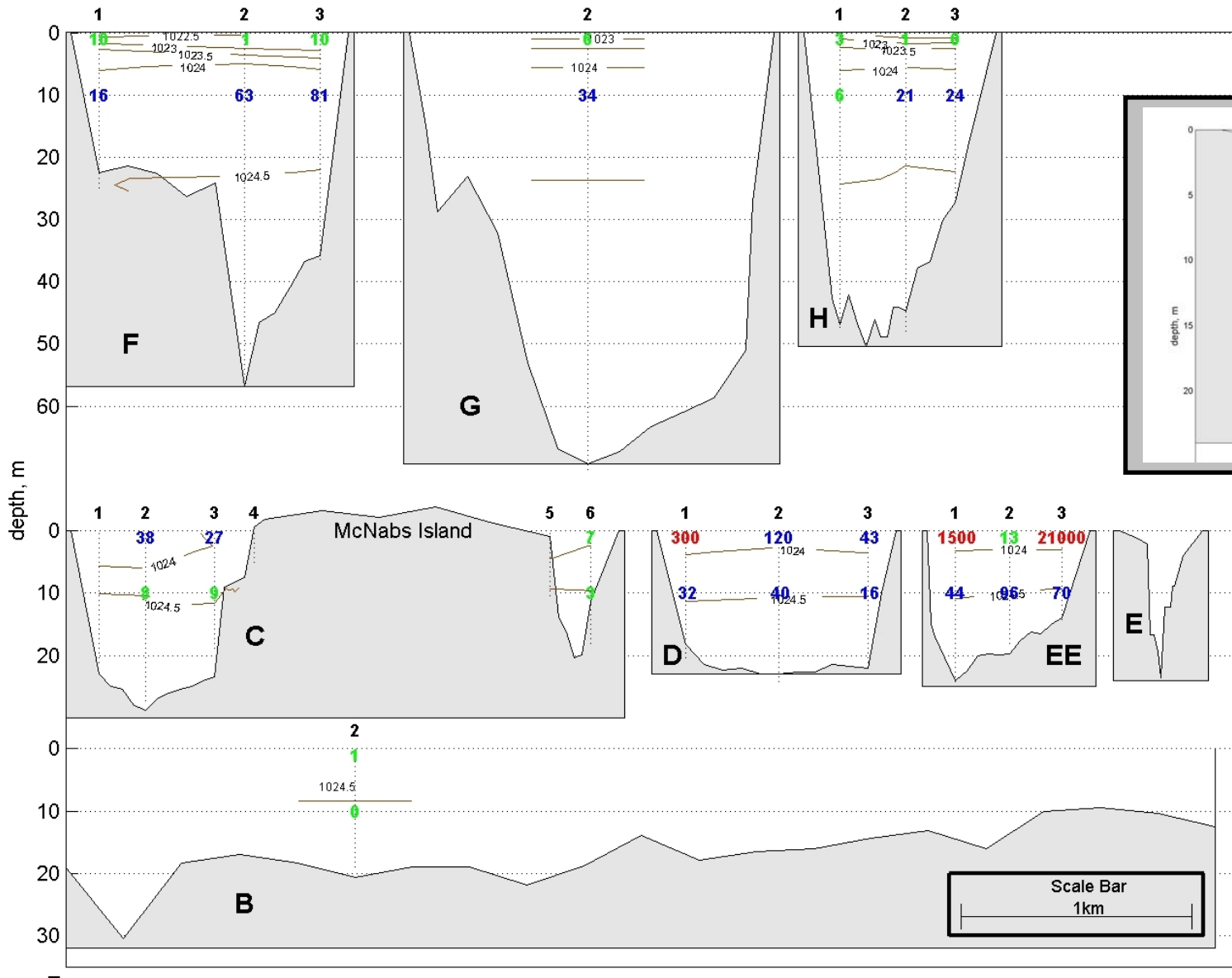


Salinity in PSU Temperature in °C

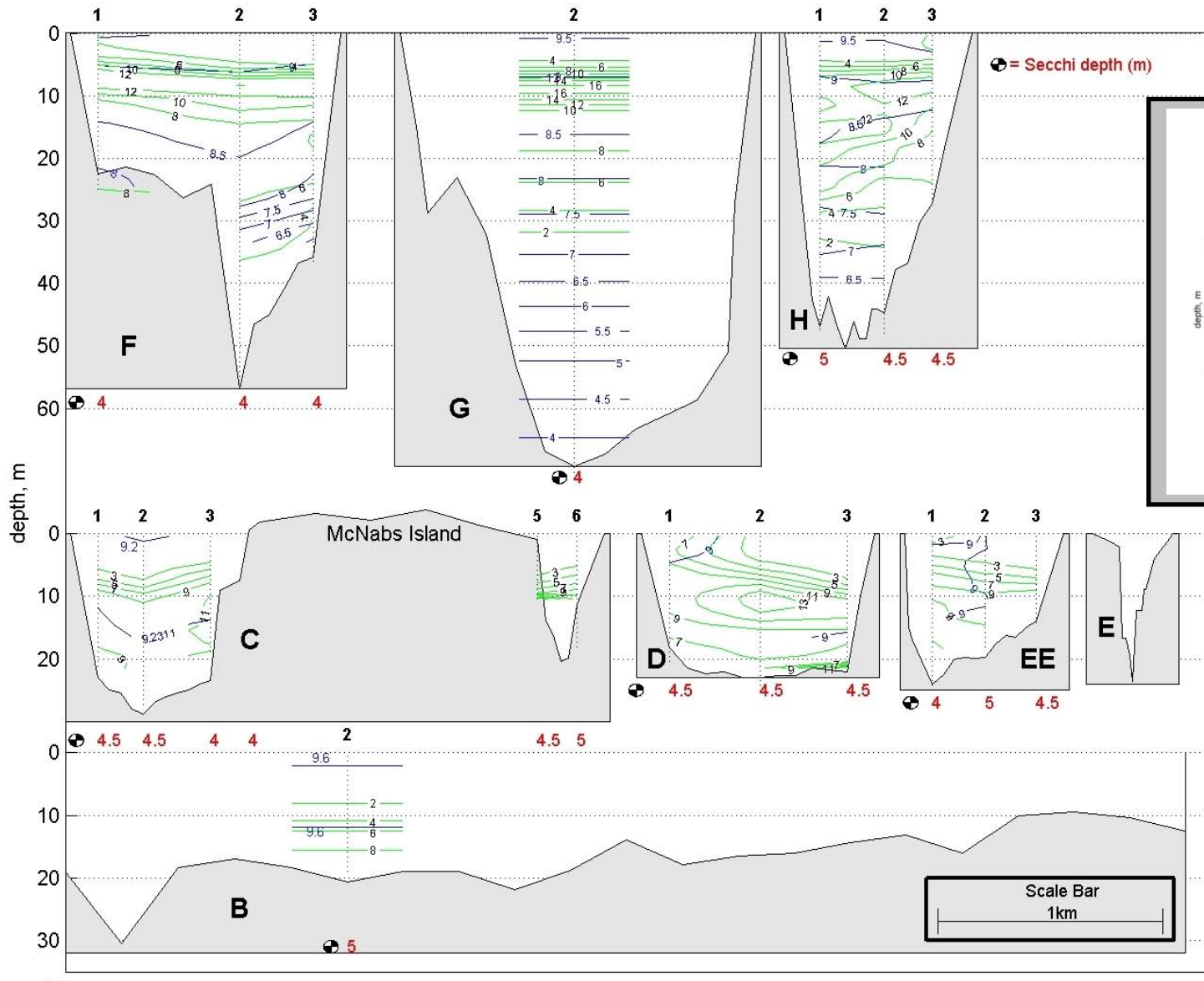
Weather data collected at the Shearwater Airport

Halifax Harbour Water Level - Apr11



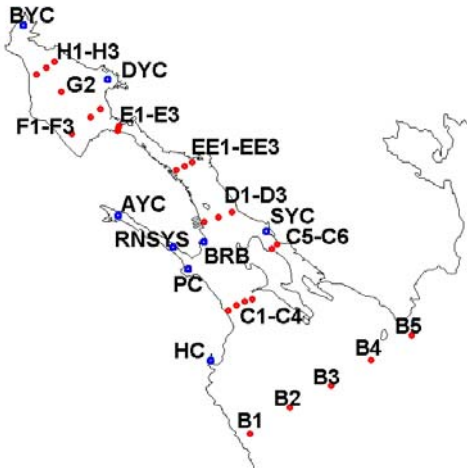
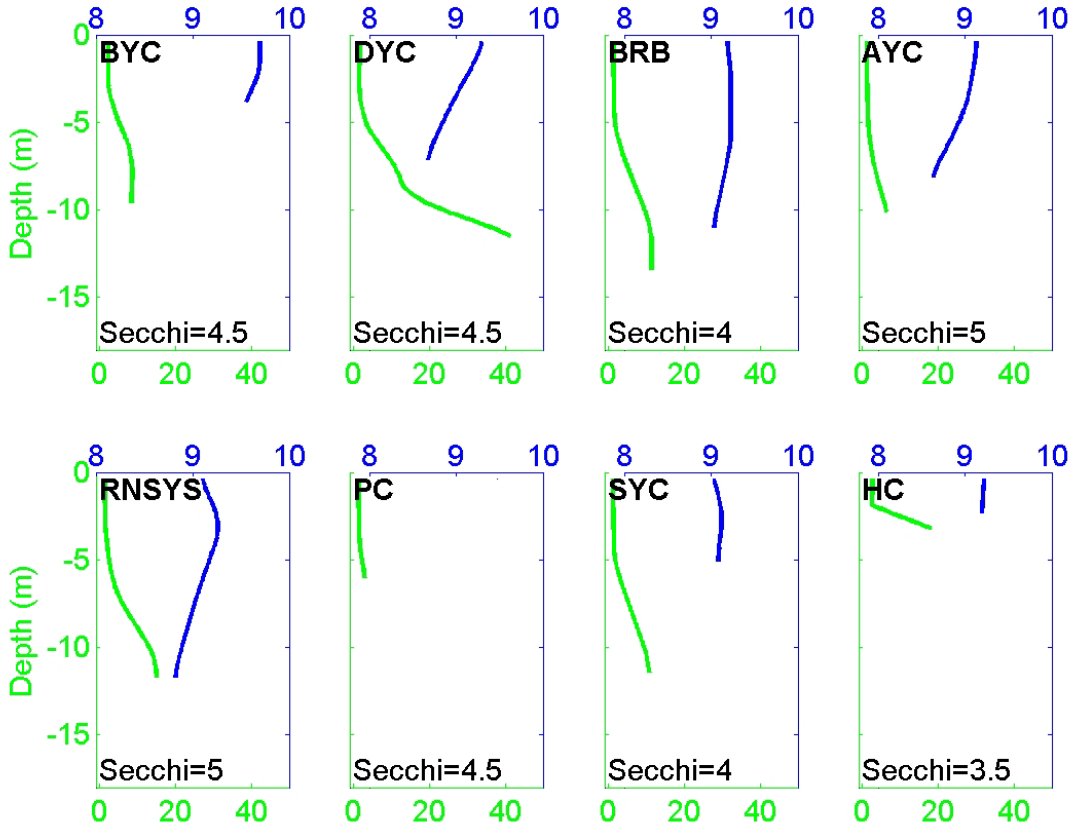


Unless otherwise labeled:
 - **density** contour interval is 0.5 kg/m³



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

Yacht Clubs

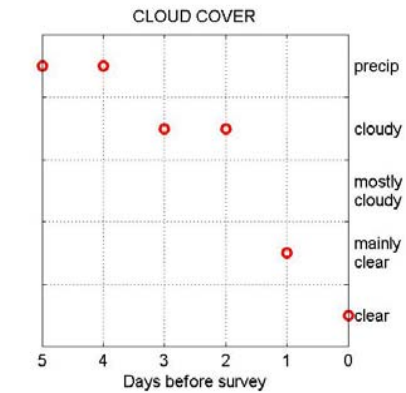
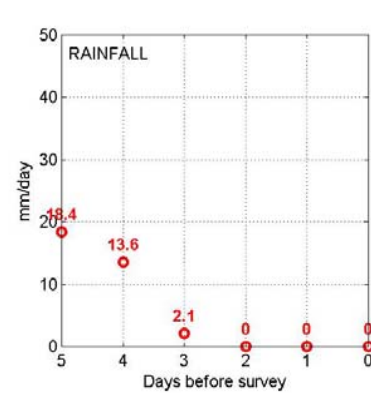
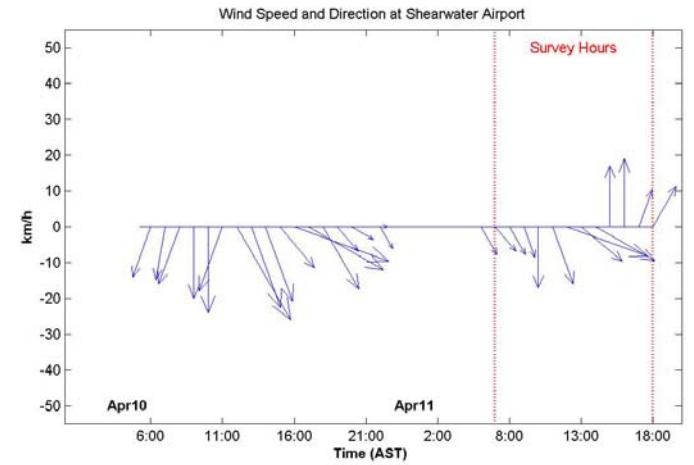
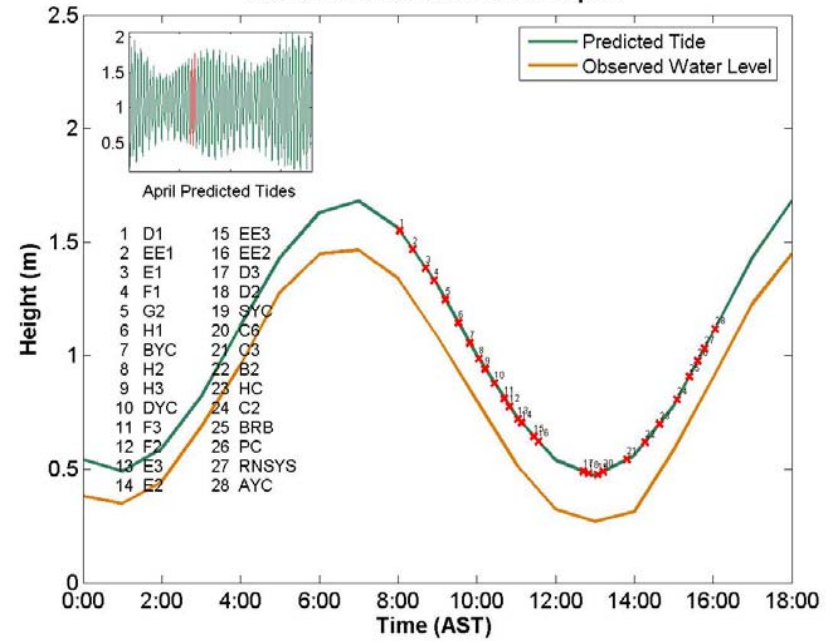


DO in mg/L

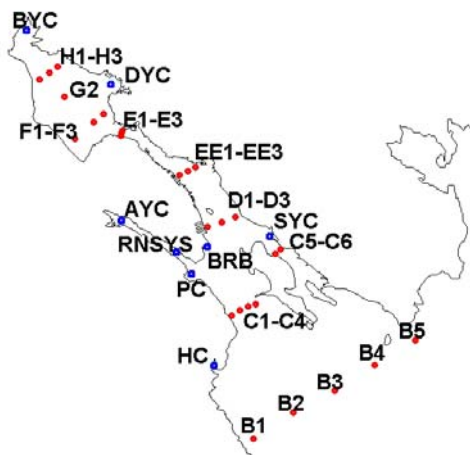
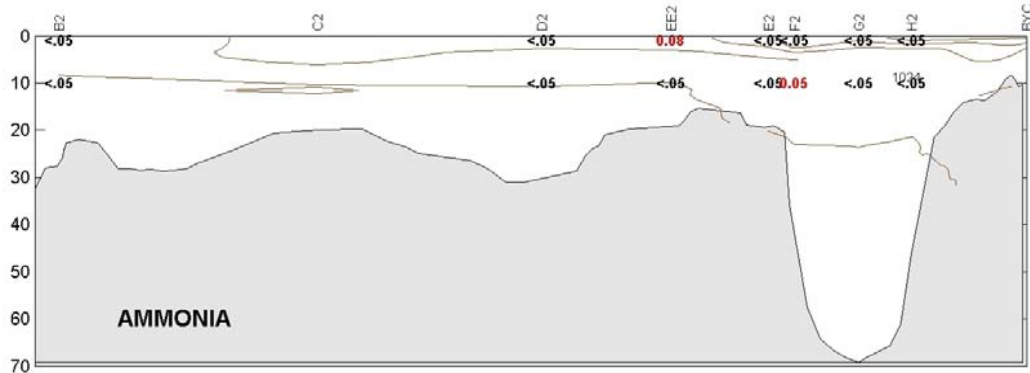
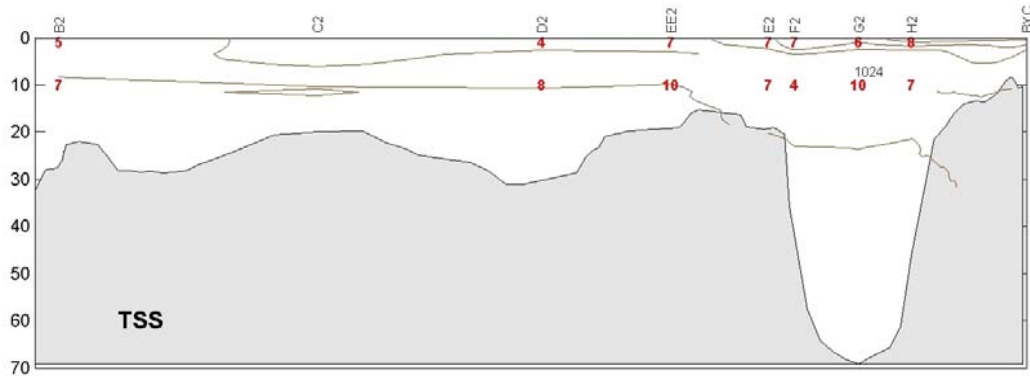
Chlorophyll in mg/m³

Weather data collected at the Shearwater Airport

Halifax Harbour Water Level - Apr11



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 - Apr11

