

Halifax Harbour Water Quality Monitoring Project

Weekly Summary #51

Survey Date: 08 June 2005
Nature of Survey: Complete Survey
Report File (this document): HHWQMP_report051_050608.doc
Data File: HHWQMP_data051_050608.xls

Data Return:

Profile: 97%
 Bacteria: 100%
 Chemical: 100%
Overall: 99%

Sample Notes:

The CTD data file for site H3 is corrupt and was prematurely truncated at 25 seconds, for unknown reasons.

QA/QC samples:

Chemical Analysis		H2 - 1m	
		reference sample	QA/QC
Detectable Parameter	units		
Ammonia (as N)	mg/L	0.16	0.15
Total Suspended Solids	mg/L	5.9	7
Boron	ug/L	2700	2700
Manganese	ug/L	21	<20
Lithium	ug/L	120	120
Strontium	ug/L	5500	5300
Titanium	ug/L	48	49
Uranium	ug/L	2.7	2.4

Fecal Coliform (CFU/100ml)

Site	EE3-10M	D3-10M	SYC-1M	H2-1M
Reference	520	56	5	200
QA/QC	490	280	6	65

Regulated parameters with all samples below detection (<EQL)

Parameter	EQL(µg/L)	Parameter	EQL(µg/L)	Parameter	EQL(mg/L)
Cadmium	3	Lead	5	Oil and Grease	5
Chromium	20	Nickel	20		
Copper	20				

Detectable non regulated metals

Metal	EQL (µg/L)	Number >EQL	Mean (µg/L)	Range (µg/L)
Boron	500	15	3107	2700-3400
Lithium	20	15	139	120-150
Strontium	50	15	6273	5300-7200
Titanium	20	15	56	48-68
Uranium	1	15	2.9	2.3-3.6

Comments:

Manganese: Two samples (EE2-1m, 20 ug/L; and H2-1m, 21 ug/L) had detectable levels of manganese. These do not exceed the guideline of 100 ug/L.

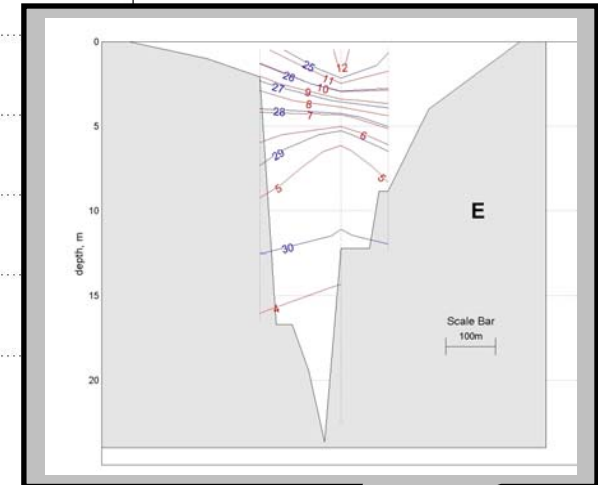
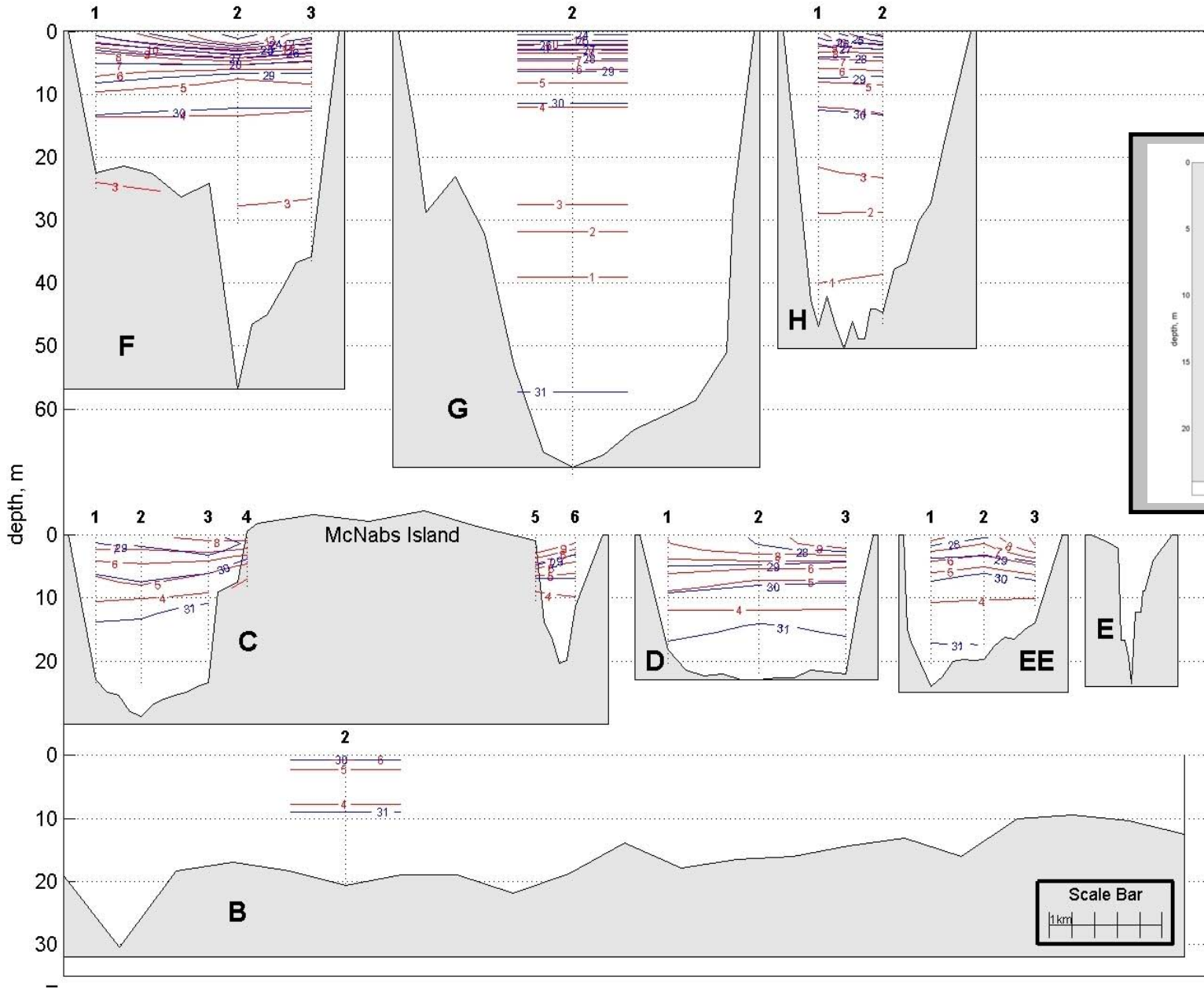
Zinc: Two samples (F2-1m, 75 ug/L; and G2-1m, 140 ug/L) had detectable levels of zinc. Site G2 exceeds the guideline level of 86 ug/L.

Dissolved Oxygen: Dissolved oxygen was virtually uniform (7.8-8 mg/L) in the surface waters of the Harbour. Water deeper than 55m in the Basin, (i.e. at site G2) had DO values of 6.5 mg/L, which is below the class SB guideline of 7 mg/L. This is the only value below applicable guidelines, although the data suggest that site B2 is close to the 8 mg/L guideline for class SA waters.

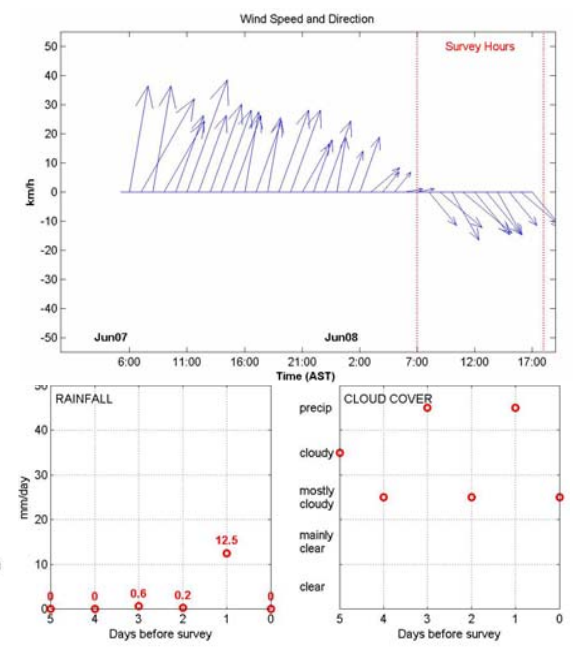
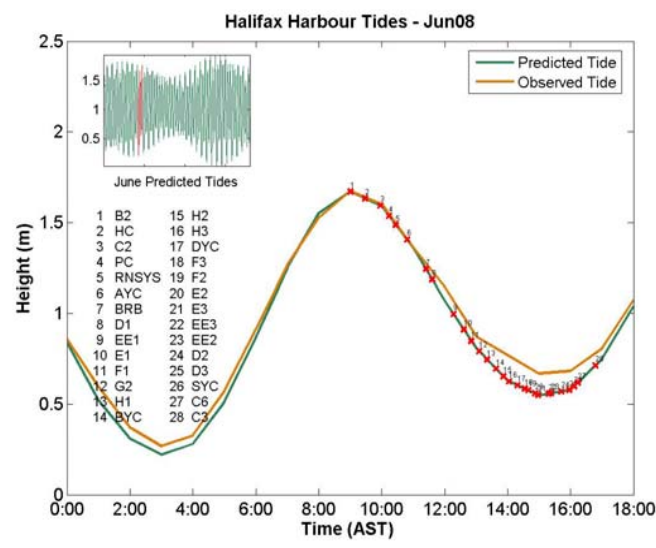
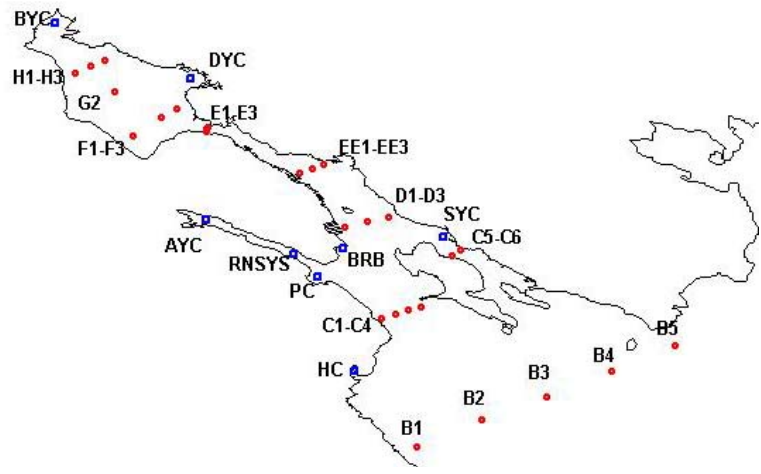
Chlorophyll: The maximum value of fluorescence through the Harbour is generally 2 mg/m³, with the exception being the F section, where it values are 3 mg/m³. Fluorescence is much reduced from last week, where high values in the top 10 metres of Bedford Basin and the Narrows were observed.

General: Moderate rainfall the day before the survey continued the wet weather trend of the previous week. These wet conditions can explain the residual stratification observed in the data. The high fecal coliform values at sites D and EE were perhaps due to a combination of estuarine circulation and the moderate up-harbour winds.

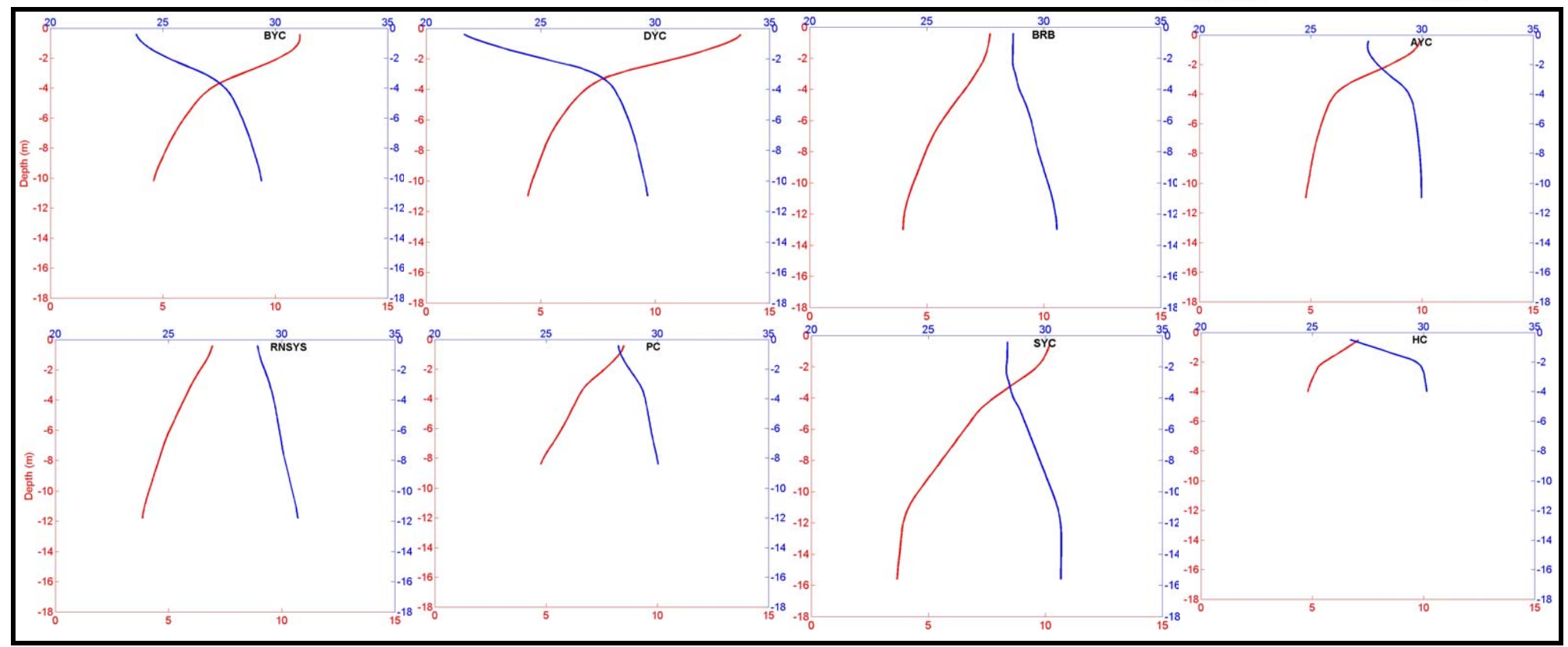
TEMPERATURE-SALINITY CONTOURS



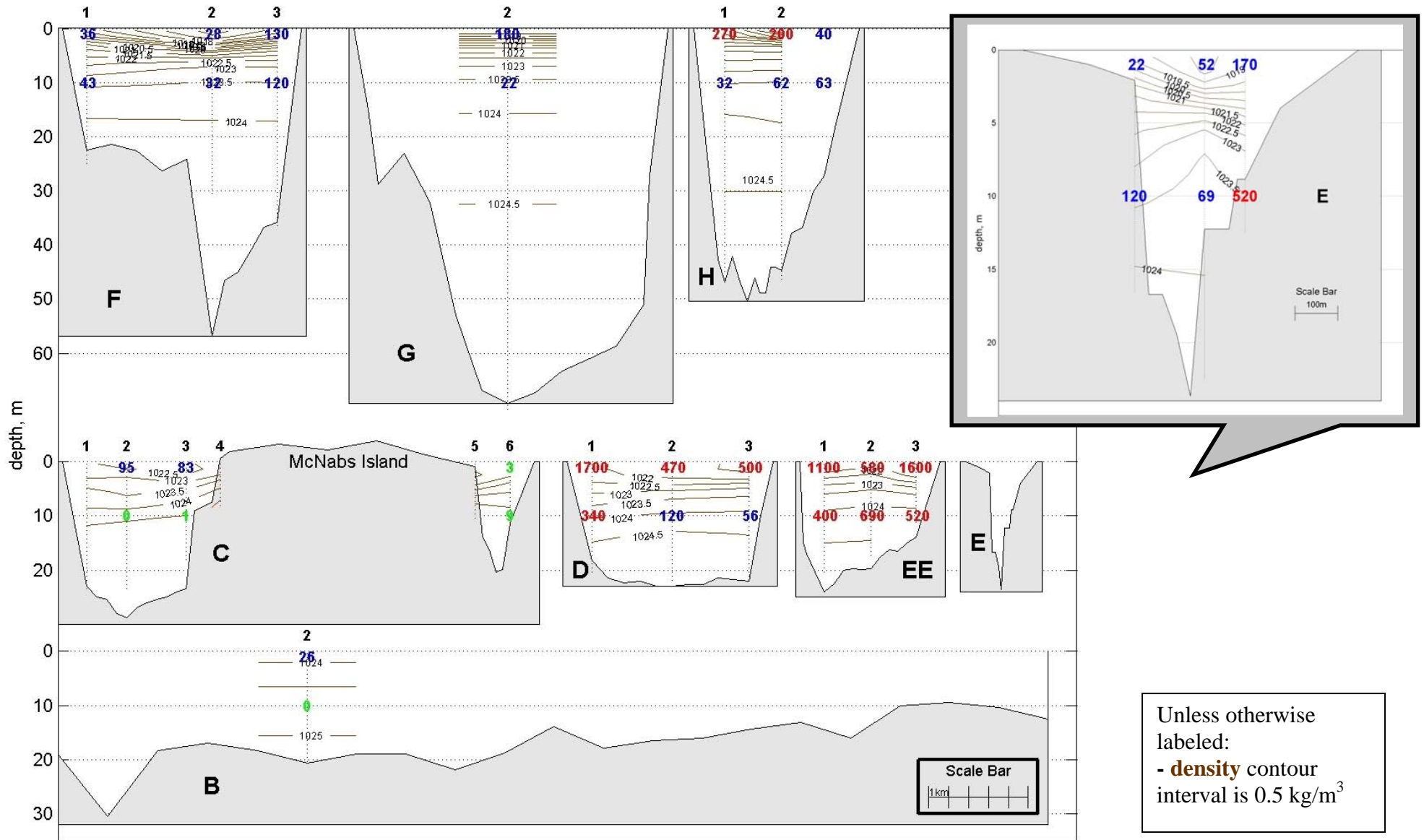
Unless otherwise labeled:
- salinity contour interval is 1 PSU
- temperature contour interval is 1°C.



Yacht Clubs



Salinity in PSU Temperature in °C

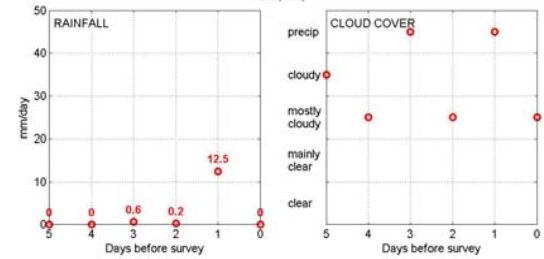
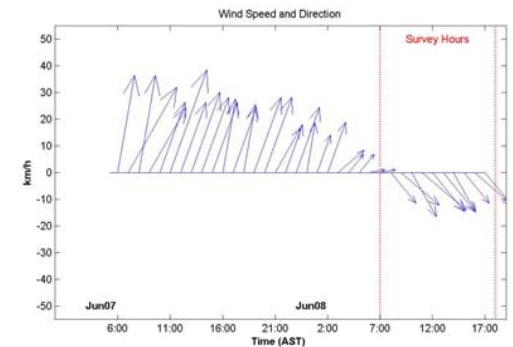
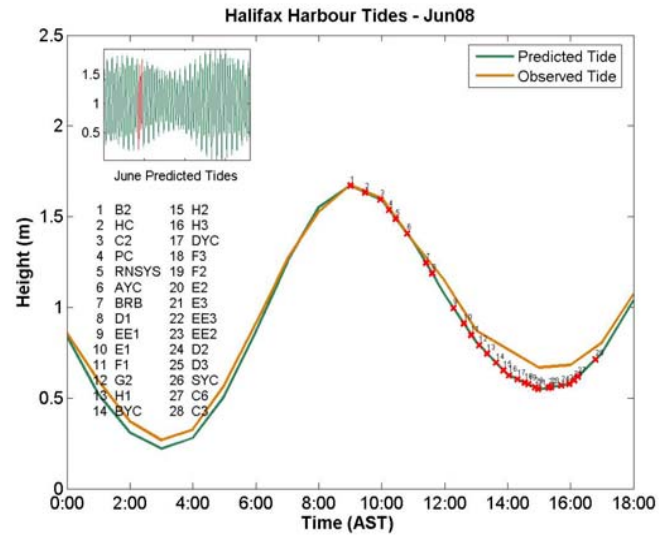
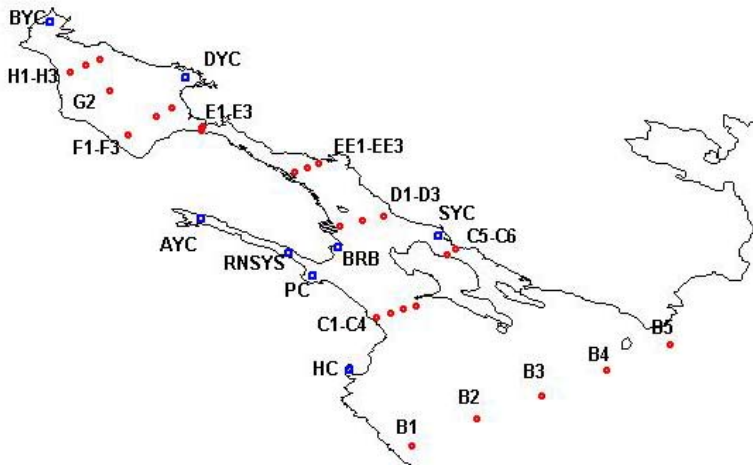


Potential Density in kg/m³

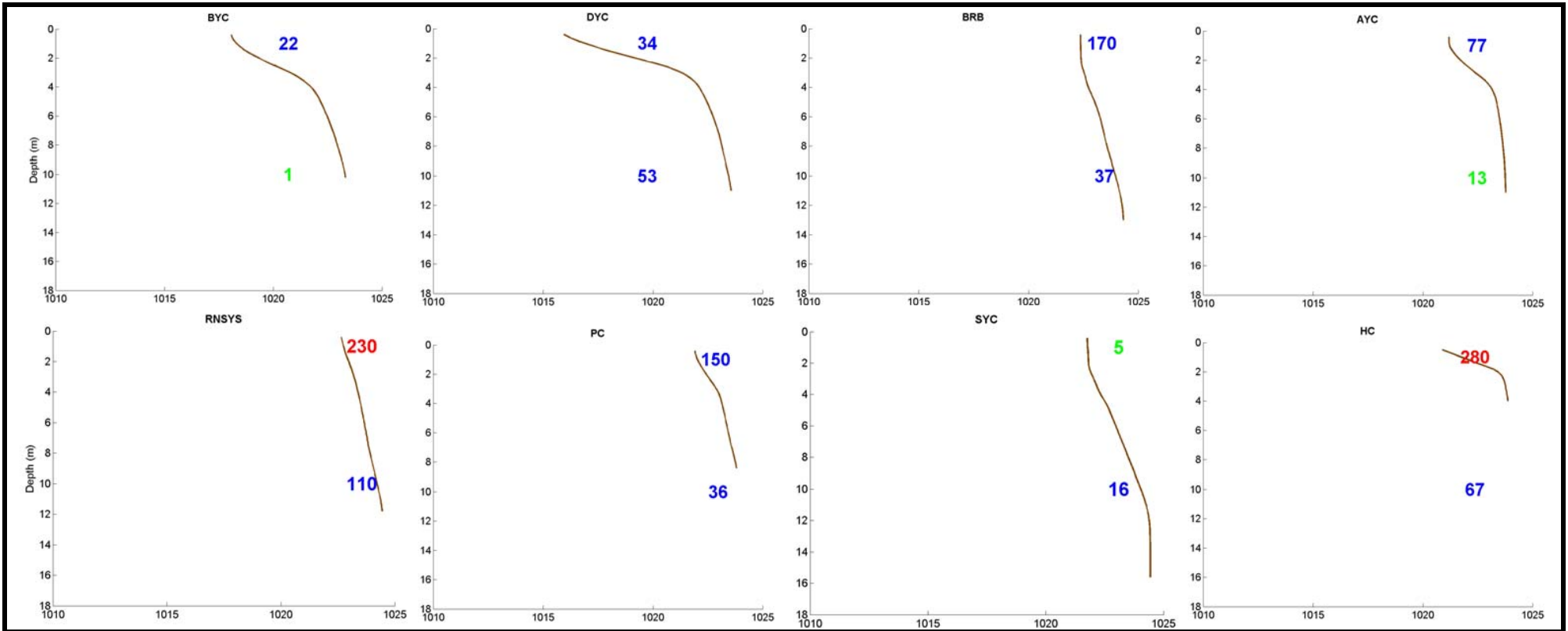
Fecal coliform: below limits

above shellfish limit (14 cfu/100mL)

above swimming limit (200 cfu/100mL)



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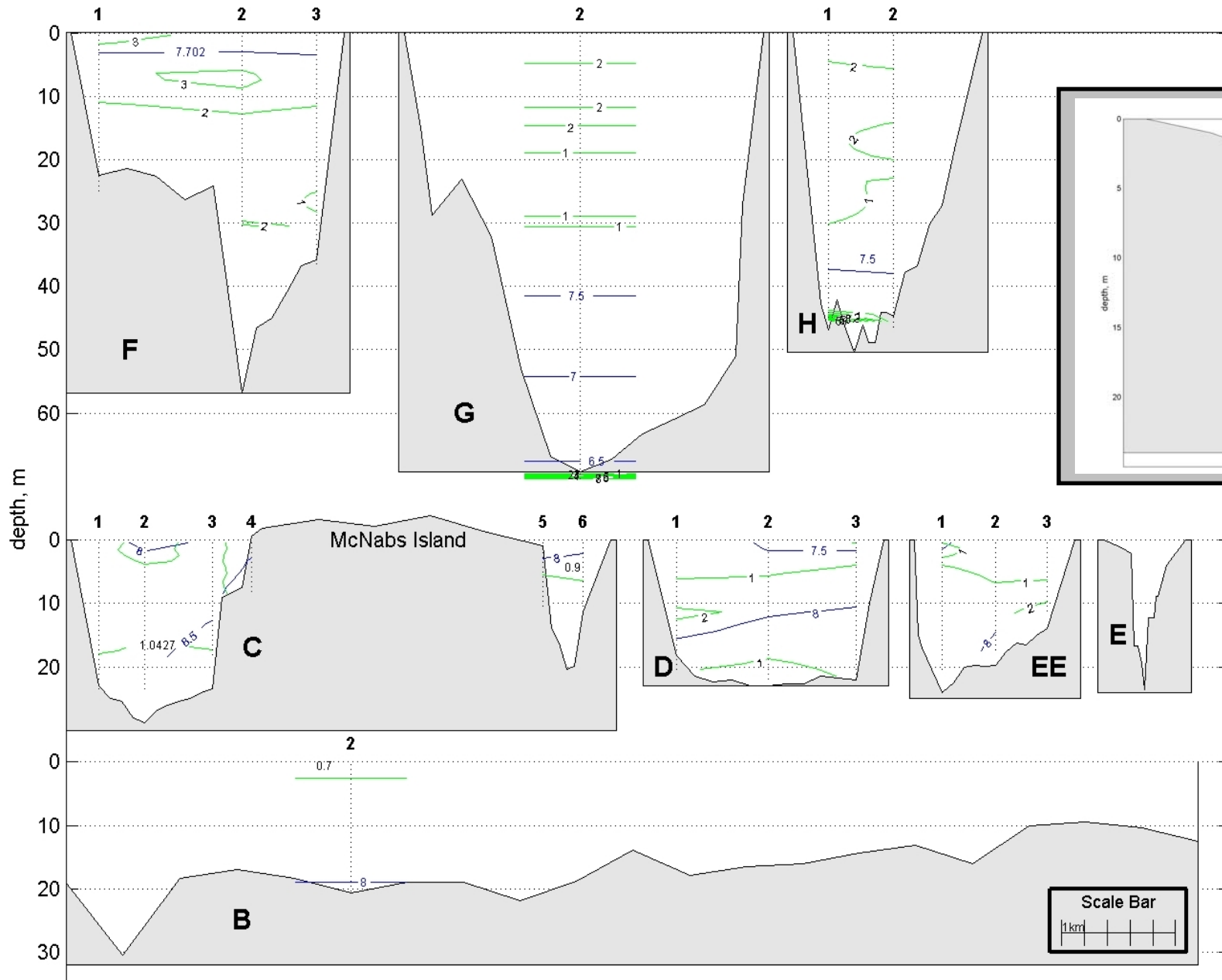


Potential Density in kg/m^3

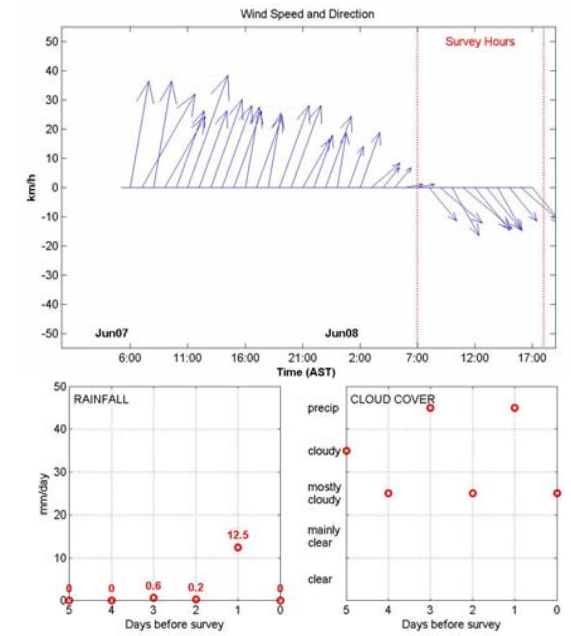
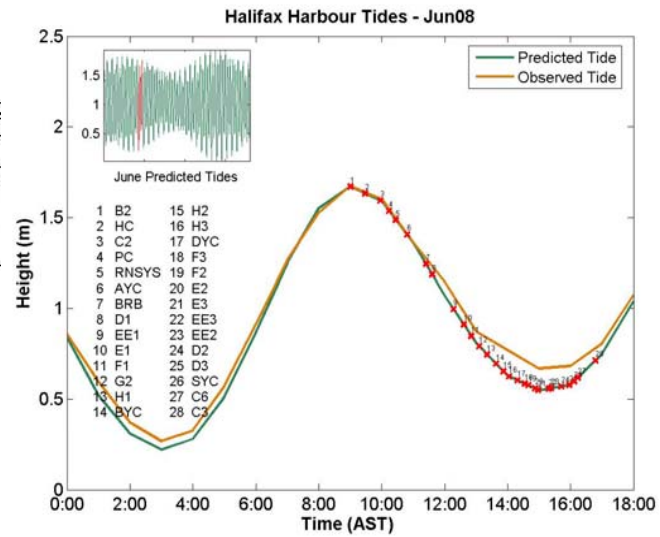
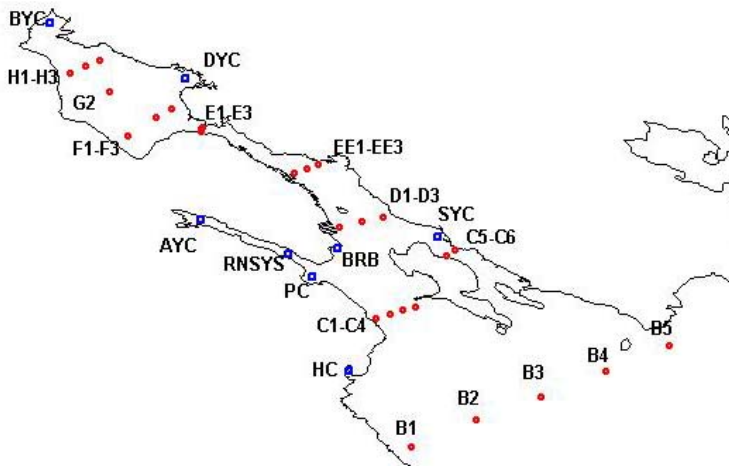
Fecal coliform: below limits

above shellfish limit (14 cfu/100mL)

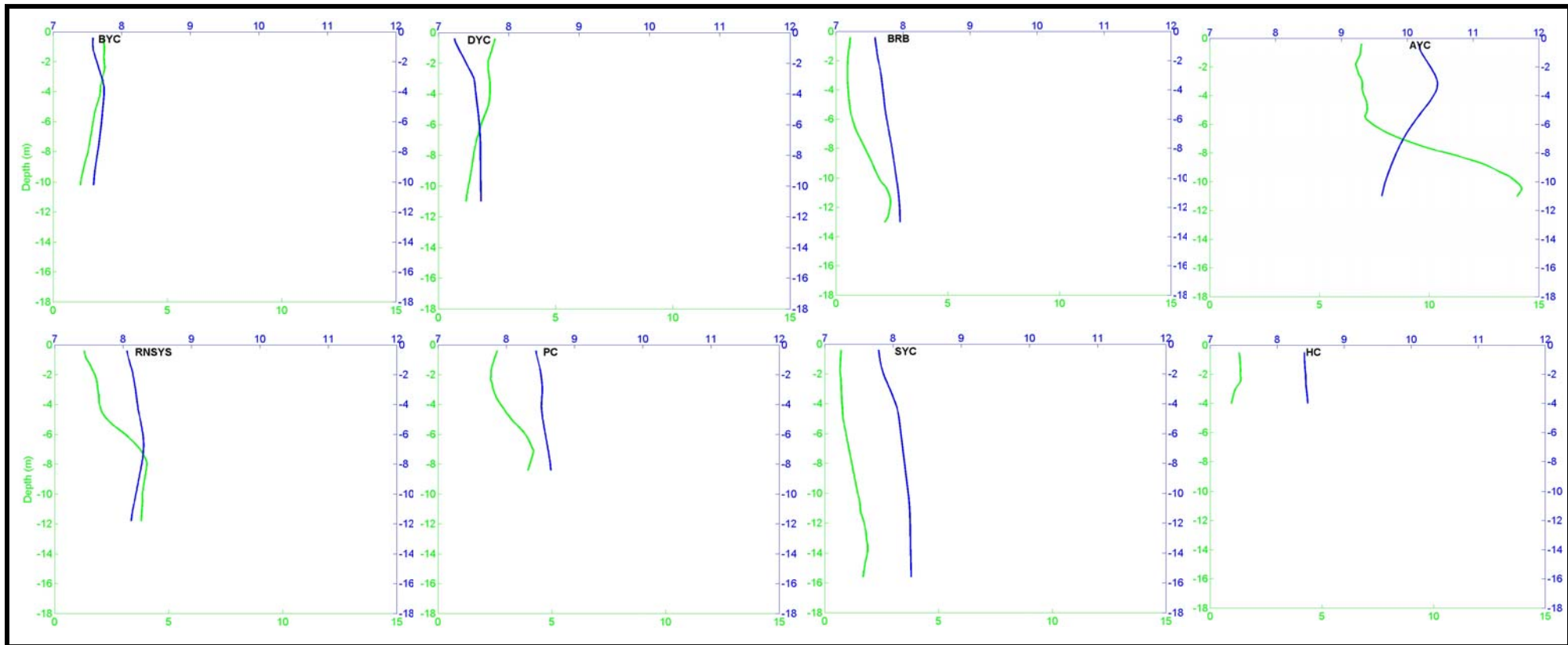
above swimming limit (200 cfu/100mL)



Unless otherwise labeled:
 - **dissolved oxygen** contour interval is 0.5 mg/L
 - **chlorophyll** contour interval is 1mg/m³.

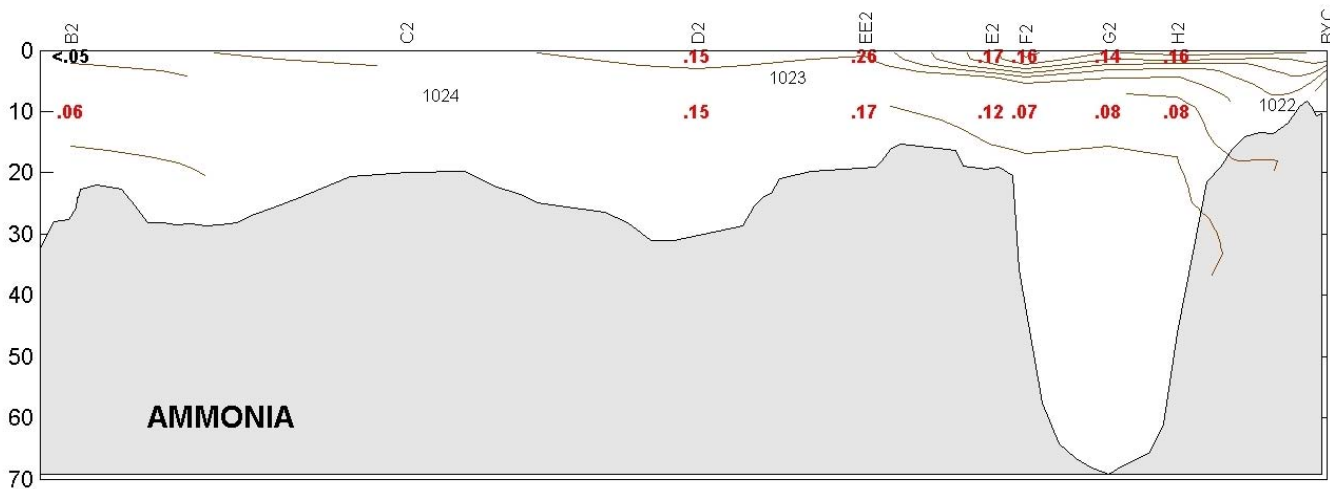
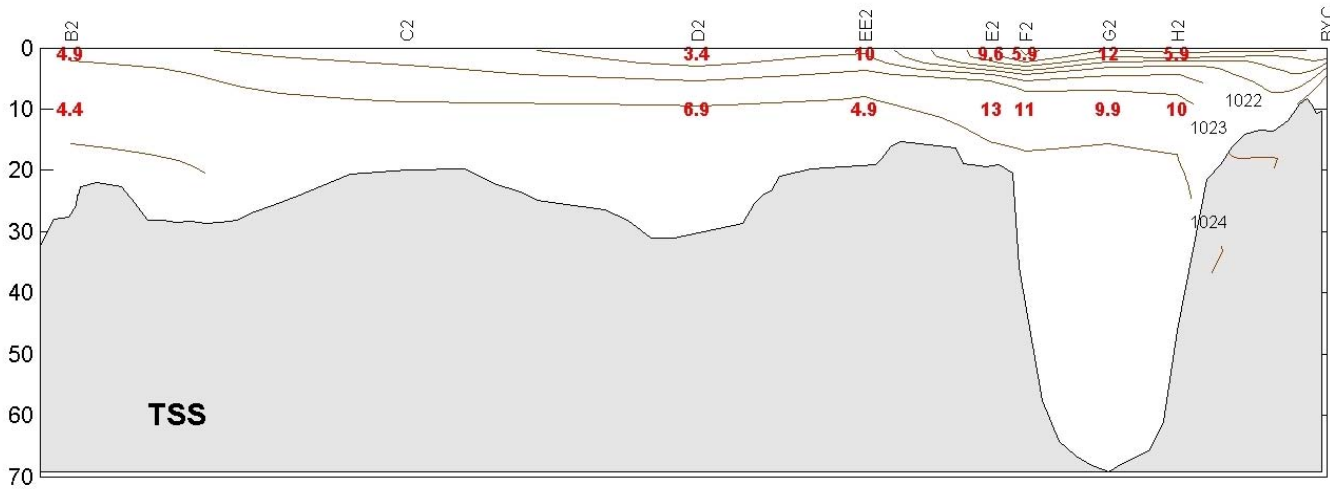
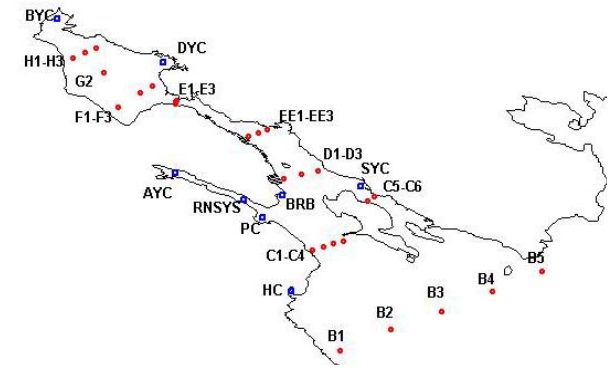


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DO in mg/L Chlorophyll in mg/m³

CHEMISTRY



Potential Density in kg/m^3

Ammonia in mg/L

TSS in mg/L

