

Halifax Harbour Water Quality Monitoring Program

Weekly Summary #35

Survey Date: 15 Feb 05
Nature of Survey: Complete Survey
Report File (this document): HHWQMP_report035_050215.doc
Data File: HHWQMP_data035_050215.xls

Data Return:

Profile: 87%
 Bacteria: 86%
 Chemical: 86%
Overall: 86%

Sample Notes:

Stations BYC and DYC were not sampled due to ice

A CTD profile was taken at alternate site BYC-Alt at ice edge. Coordinates: 44.7113 N, 63.6603 W

Stations B2, HC and PC were not sampled due to weather (PC - proximity to rocks)

QA/QC samples: (ND=Not detected)

Chemical Analysis

Detectable Parameter	units	D2-10m	
		reference Sample	QA/QC
Carbonaceous BOD	mg/L	3.4	6.9
Ammonia (as N)	mg/L	0.07	0.09
Total Suspended Solids	mg/L	6.0	7.1
Copper	ug/L	21	23
Boron	ug/L	3600	4000
Lithium	ug/L	160	180
Strontium	ug/L	8000	7200
Titanium	ug/L	63	53
Uranium	ug/L	3.3	2.9
Zinc	ug/L	58	90

Fecal Coliform (CFU/100ml)

Site	F3-1m	F3-10m	D1-1m	D1-10m
Reference	1100	760	670	36
QA/QC	810	520	440	22

Regulated parameters with all samples below detection (<EQL)

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

Detectable non regulated metals

Metal	EQL (µg/L)	Number >EQL	Mean (µg/L)	Range (µg/L)
Aluminum	100	1	140	140
Boron	500	13	3577	3400-4000
Lithium	20	13	165	150-180
Strontium	50	13	7515	7200-8000
Titanium	20	13	61	53-66
Uranium	1	13	3.1	2.9-3.3

Comments:

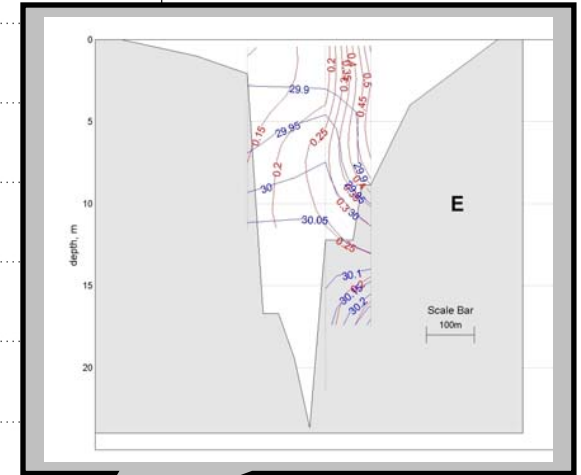
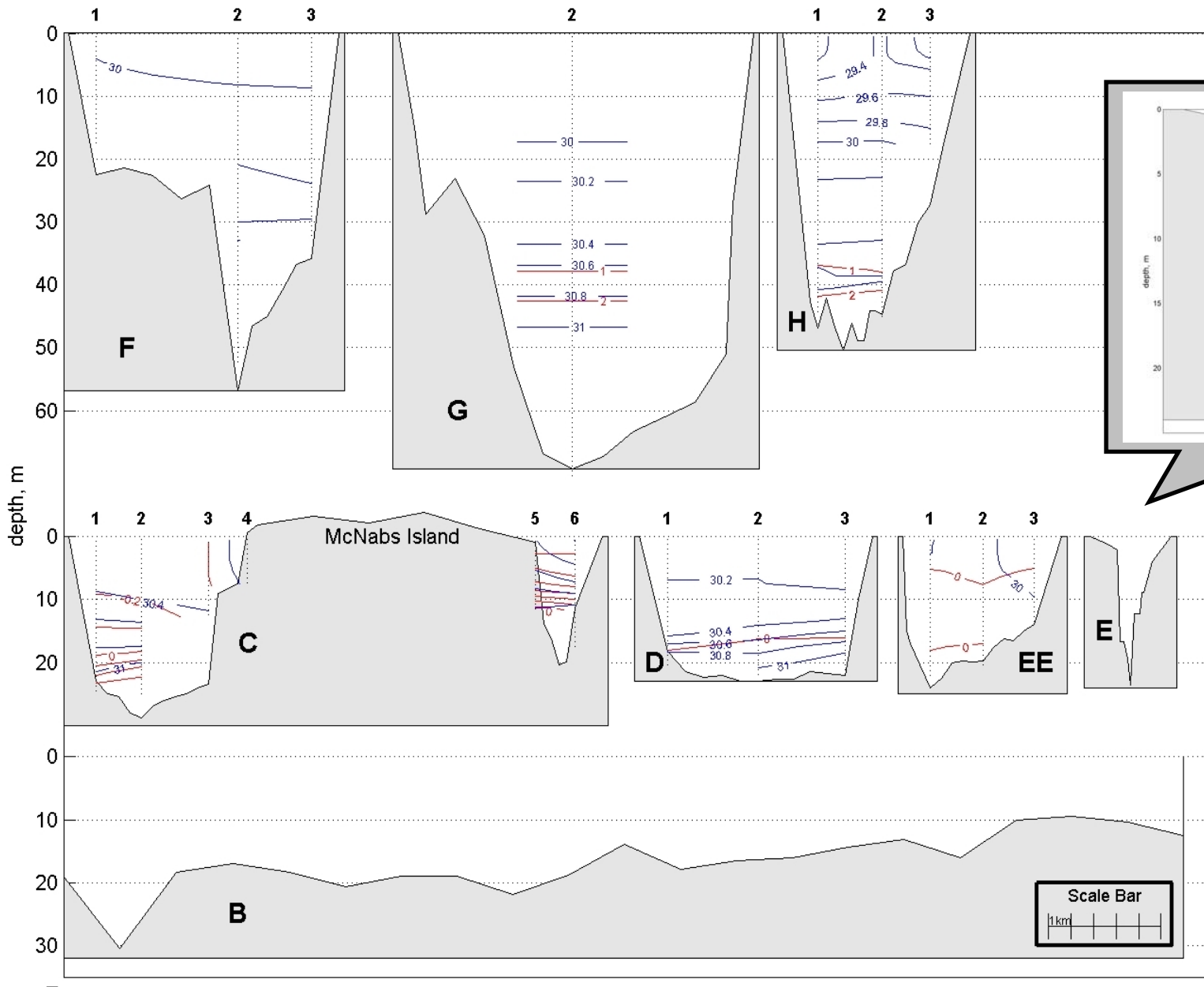
Copper: 2 samples had detectable levels: D2-10m with 21 ug/L, and the QA/QC sample of the same site with 23 ug/L. These both exceed the guideline of 2.9 ug/L

Zinc: 2 samples had detectable levels: D2-10m with 58 ug/L, and the QA/QC sample of the same site with 90 ug/L. The QA/QC sample exceeds the guideline of 86 ug/L.

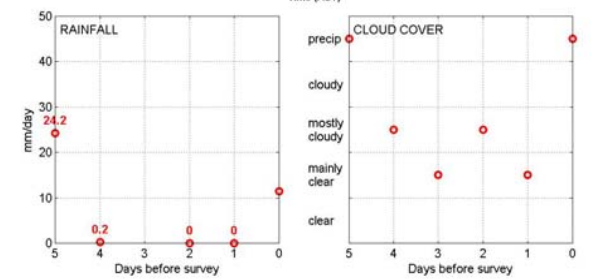
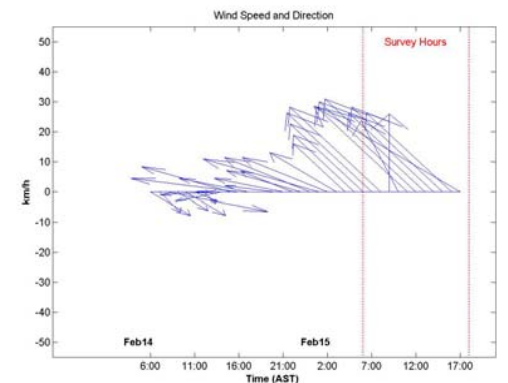
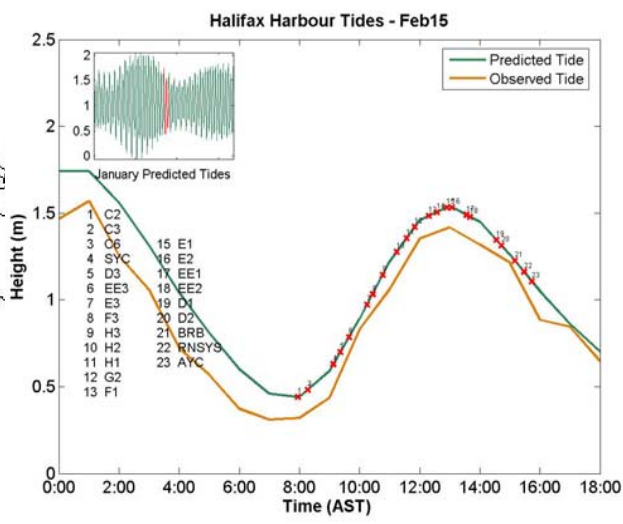
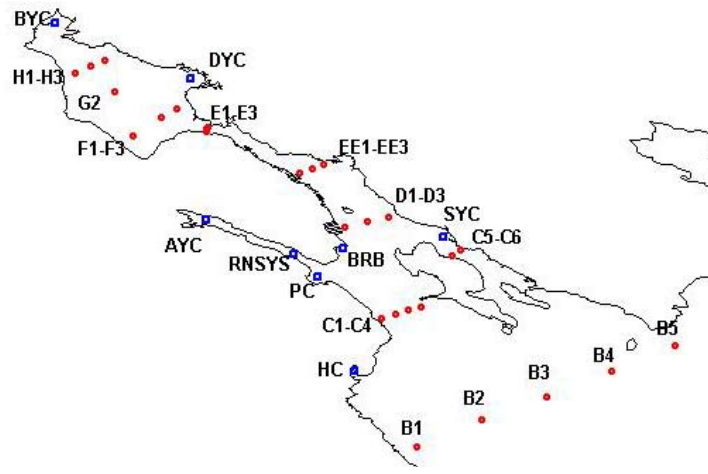
CBOD₅: 2 samples had detectable levels: D2-10m with 3.4 mg/L, and the QA/QC sample of the same site with 6.9 mg/L.

Dissolved Oxygen: There is an anomaly in the DO profile at site C2. The DO jumps to 16 mg/l between 10 and 20 m. This is unrealistic but there is no obvious instrumental cause. The DO values in all surface water (<20-25M) are high at approximately 9.5-10 mg/l, therefore no guidelines are exceeded. The bottom water in the Basin has a minimum DO of approximately 2.0 mg/l

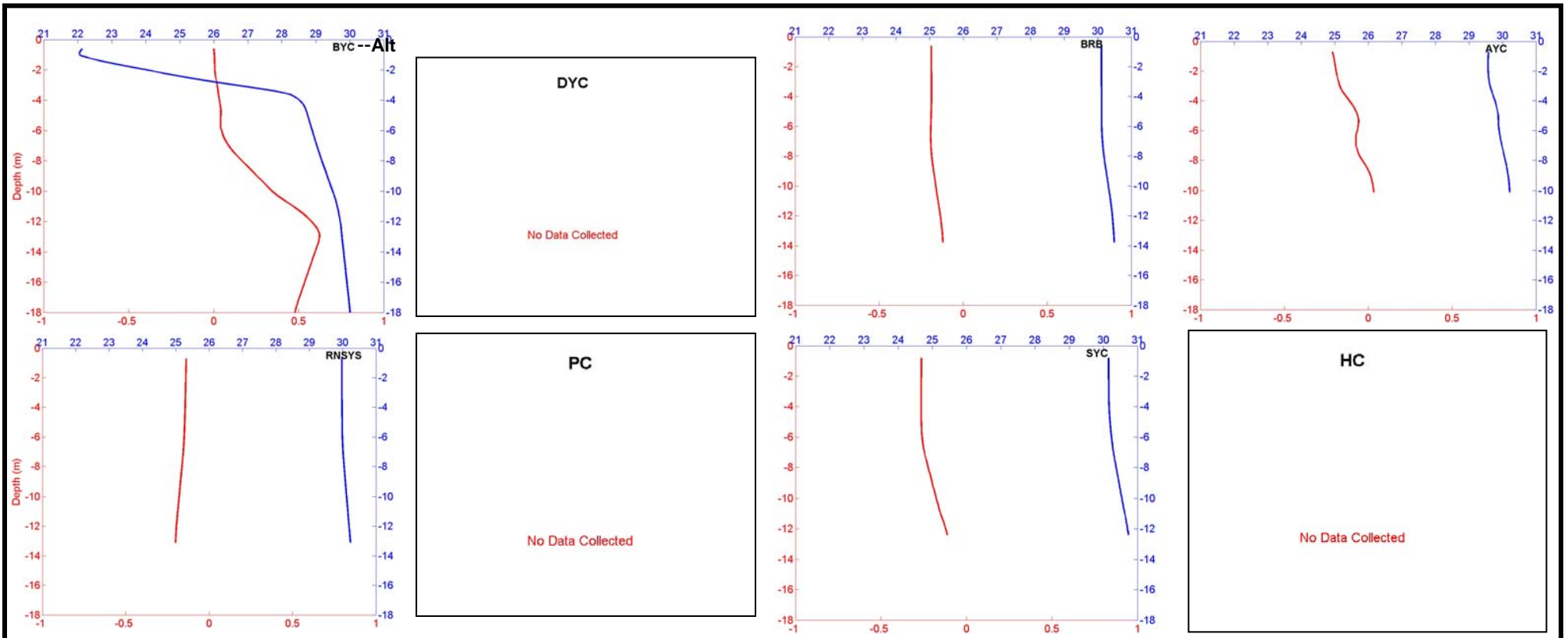
General: There is more vertical and horizontal structure in salinity (density) compared to last week. The coliform data continues to exhibit high values in a distinct horizontal distribution. This distribution is displaced up harbour from last week, affecting primarily Sections EE, E and F. This seems inconsistent with the expected estuarine circulation, implied by the density distribution, but consistent with the strong up harbour winds and rising/high tide during sampling.



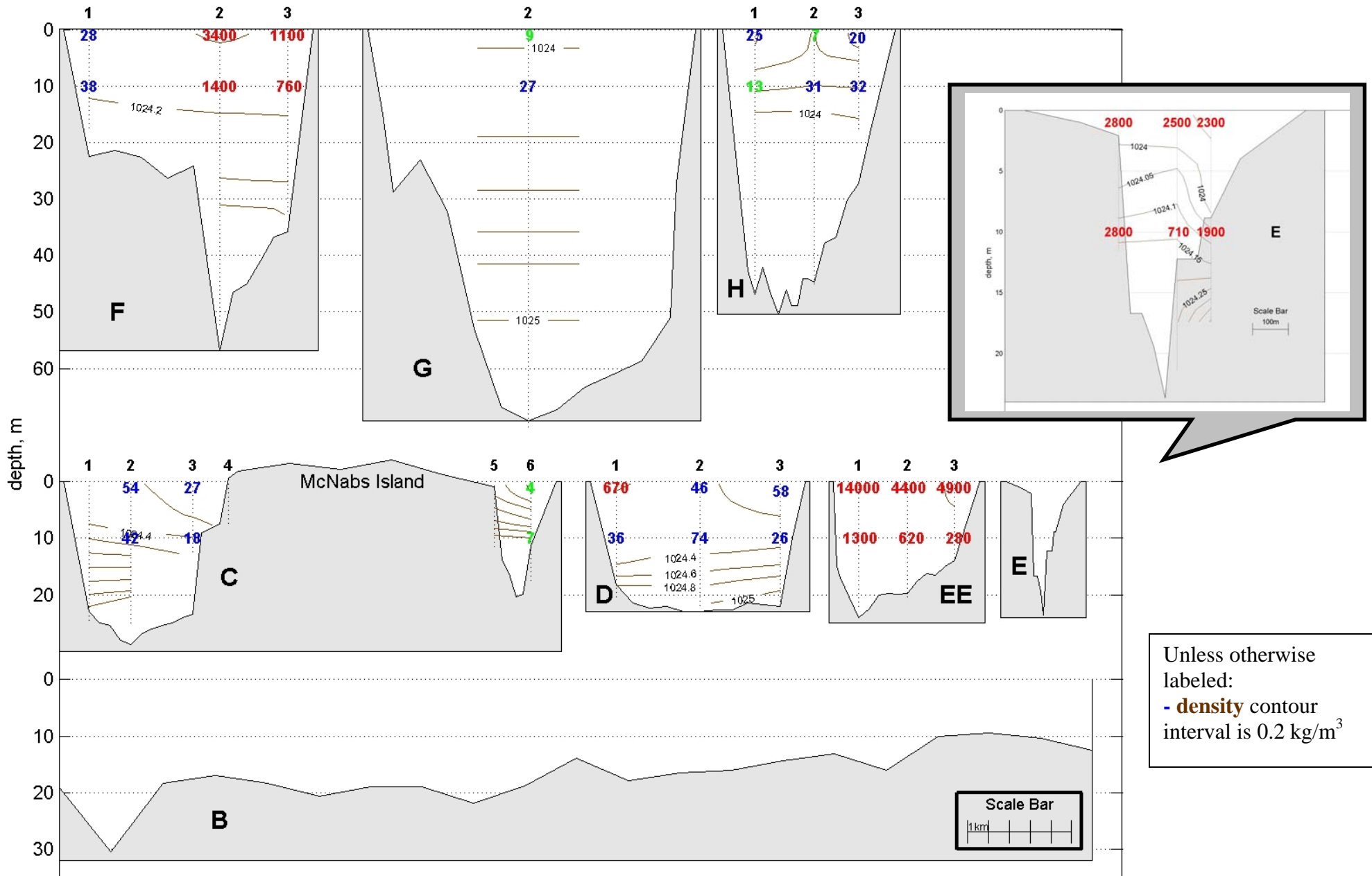
Unless otherwise labeled:
 - salinity contour interval is 0.2 PSU
 - temperature contour interval is 1°C.



Yacht Clubs



Salinity in PSU Temperature in °C



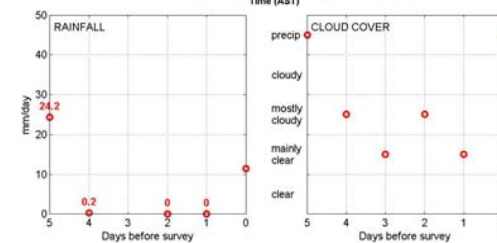
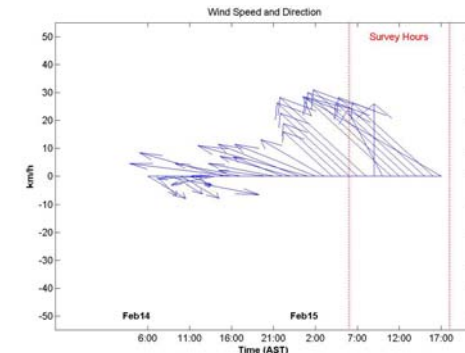
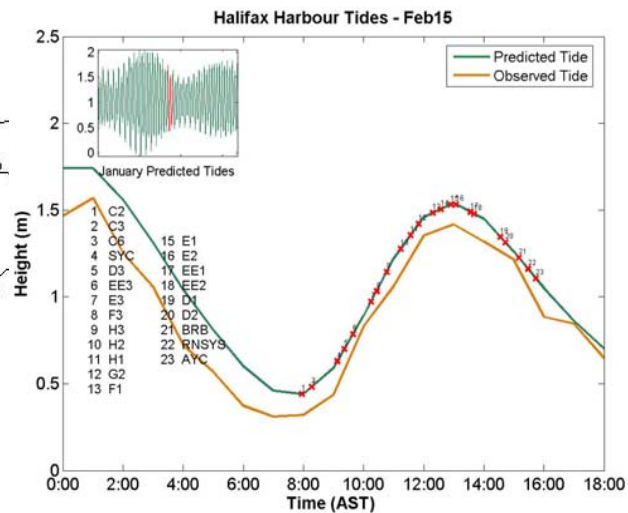
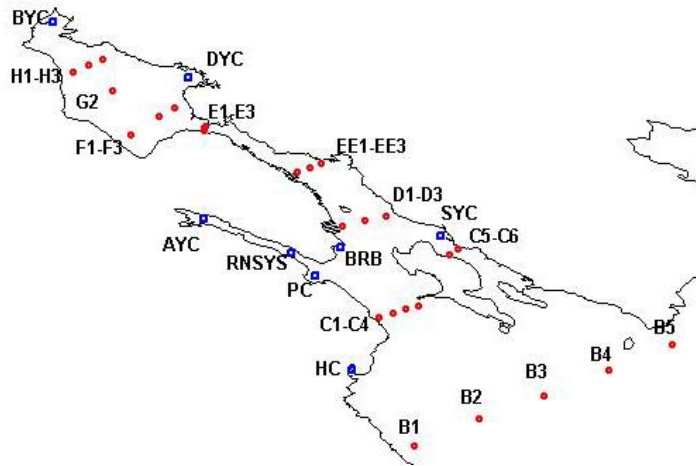
Unless otherwise labeled:
 - **density** contour
 interval is 0.2 kg/m³

Density in kg/m³

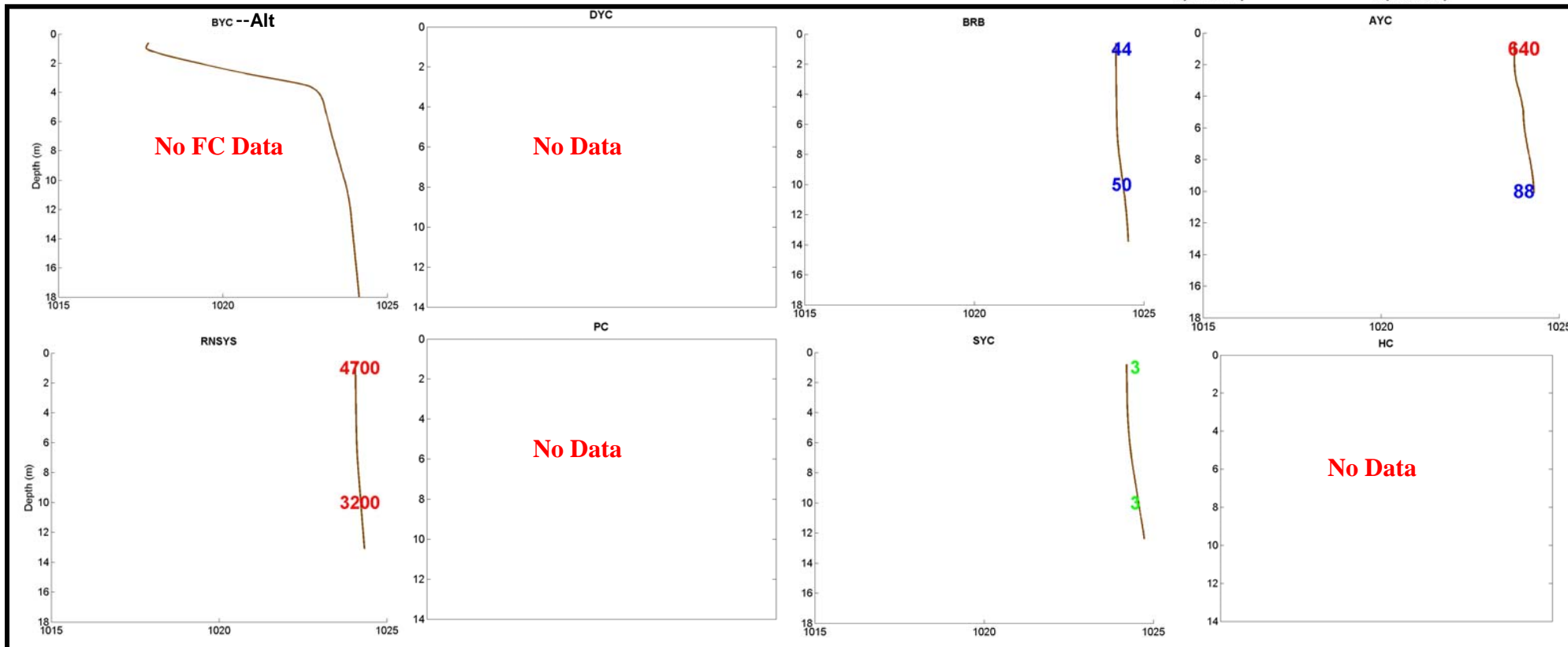
Fecal coliform: below limits

above shellfish limit (14 cfu/100mL)

above swimming limit (200 cfu/100mL)



Yacht Clubs

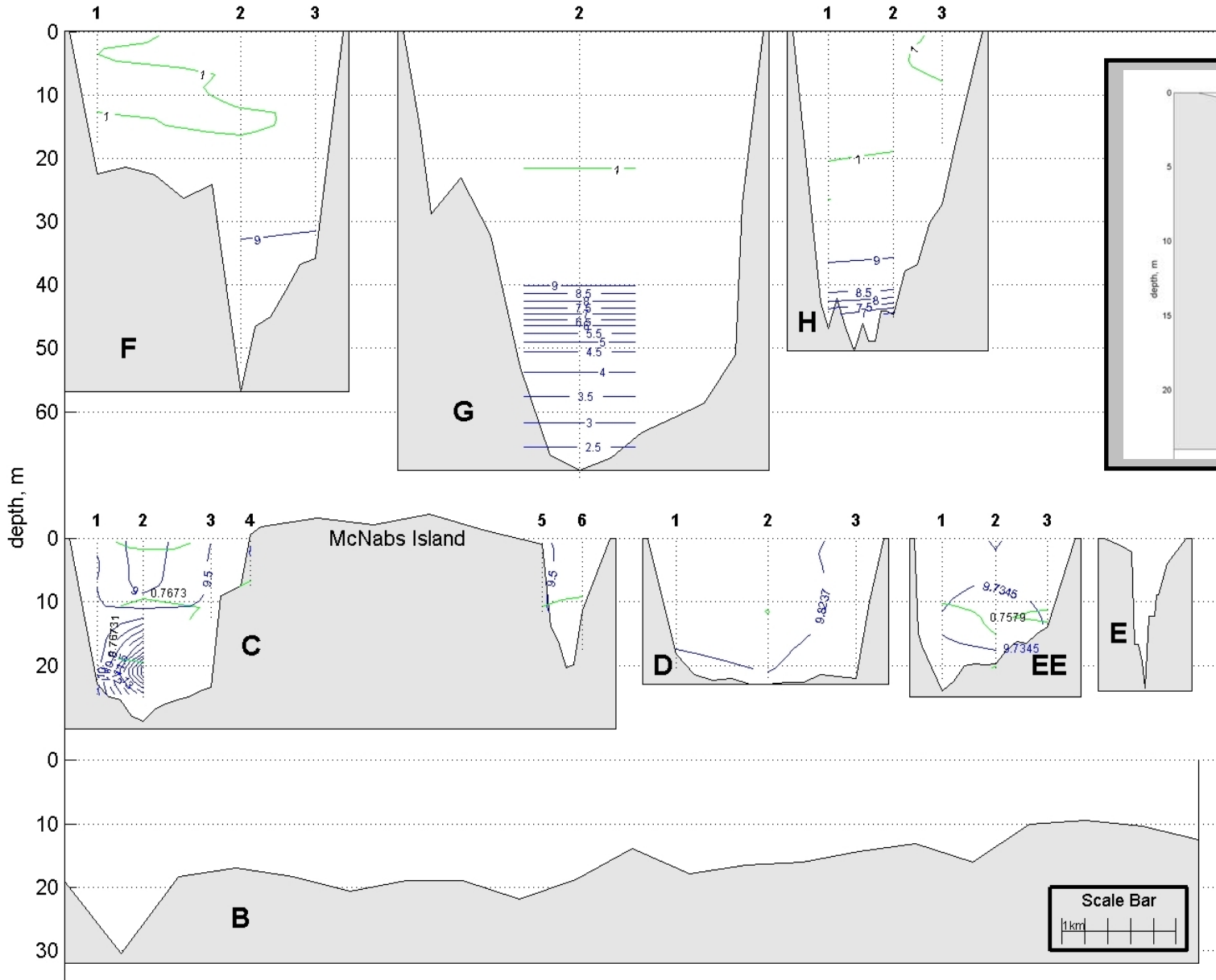


Density in kg/m^3

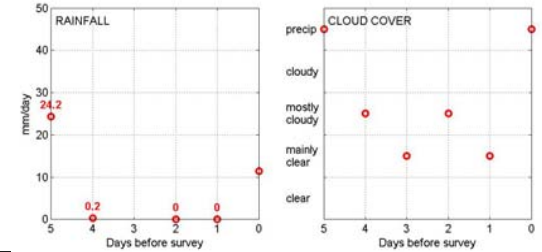
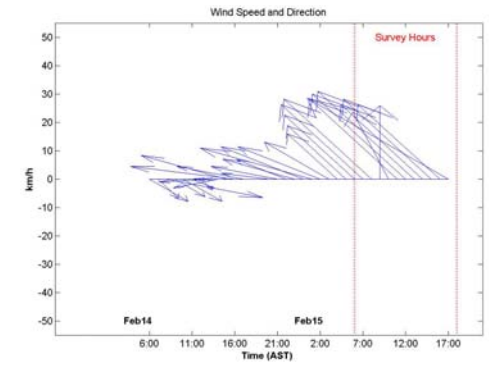
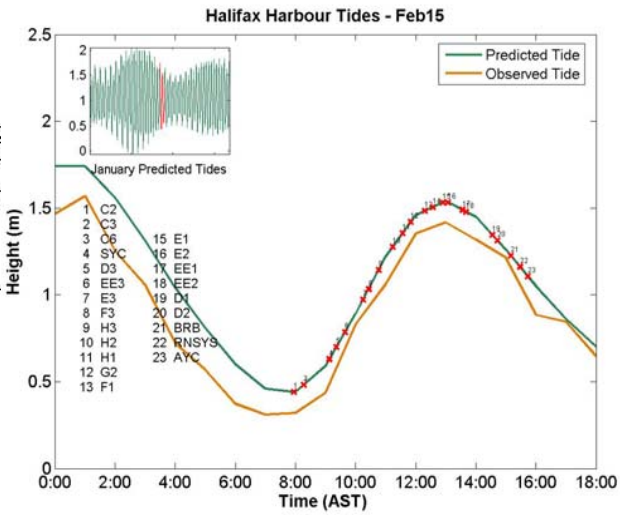
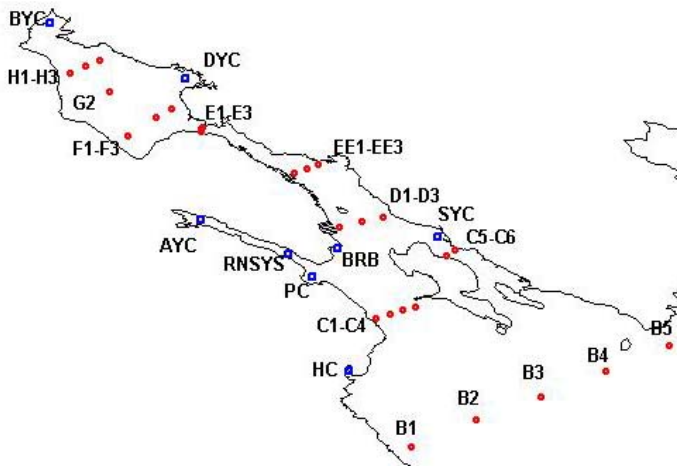
Fecal coliform: below limits

above shellfish limit (14 cfu/100mL)

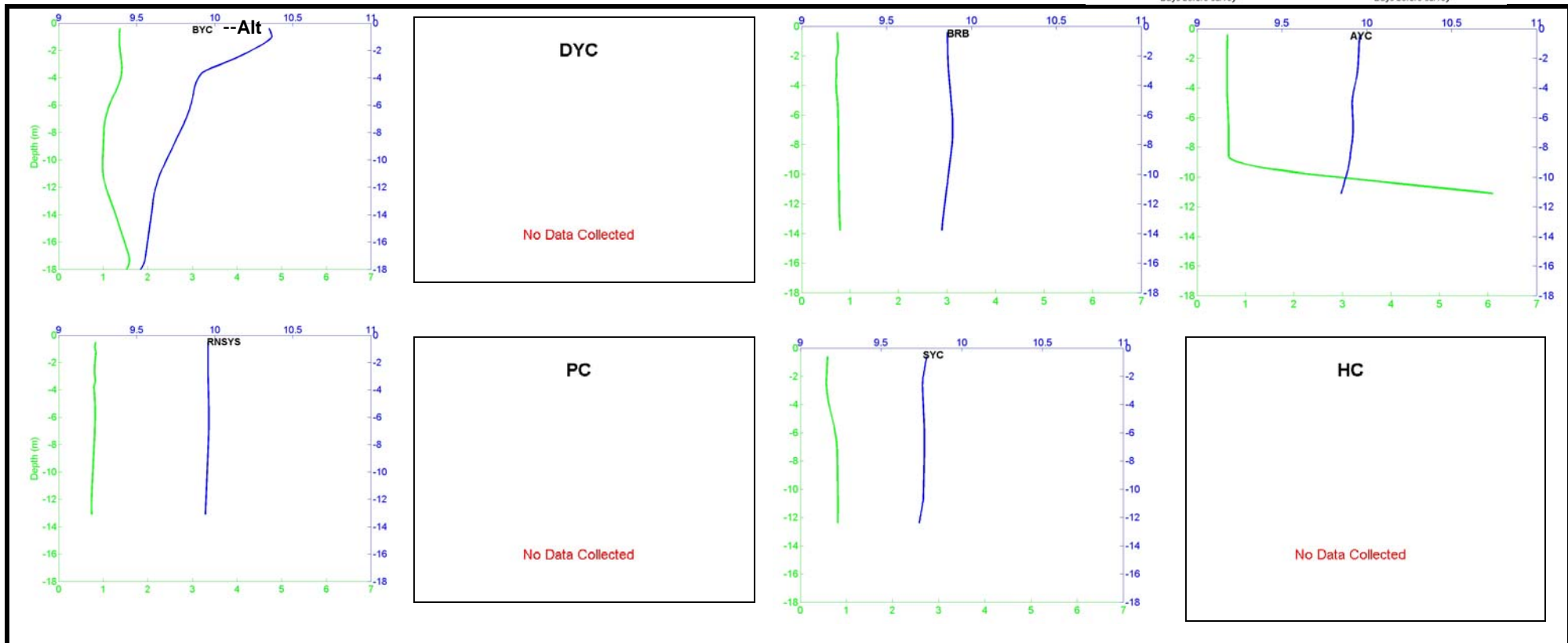
above swimming limit (200 cfu/100mL)



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



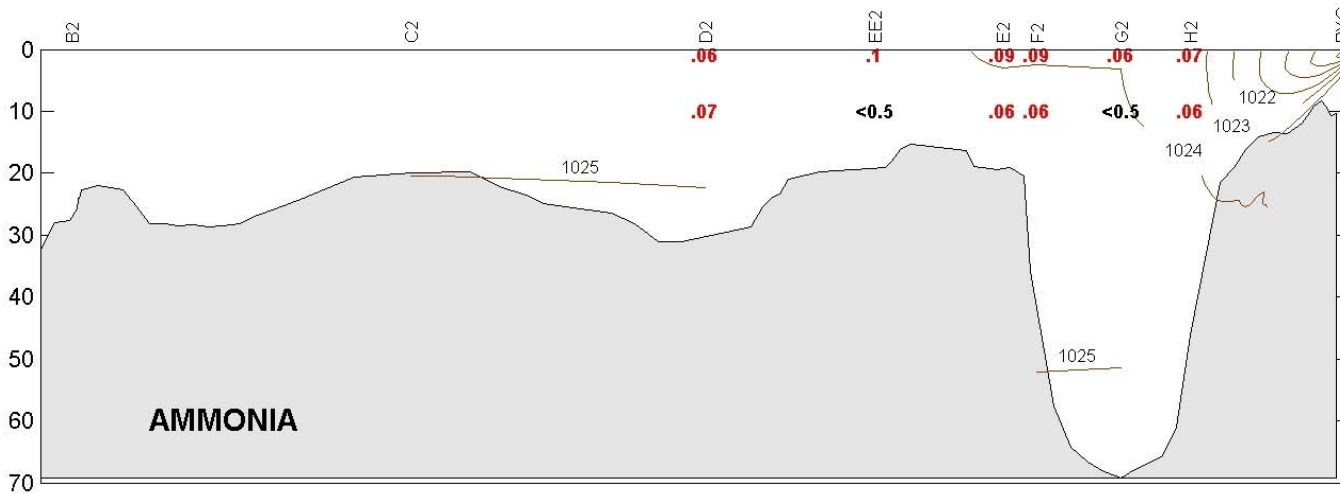
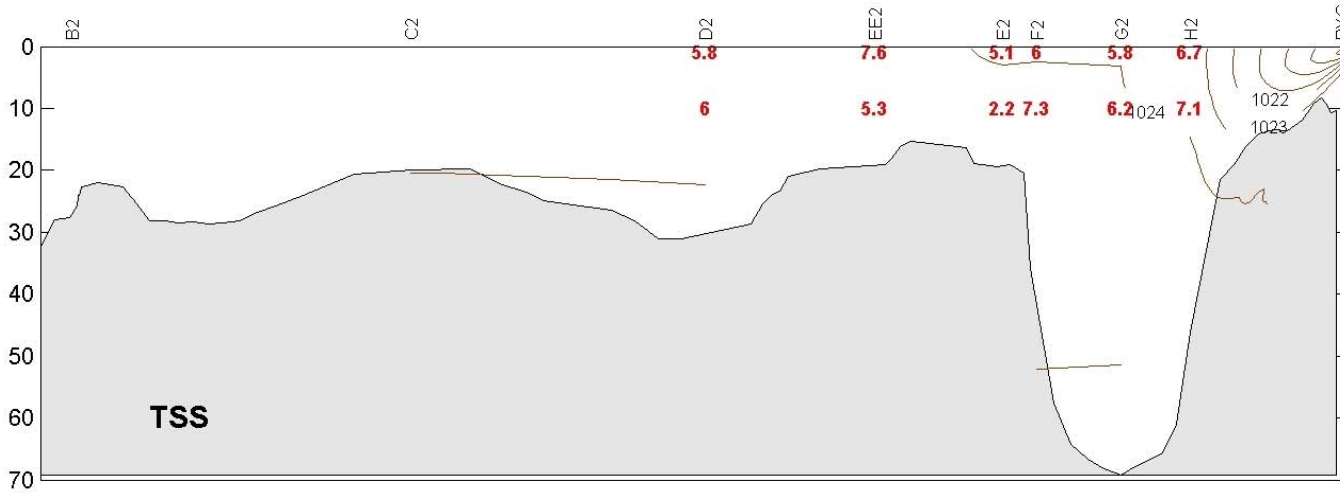
Yacht Clubs



DO in mg/L

Chlorophyll in mg/m³

CHEMISTRY



Density in kg/m³

Ammonia in mg/L

TSS in mg/L

