Halifax Harbour Water Quality Monitoring Project
Weekly Report #50

Survey Date: 31 May 2005
Nature of Survey: Coliform Survey
Report File (this document): HWQMP_report050_050531.xls
Data File: HWQMP_data050_050531.xls

Data Return:

Profile:	90%
Bacteria:	100%
Chemical:	na
Overall:	**94%**

Sample Notes:

Profile data from stations BRB, C4 and G2 were bad. The instrument "foot", normally attached to keep the CTD out of the sediments, was lost. The instrument clogged twice. The first time was at the bottom of station H1. The CTD appears to have unclogged at about 44 metres depth on the G2 cast. The second clogging occurred at the bottom of the D1 cast, and remained clogged for the BRB and C4 casts, likely unclogging on the way up at station C4. The data from these three stations is included in the graphics, but has been removed from the data file.

QA/QC samples:

Fecal Coliform (CFU/100ml)

Site	H3-1m	G2-1m	BRB-10m	RNSYS-10m
Reference	31	51	27	23
QA/QC	98	65	41	66

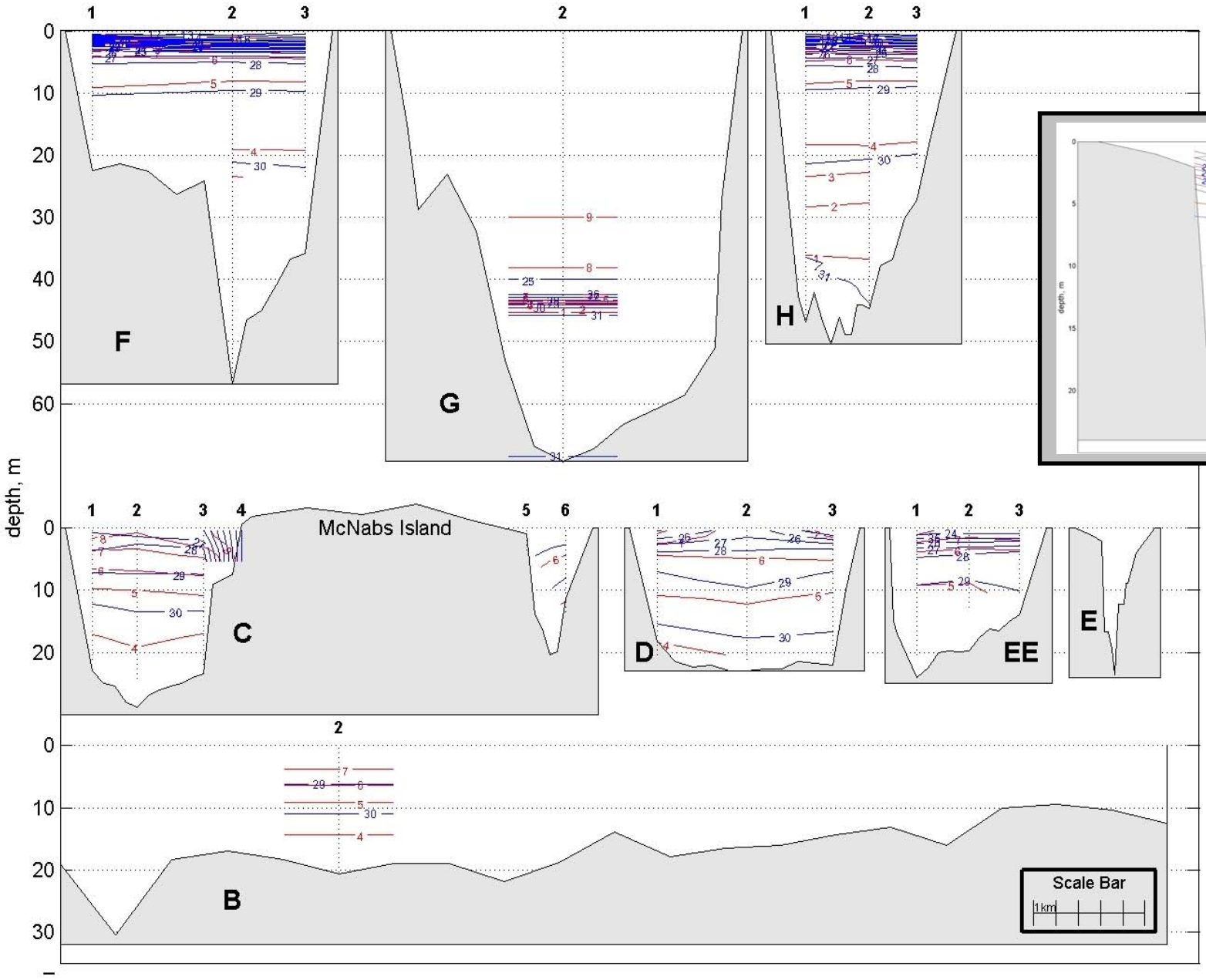
Comments:

Dissolved Oxygen: The dissolved oxygen is highest (> 9 mg/L) in the surface water at the north end of the Basin. The bottom water at section F (note there is no data from G2 this week) is slightly below the Basin guideline of 7 mg/L. This is the only region below guidelines in the Harbour. The profiles become vertically uniform at < 8 mg/L in the inner Harbour (sections EE and D and the Eastern Passage end of section C). The values increase somewhat (>8 mg/L) in the outer Harbour, as represented by section C (main channel) and station B2.

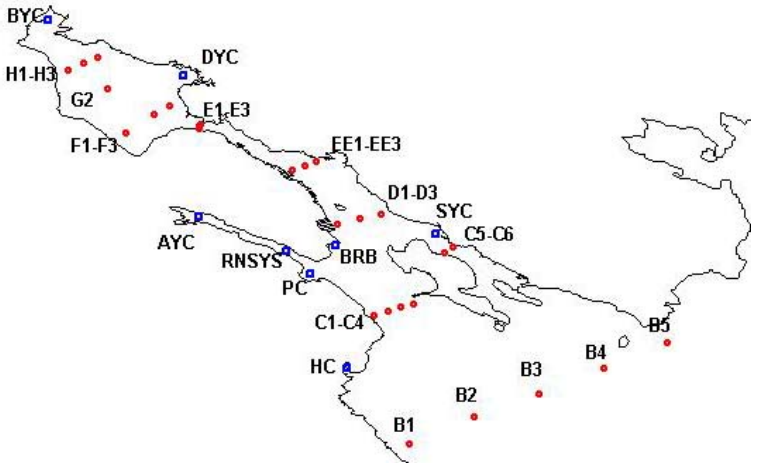
Chlorophyll-a: There appears to be a significant phytoplankton bloom at the head of the Basin with Chlorophyll-a values equivalent to those observed in early April (> 45 mg/m^3). South of the Narrows (section E) the values drop significantly to values of 1-3 mg/m^3.

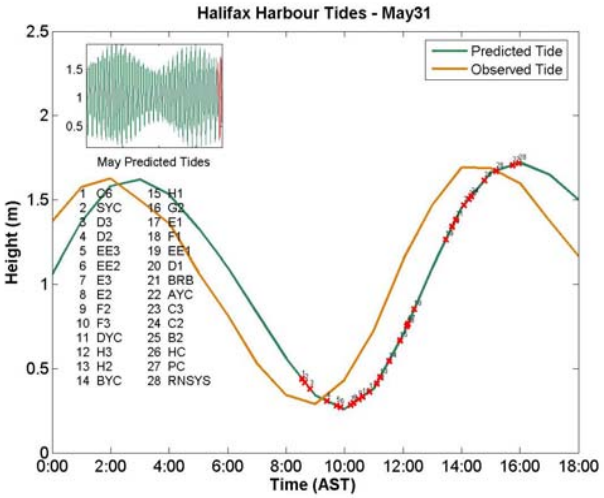
General: The entire month of May has been very wet with many times the average amount of rain. This week continues to be wet with nearly 60 mm of rain 4-5 days before the survey. The Harbour contains a large amount of freshwater and is very stratified throughout. The head of the Basin (BYC and section H) are slightly less stratified than last week, when wind was likely a factor; however the rest of the Harbour is much more stratified.

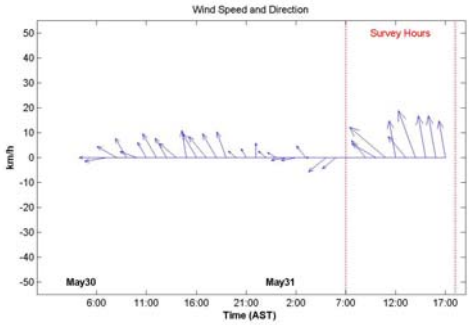
Field notes indicate a brown tinge visible throughout the Basin and into the Narrows. This is likely due to tannin associated with the freshwater, which is often observed at the head of the Basin. Secchi disk readings throughout the Basin were 1m or less. The dissolved oxygen is relatively elevated in the surface water of the Basin, potentially linked to the high chlorophyll-a levels and local photosynthesis on this mainly clear sunny day. The coliform values are not particularly high, with the highest values concentrated near the sources in the inner Harbour; this is consistent with a time of higher flushing.

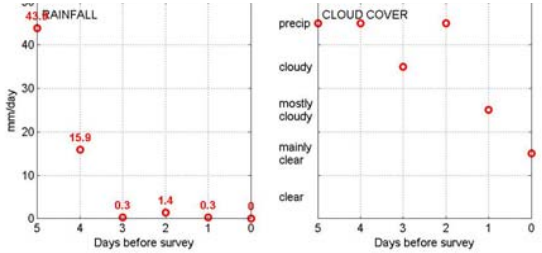


Unless otherwise labeled:
- **salinity** contour interval is 1 PSU
- **temperature** contour interval is 1ºC.

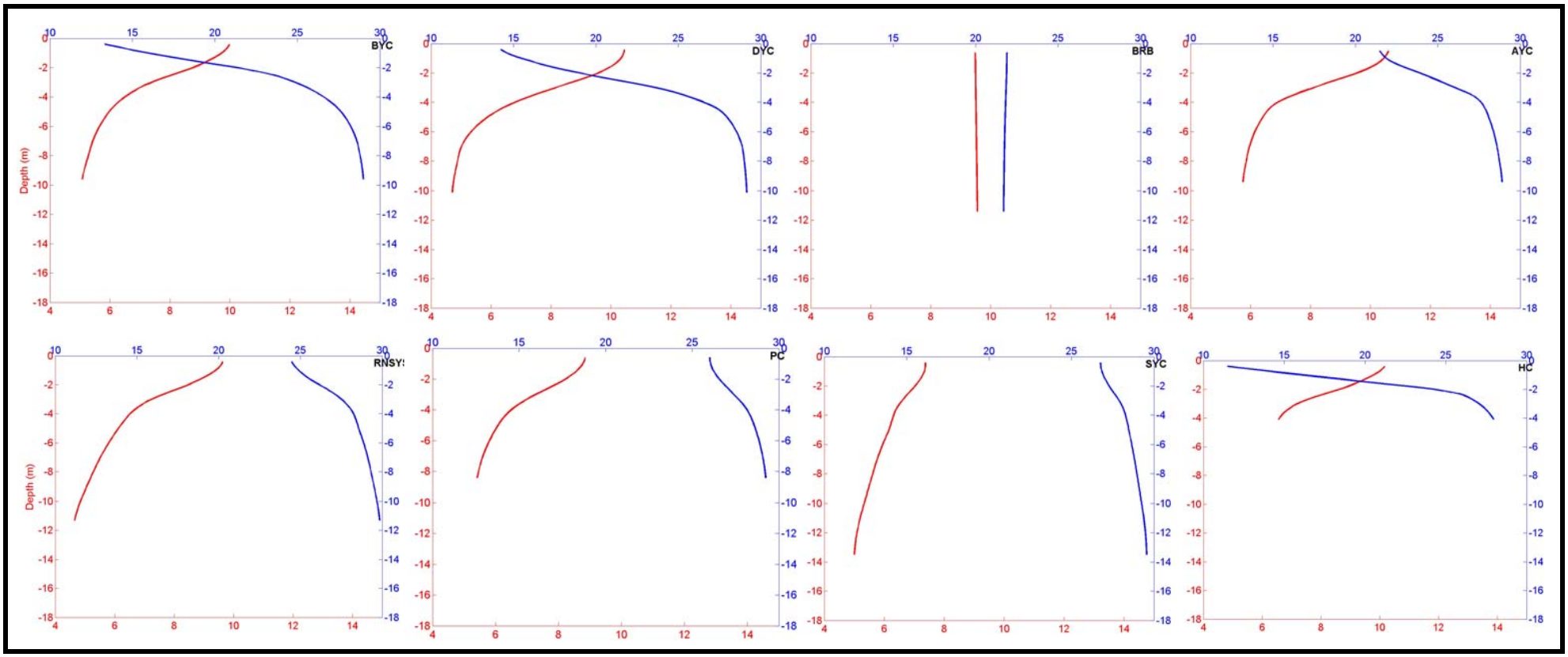




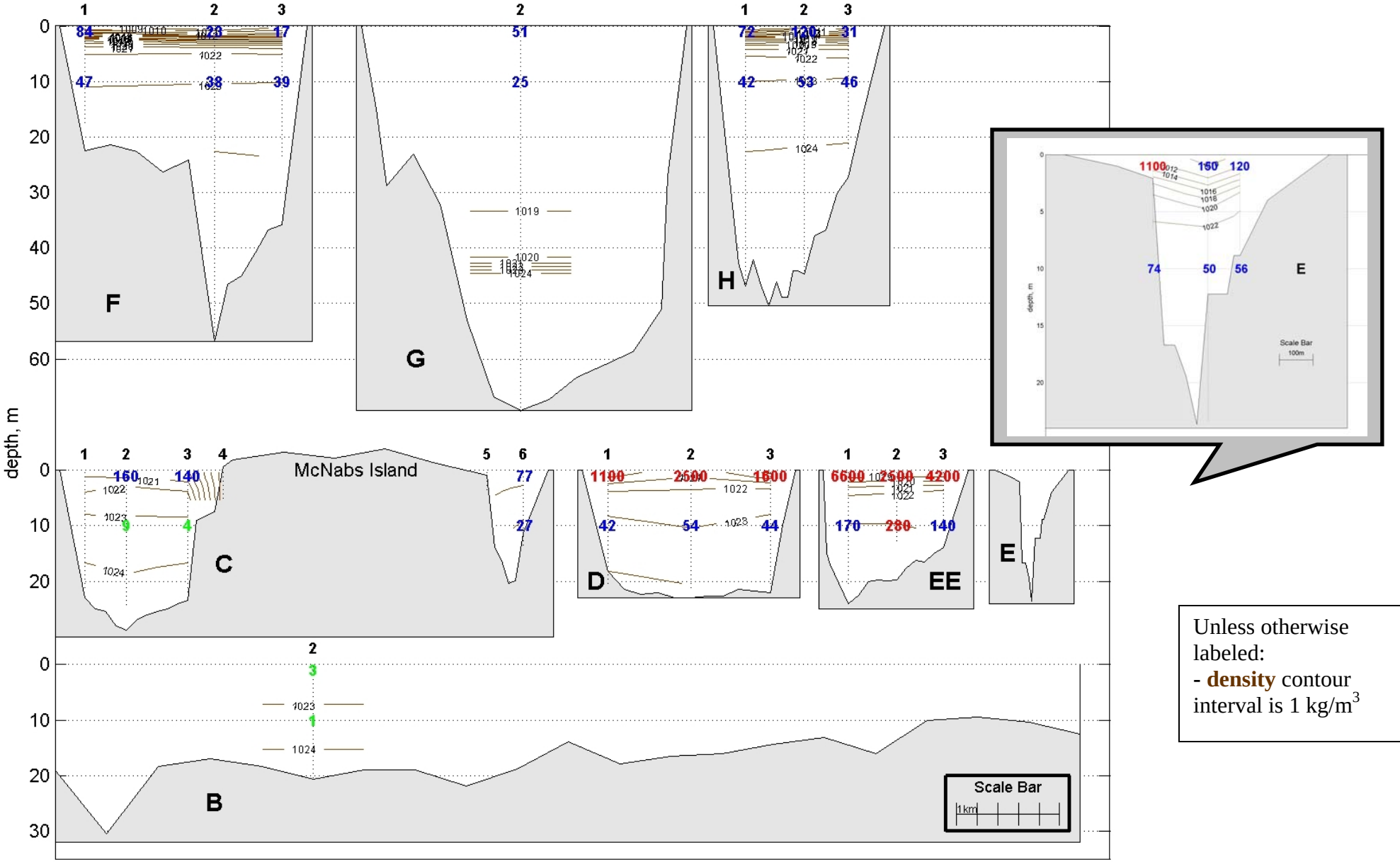




Yacht Clubs

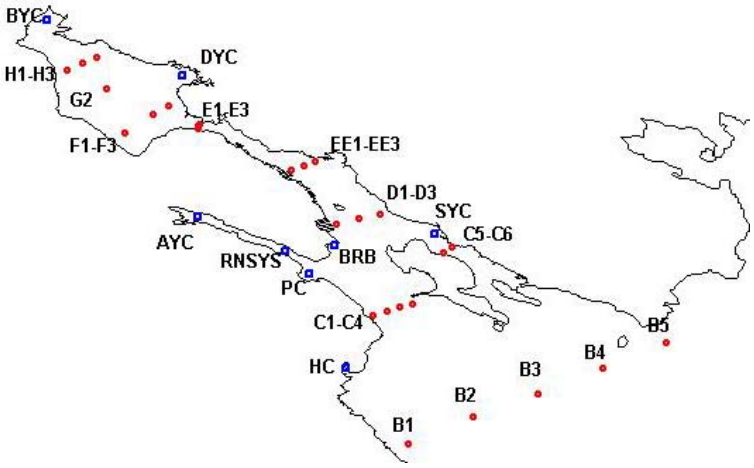


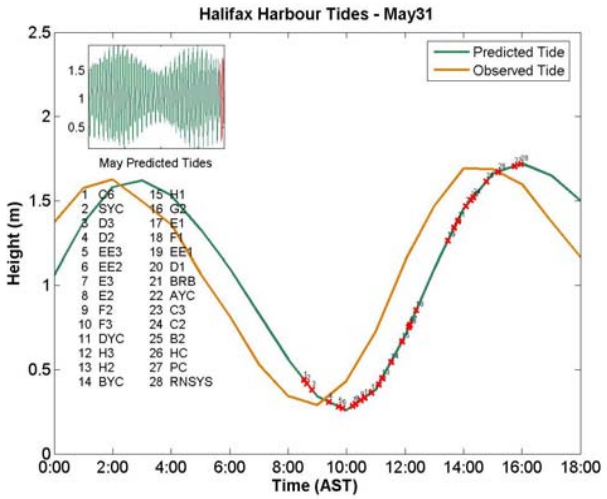
Salinity in PSU **Temperature in ^{o}C**

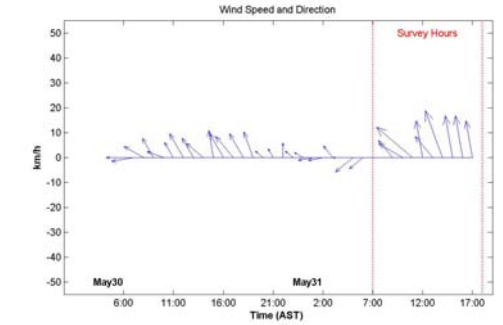


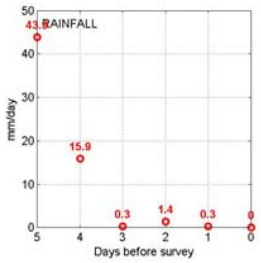
Unless otherwise labeled:
- **density** contour interval is 1 kg/m^3

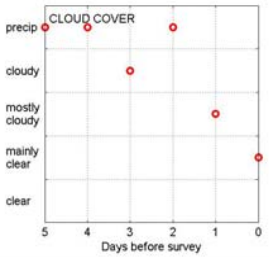
Density in kg/m^3 **Fecal coliform:** above swimming limit (200 cfu/100mL)
above shellfish limit (14 cfu/100mL)
below limits



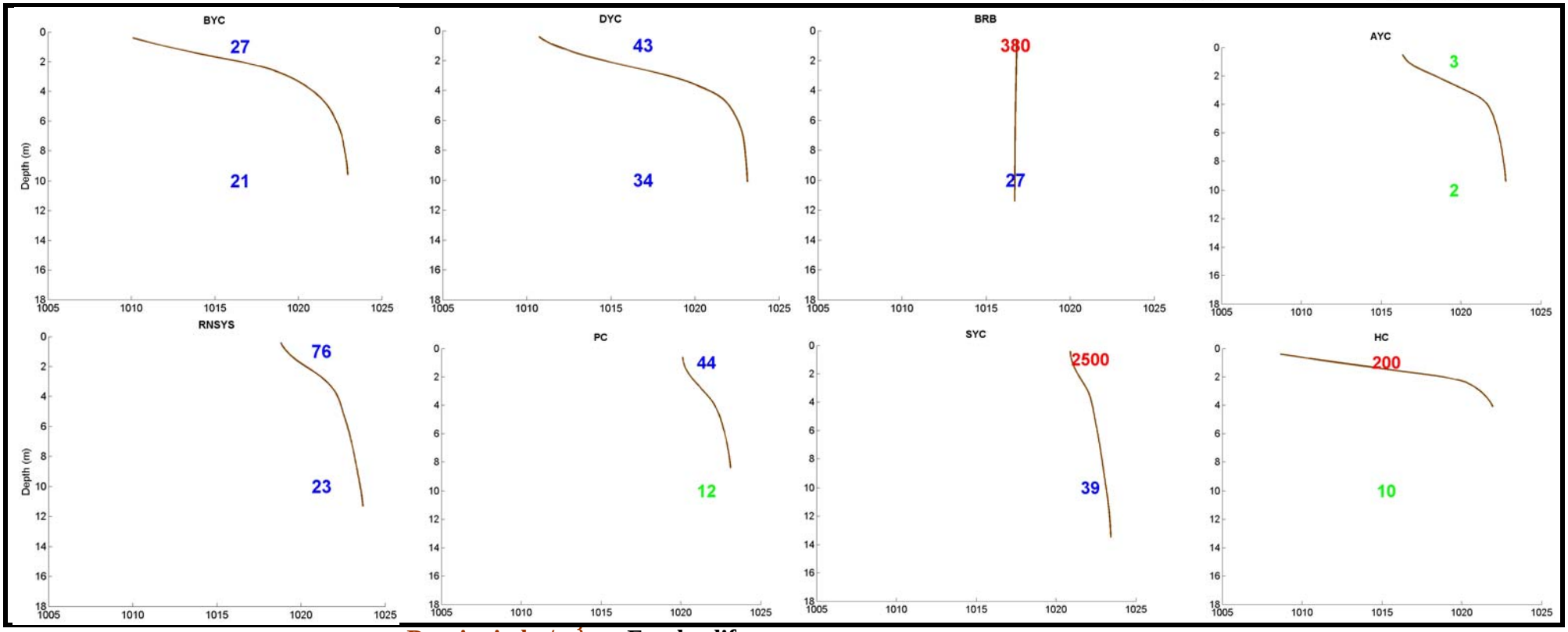








Yacht Clubs



Density in kg/m^3 **Fecal coliform:** **above swimming limit (200 cfu/100mL)**
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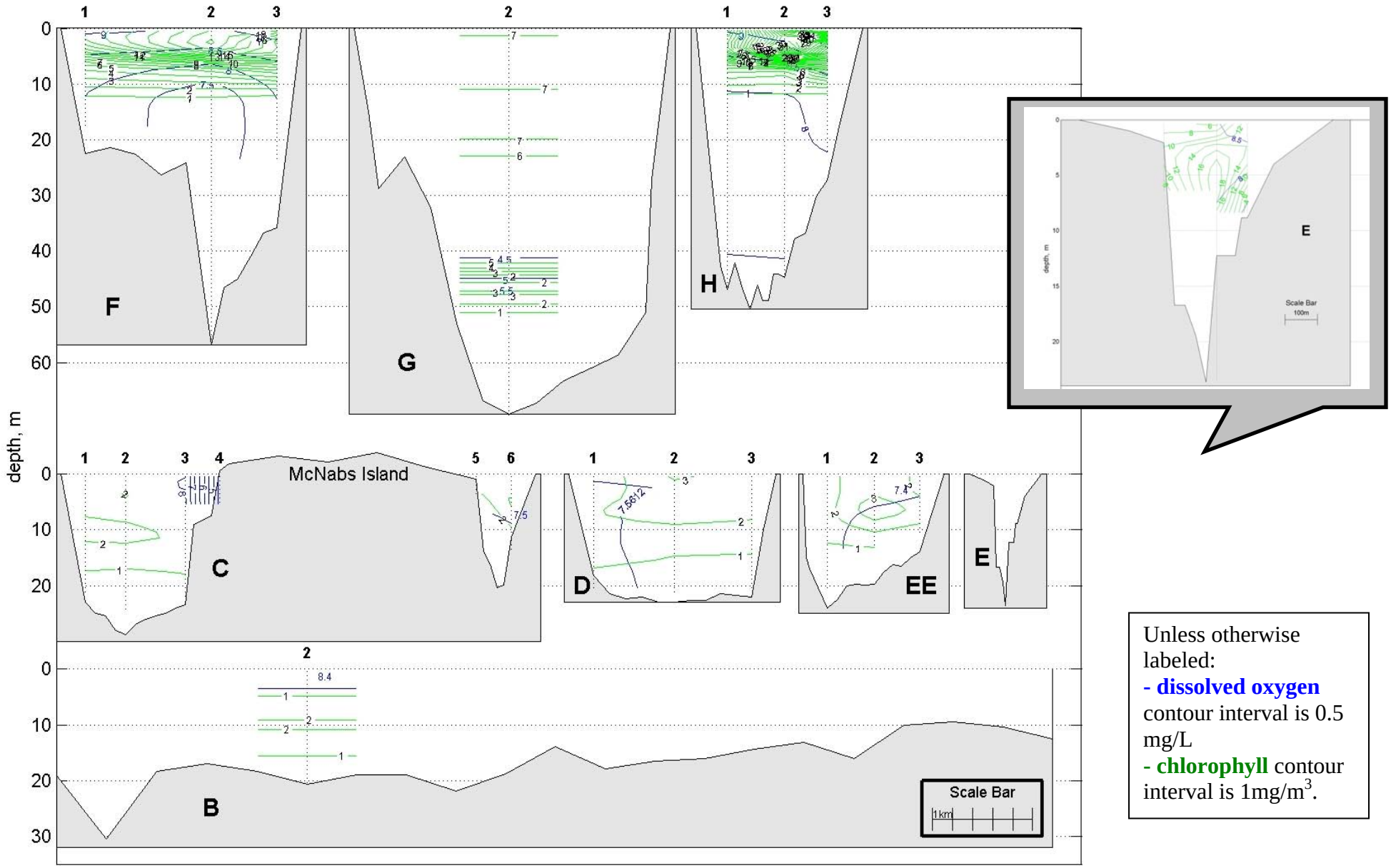
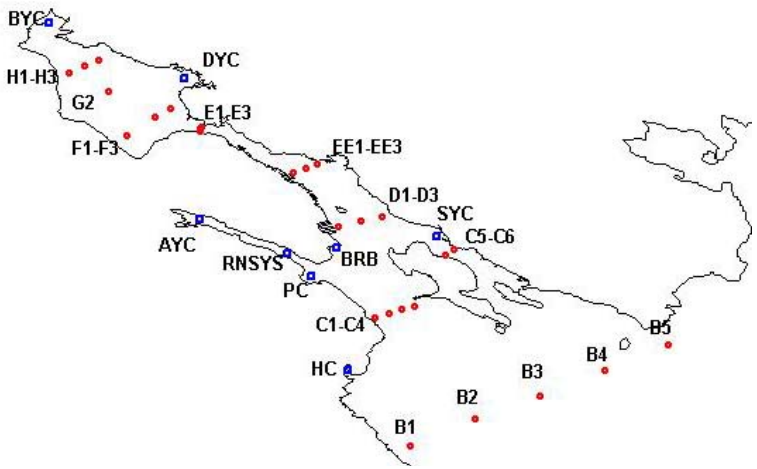
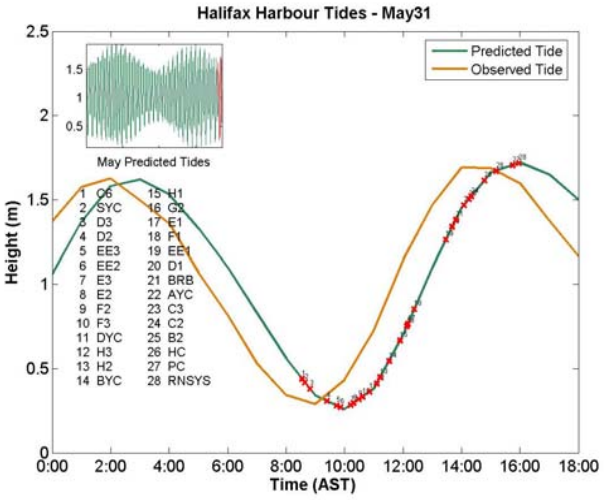
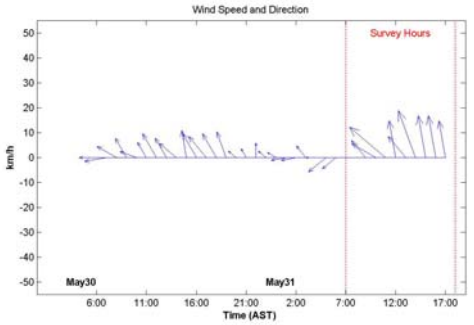
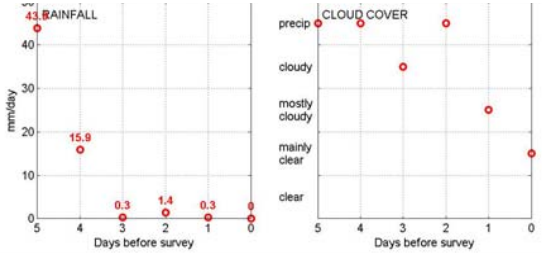


Unless otherwise labeled:
- dissolved oxygen contour interval is 0.5 mg/L
- chlorophyll contour interval is 1mg/m^3.









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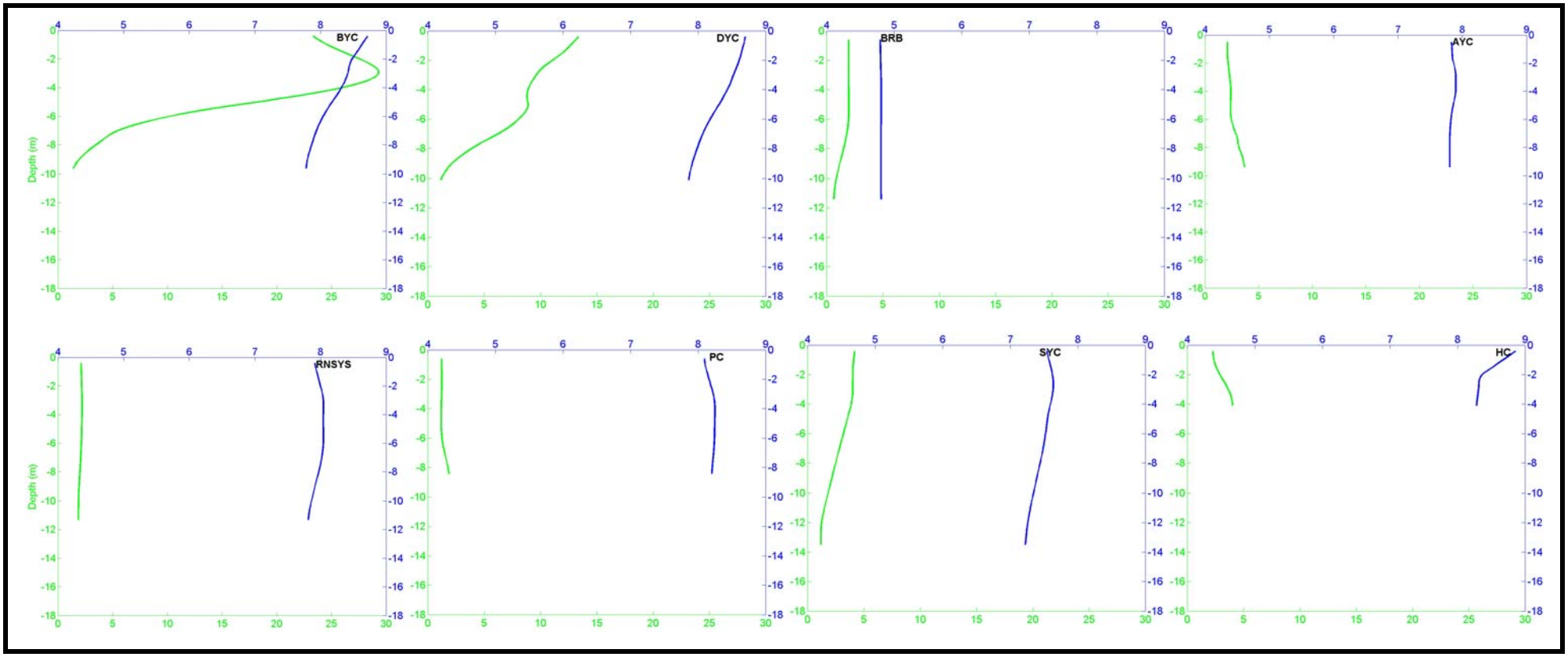

DO in mg/L **Chlorophyll in mg/m^3**