

# Halifax Harbour Water Quality Monitoring Project

## Weekly Report #42

**Survey Date:** 05 April 2005  
**Nature of Survey:** Coliform Survey  
**Report File (this document):** HHWQMP\_report042\_050405.doc  
**Data File:** HHWQMP\_data042\_050405.xls

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

### Sample Notes:

na

### QA/QC samples:

#### Fecal Coliform (CFU/100ml)

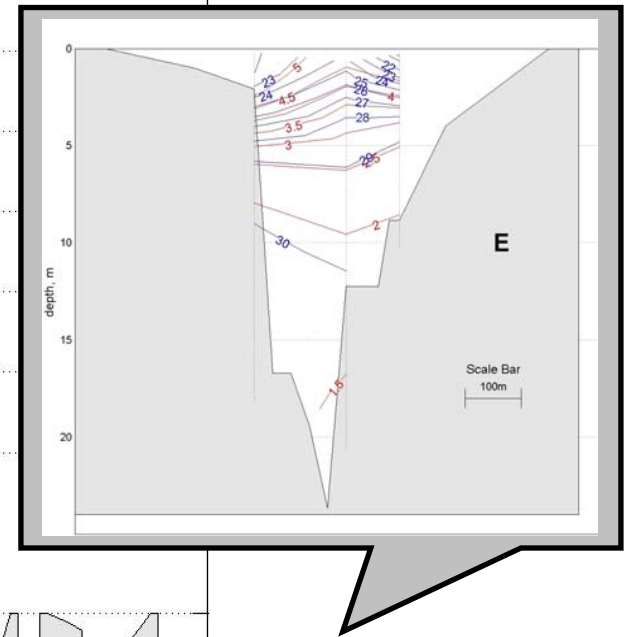
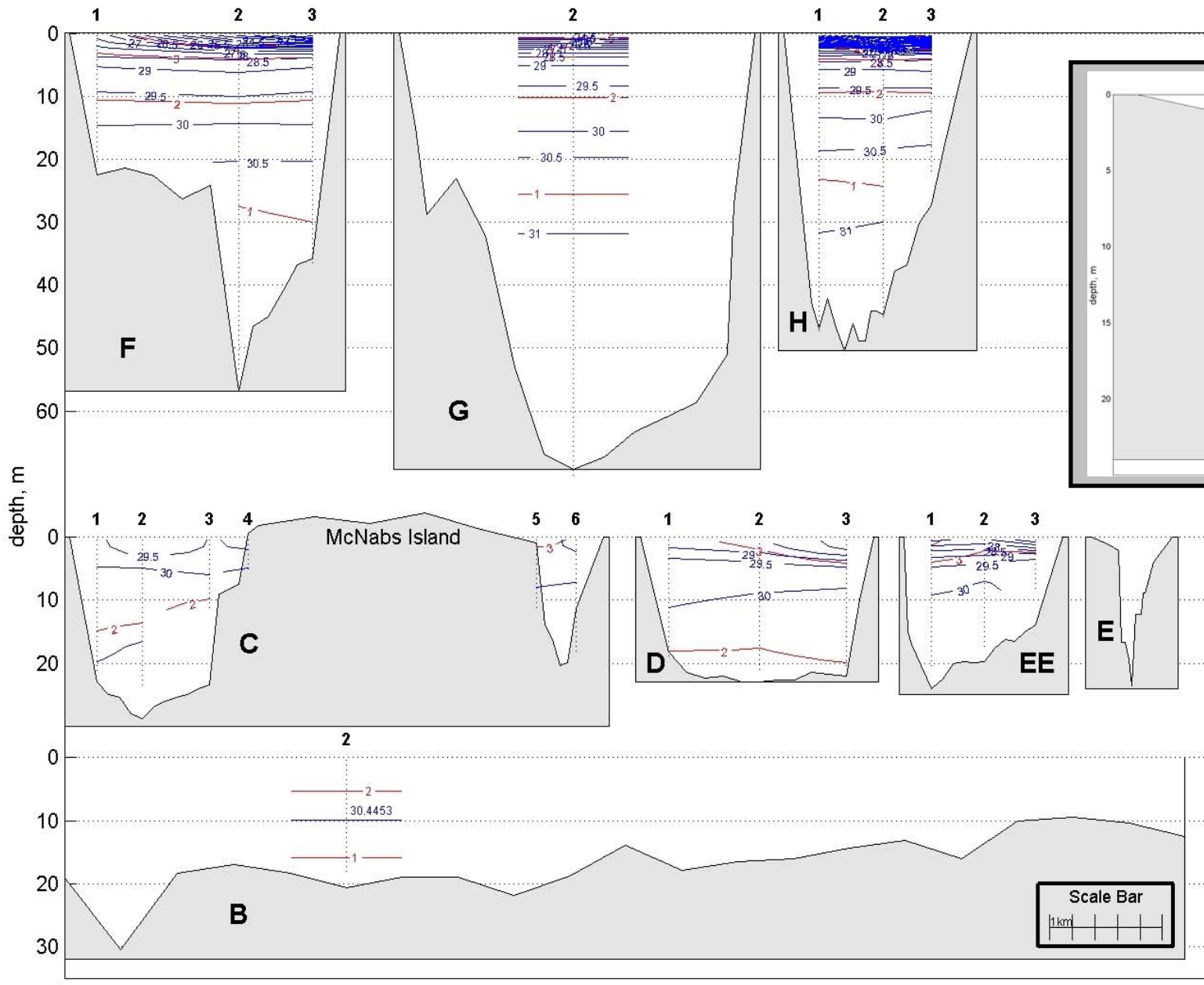
Site	C2-1m	C6-1m	E3-10m	E1-10m
Reference	380	69	230	310
QA/QC	550	32	190	300

### Comments:

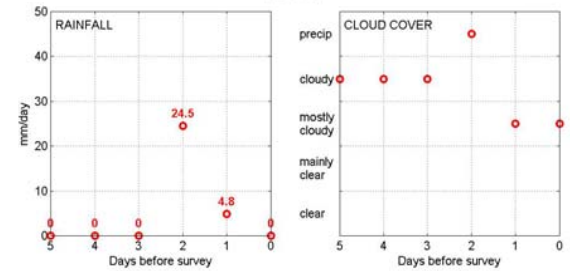
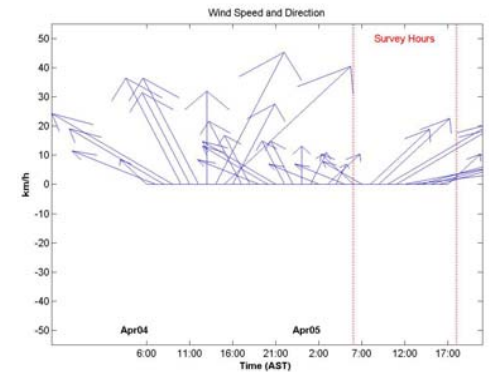
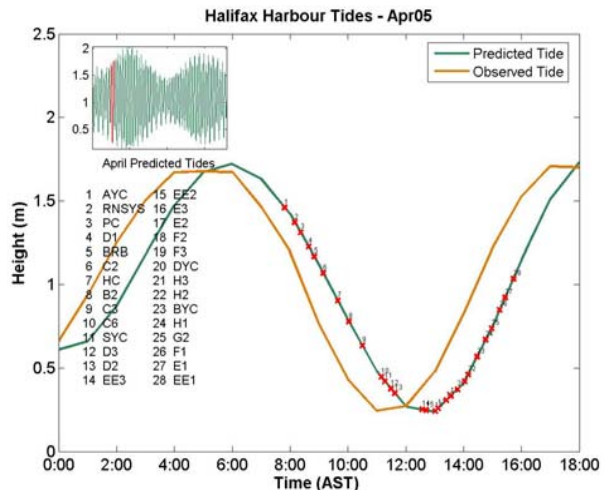
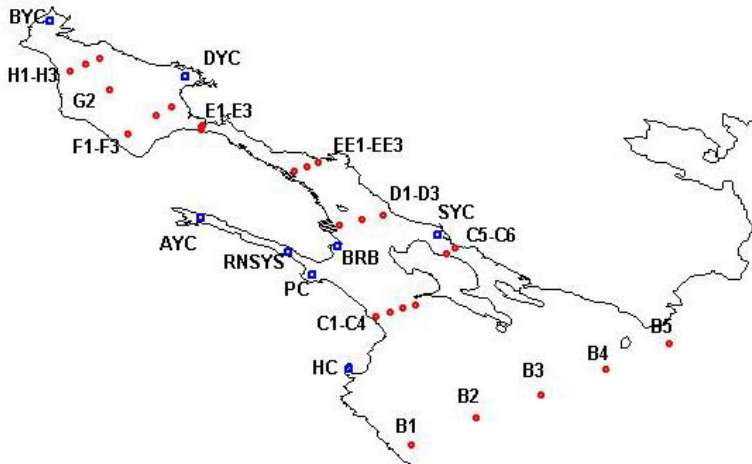
**Dissolved Oxygen:** The dissolved oxygen profile measurements indicate that surface water values are somewhat lower than saturation, but almost all are still above applicable guidelines. The values are consistent throughout the harbour at 8-9 mg/L. At many sites there is a small maximum which seems to correspond to a chlorophyll-a maximum. The sole site where the DO is below the guideline is at site B2, where a minimum value of 7.9 mg/L (guideline SA, 8.0 mg/L) is measured. Overall the DO values seem somewhat low, however all data is internally consistent and there is no indication of instrument malfunction. This continues to be investigated. In Bedford Basin the most oxygen rich water (> 10 mg/L) occurs at approximately 60m. There is a minimum (< 8 mg/l) at approximately 40 m. This minimum is likely a relict of the recent intrusion into the Basin.

**Chlorophyll a:** The spring phytoplankton bloom continues. Profile maximums occur throughout the harbour at a depth of approximately 4 – 8 m. The maximum values (>40 mg/L) occur along the western side of the Basin (sites F1 and H1). In the inner Harbour, the profile maximums are approximately twice (14-19 mg/L) what they were last week.

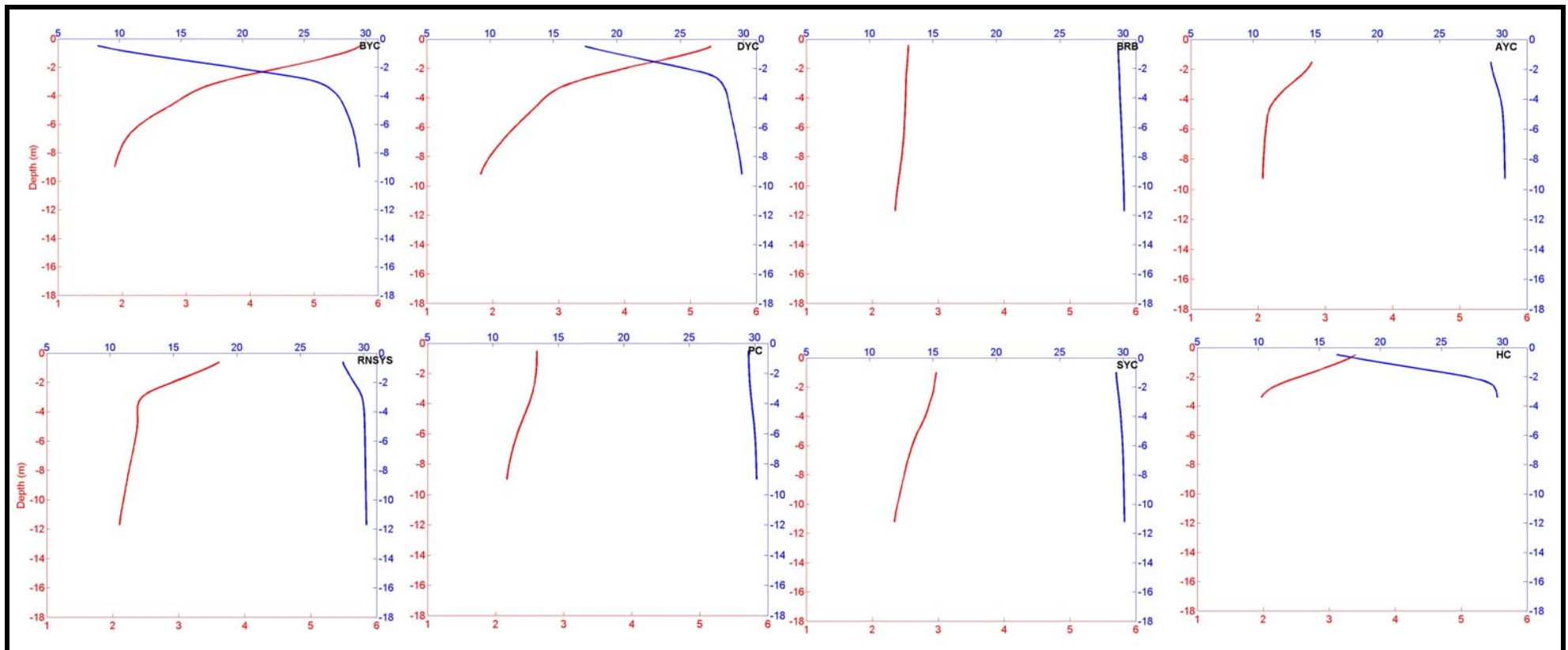
**General:** There appears to be a large freshwater influx into the Harbour. The Basin, including the Narrows, is very stratified, with a surface layer of fresh warm water. At section H the surface water is 12.5 psu and nearly 6° C. Further out of the harbour the stratification is not remarkable and the outer Harbour (B2) remains well mixed. The fecal coliform distribution seems to reflect a strong estuarine circulation in the Basin, consistent with the strong stratification, with high values in the lower samples throughout.



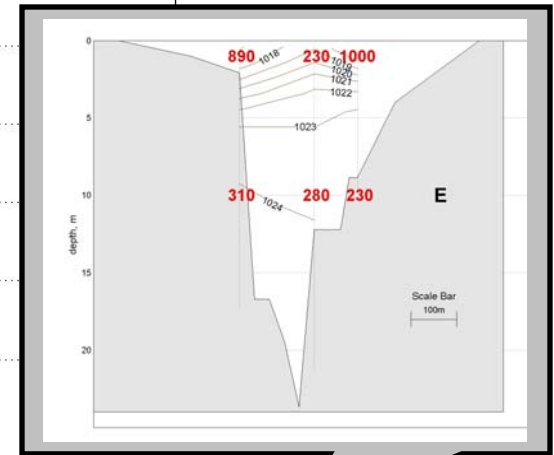
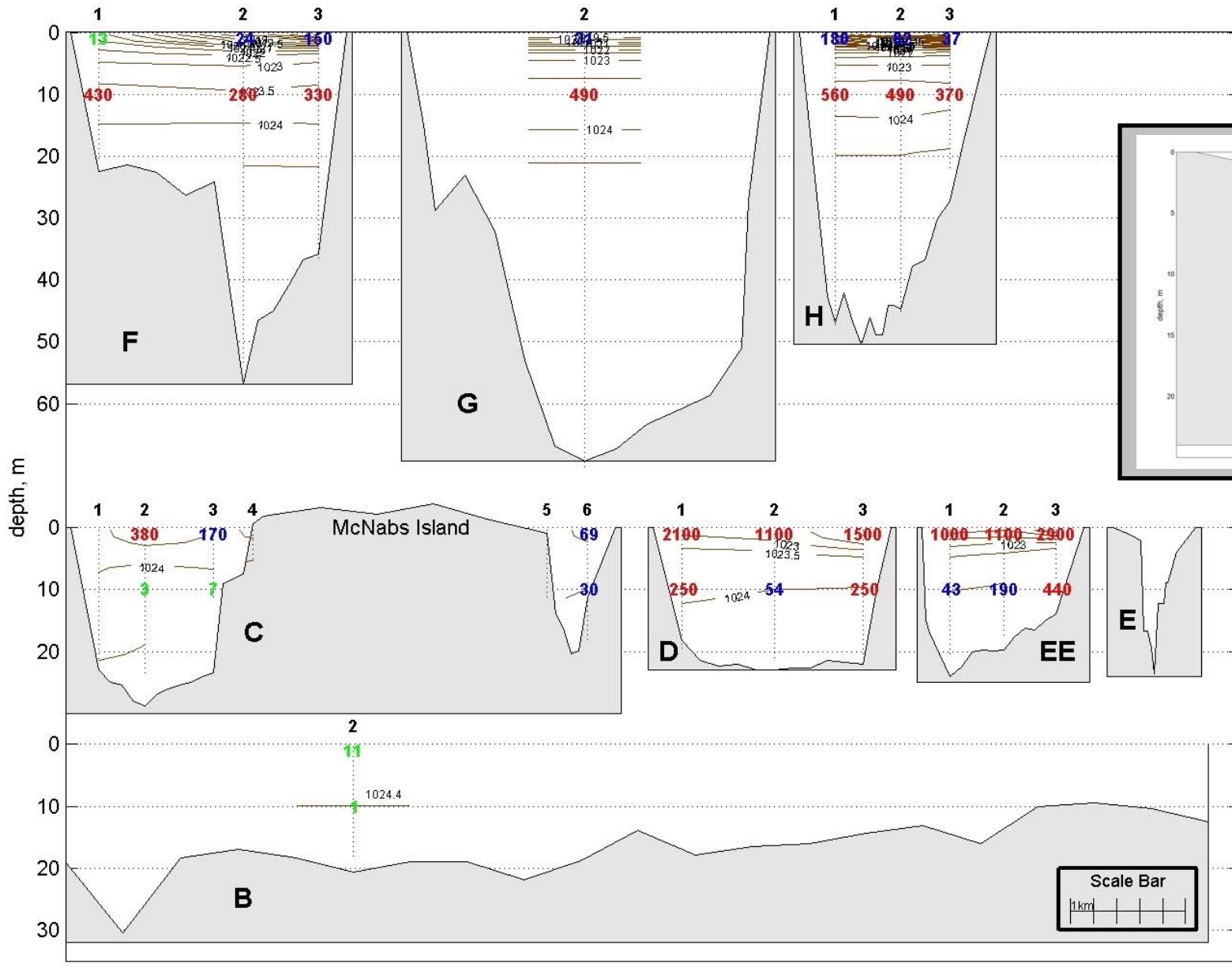
Unless otherwise labeled:  
 - salinity contour interval is 0.5 PSU  
 - temperature contour interval is 1°C.



## Yacht Clubs

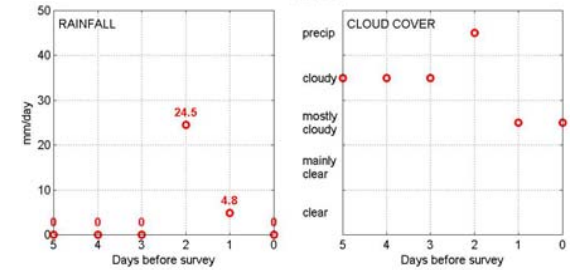
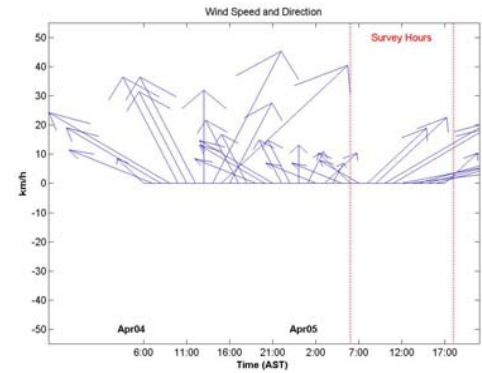
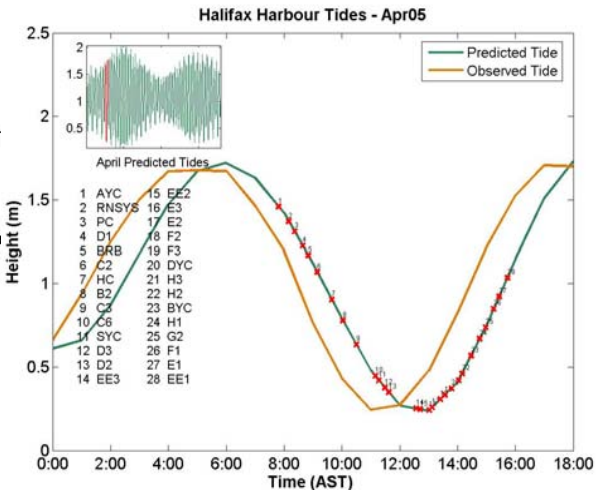
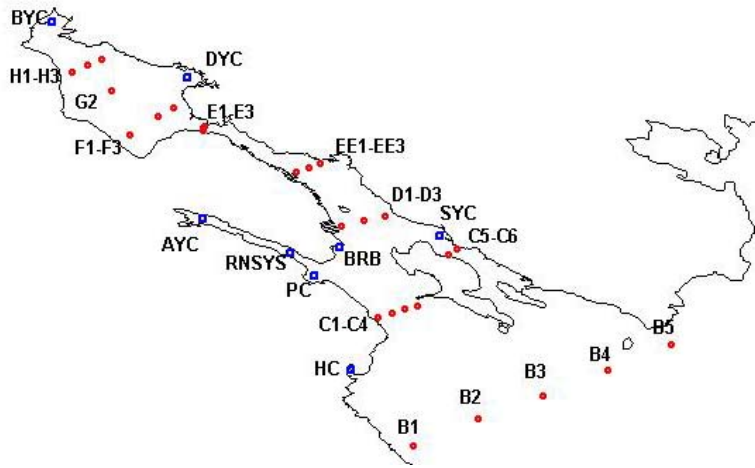


Salinity in PSU      Temperature in °C

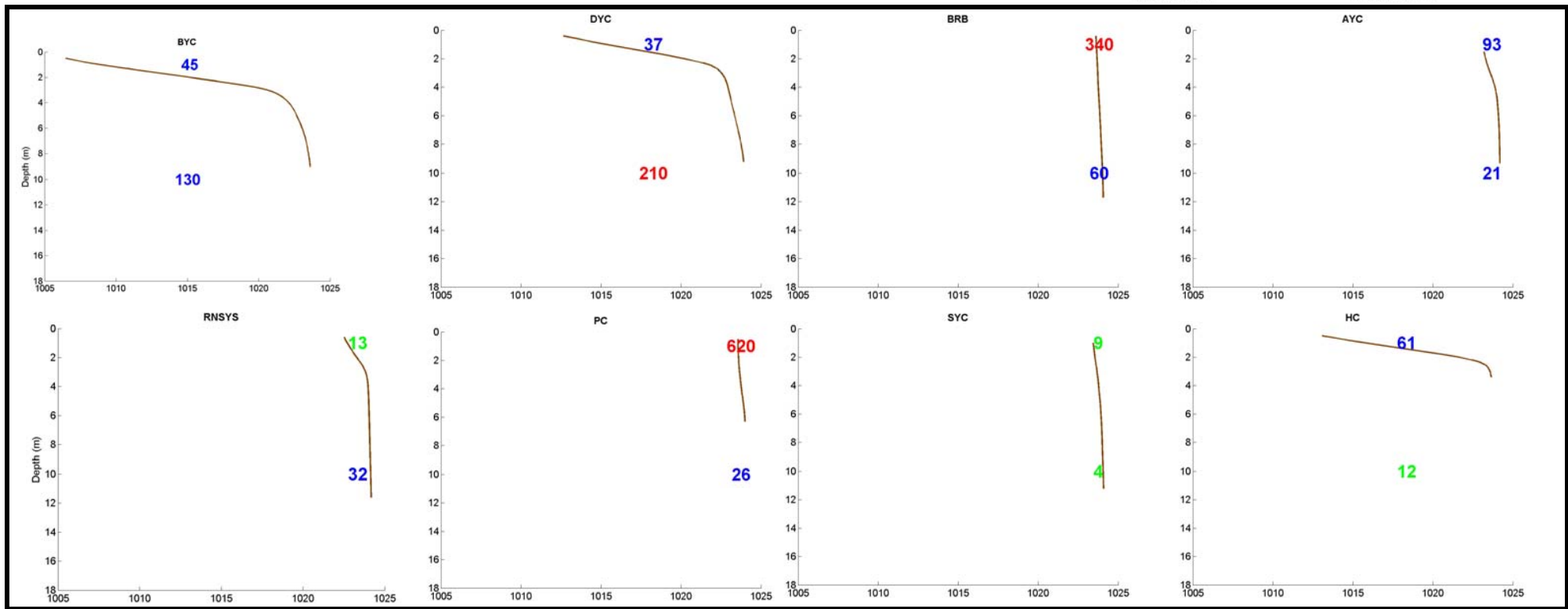


Unless otherwise labeled:  
 - density contour interval is 0.5 kg/m<sup>3</sup>

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

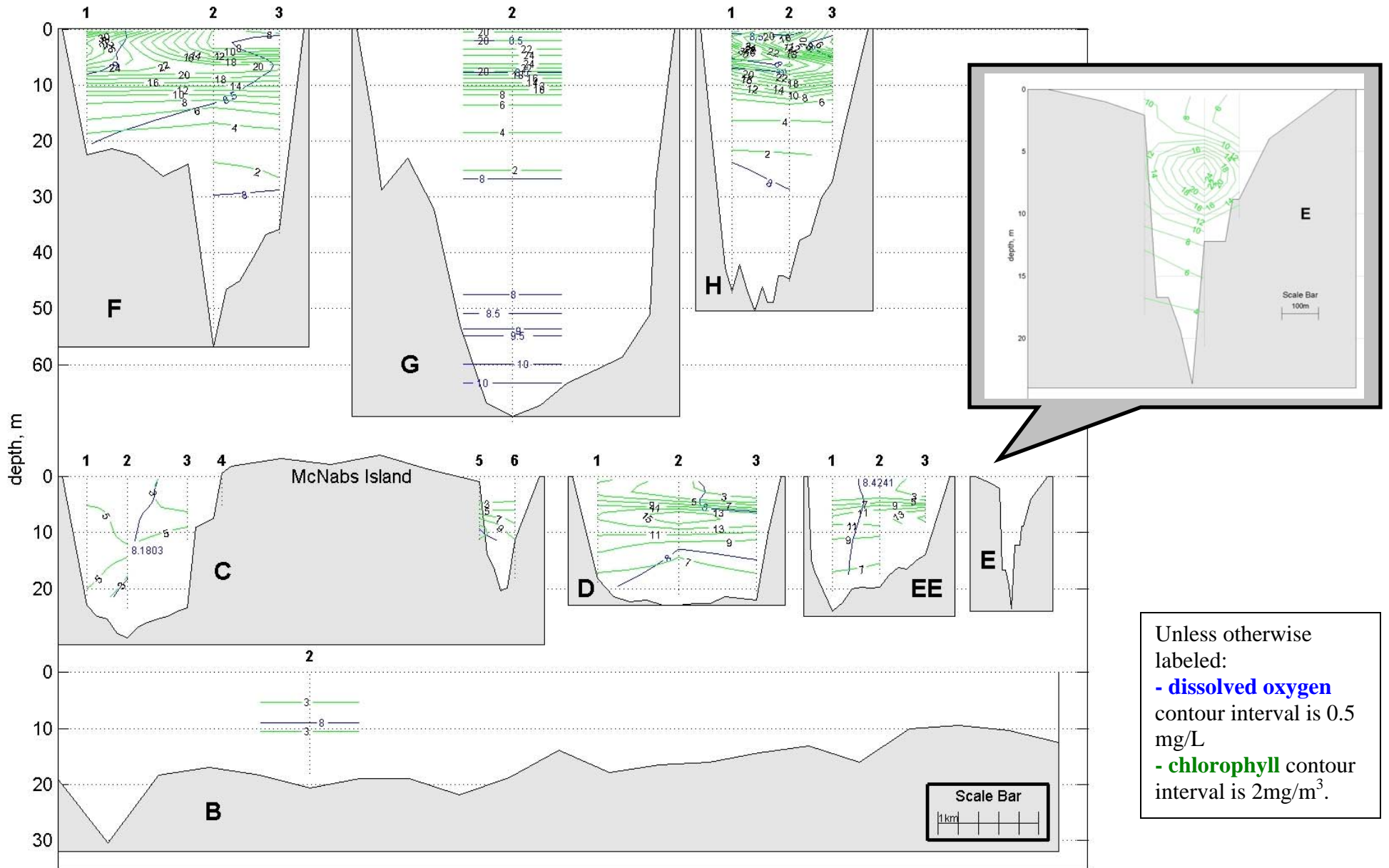


### Yacht Clubs

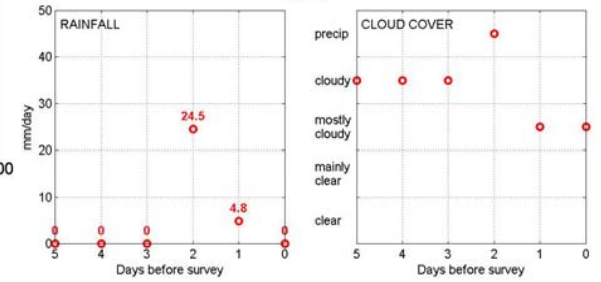
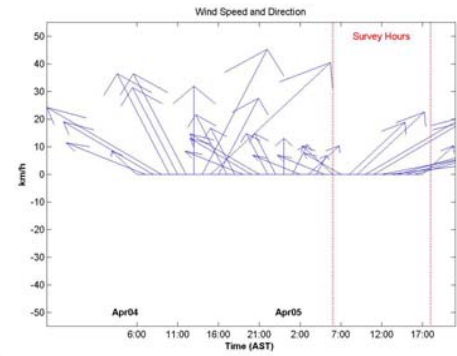
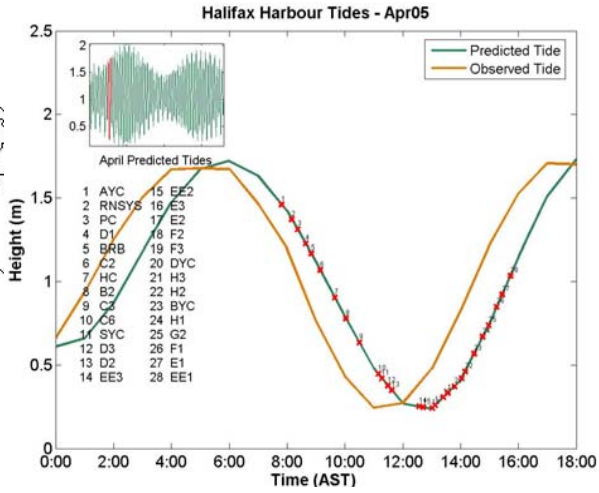
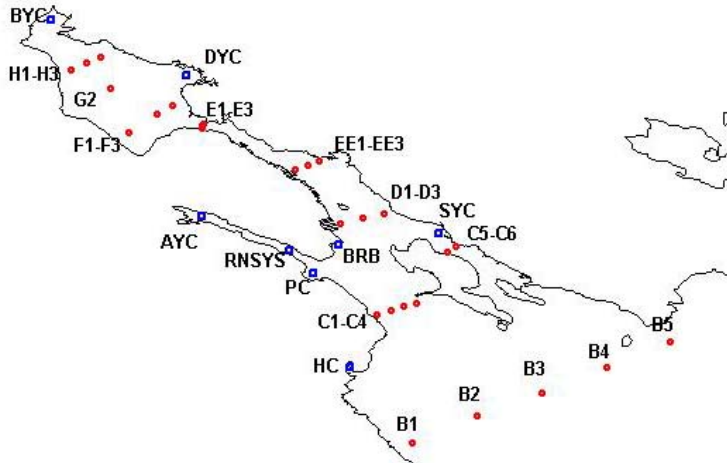


Density in kg/m<sup>3</sup>    Fecal coliform: above swimming limit (200 cfu/100mL)  
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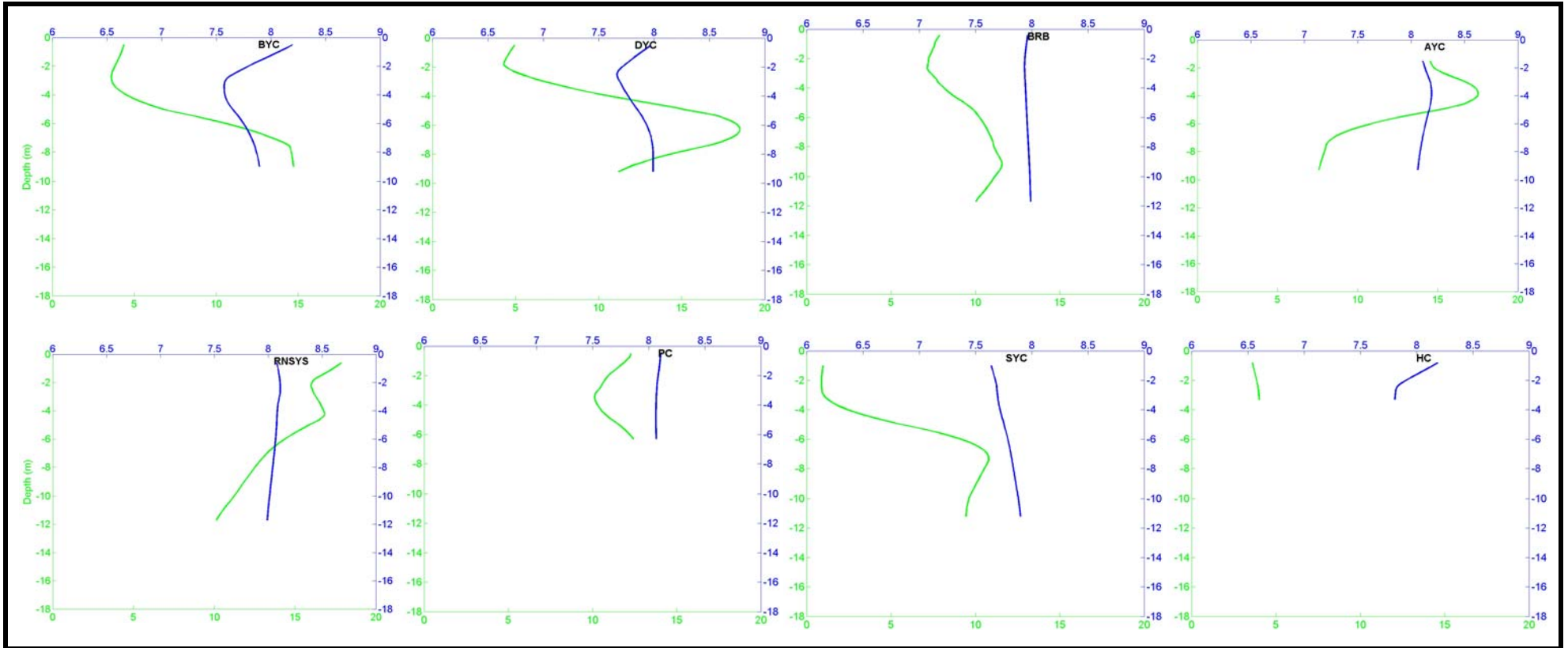




Unless otherwise labeled:  
 - **dissolved oxygen** contour interval is 0.5 mg/L  
 - **chlorophyll** contour interval is 2mg/m<sup>3</sup>.



## Yacht Clubs



DO in mg/L

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