

Halifax Harbour Water Quality Monitoring Project

Weekly Summary #86

Survey Date: 8 February 2006
Nature of Survey: Coliform Survey
Report File (this document): HHWQMP_report086_060208.doc
Data File: HHWQMP_data086_060208.xls

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

Sample Notes:
 N/A

QA/QC samples:

Fecal Coliform (CFU/100ml)

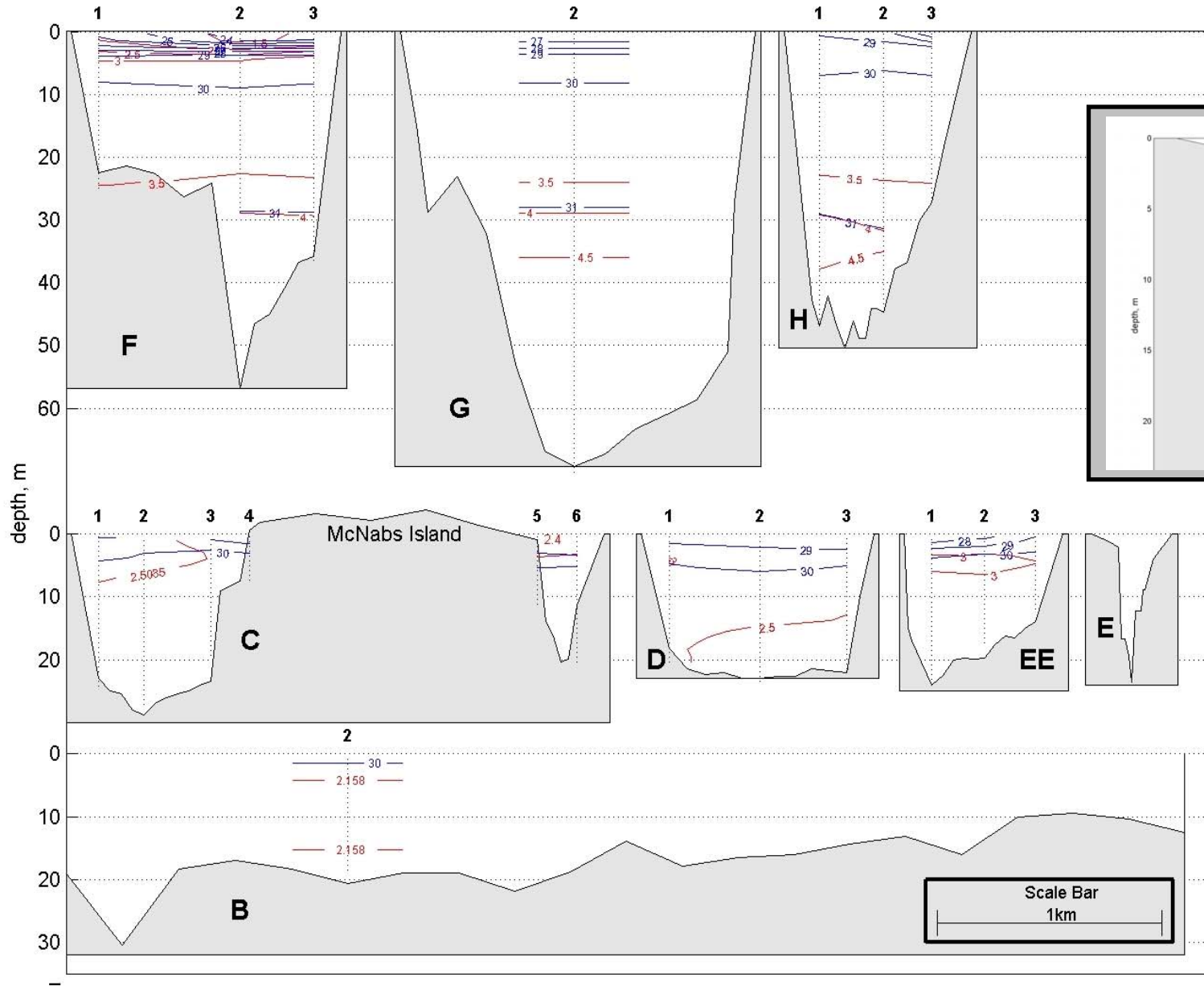
| Site | C3-1m | G2-10m | D2-10m | AYC-1m |
|-----------|-------|--------|--------|--------|
| Reference | 1000 | 23 | 25 | 10 |
| QA/QC | 1100 | 34 | 26 | 2 |

Comments:

General: A series of days with above freezing temperatures and 40 mm of rain three days before the survey have resulted in a large influx of freshwater into the Harbour. The Basin and the Inner Harbour are quite stratified. This is particularly evident at the E and F sections, where there is a surface layer of fresher colder water. The resulting circulation and high flushing has resulted in relatively low fecal coliform concentrations distributed throughout the Harbour. There are no instances of fc >200 in any of the 10m samples. All values > 200 are in the 1m samples in the C, D and EE sections. However, there is an elevated value (32 fc/100 ml) all the way out at site B2. The values in the Basin are not particularly high, but tend to be higher in the surface water than deeper, implying that this may be more related to runoff into the Basin than sewage load to the Inner Harbour.

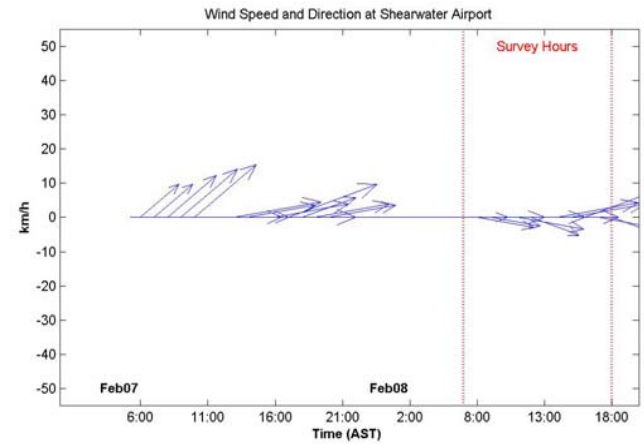
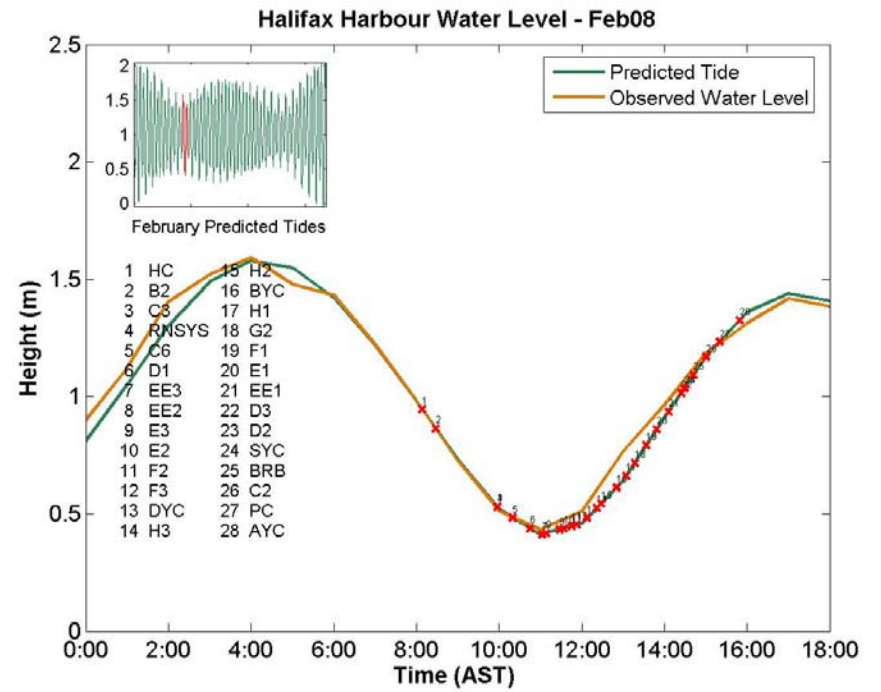
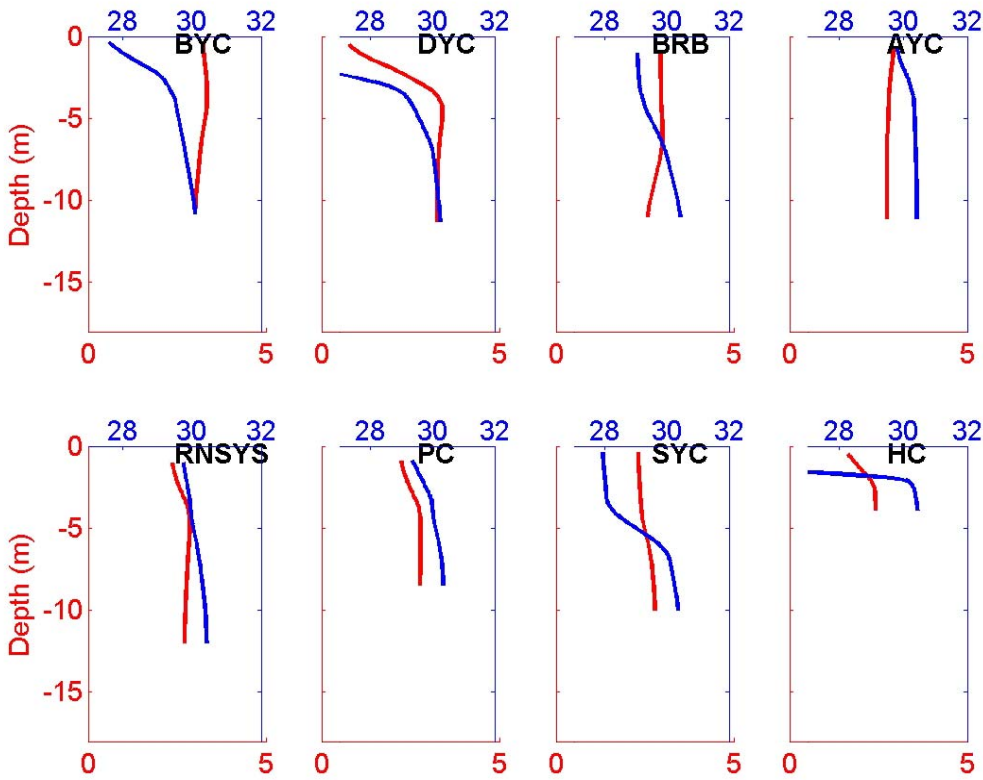
Chlorophyll: The chlorophyll levels in the Basin, as far as the Narrows, are considerably elevated over last week, with the highest value being at BYC (approx 27 mg/m³) and maximum profile values about 4-9 mg/m³, elsewhere. South of the Narrows the values are lower, near typical winter “background” levels in the Harbour. Sechhi disk depths vary from 2 at the head of the Basin (BYC) to 4 in the Outer Harbour, indicating significantly reduced visibility from last week.

Dissolved Oxygen: The dissolved oxygen levels are slightly higher than last week. The data indicate that the surface values everywhere in the Harbour are between approximately 8.2 and 8.5 mg/L. South of the Narrows the values are very vertically uniform. The DO in the bottom water in the Basin continues to drop and is now about 3.7 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).

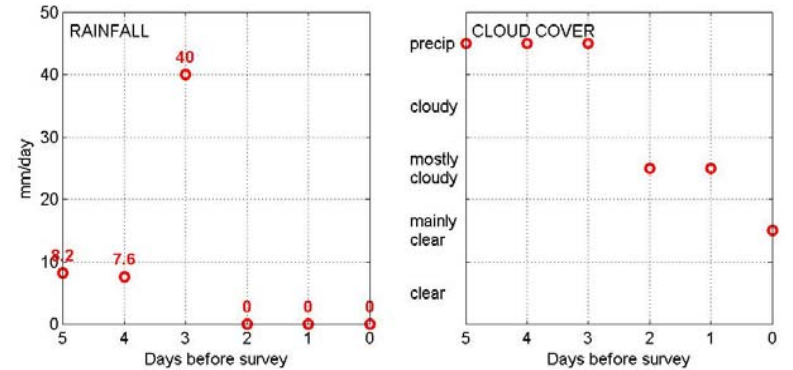


Unless otherwise labeled:
 - salinity contour interval is 1 PSU
 - temperature contour interval is 1°C.

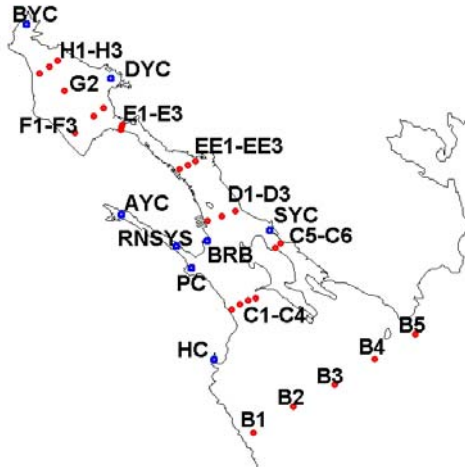
Yacht Clubs

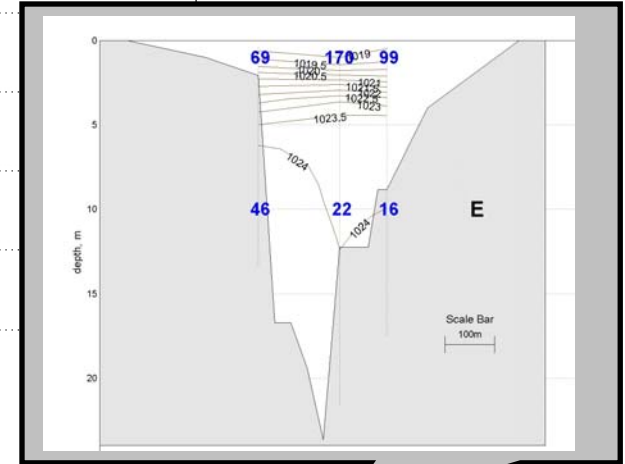
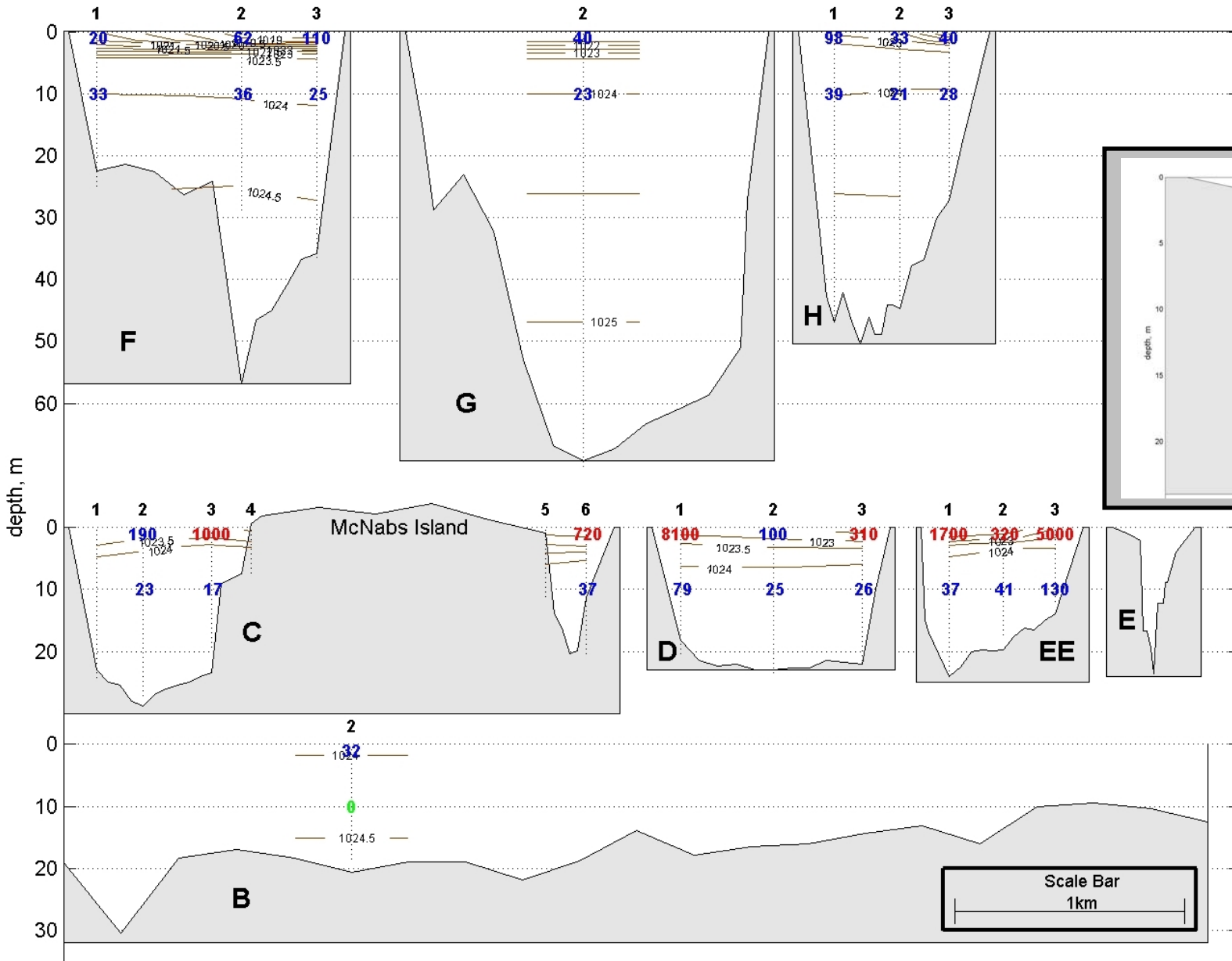


Weather data collected at the Shearwater Airport



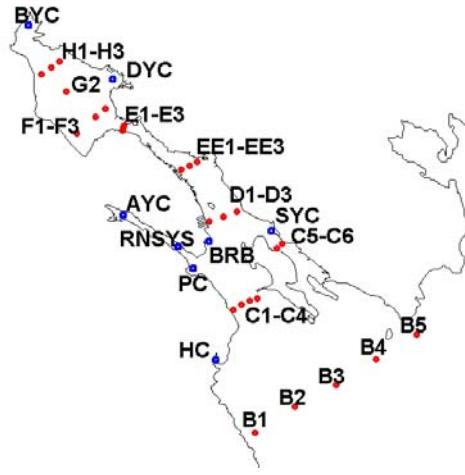
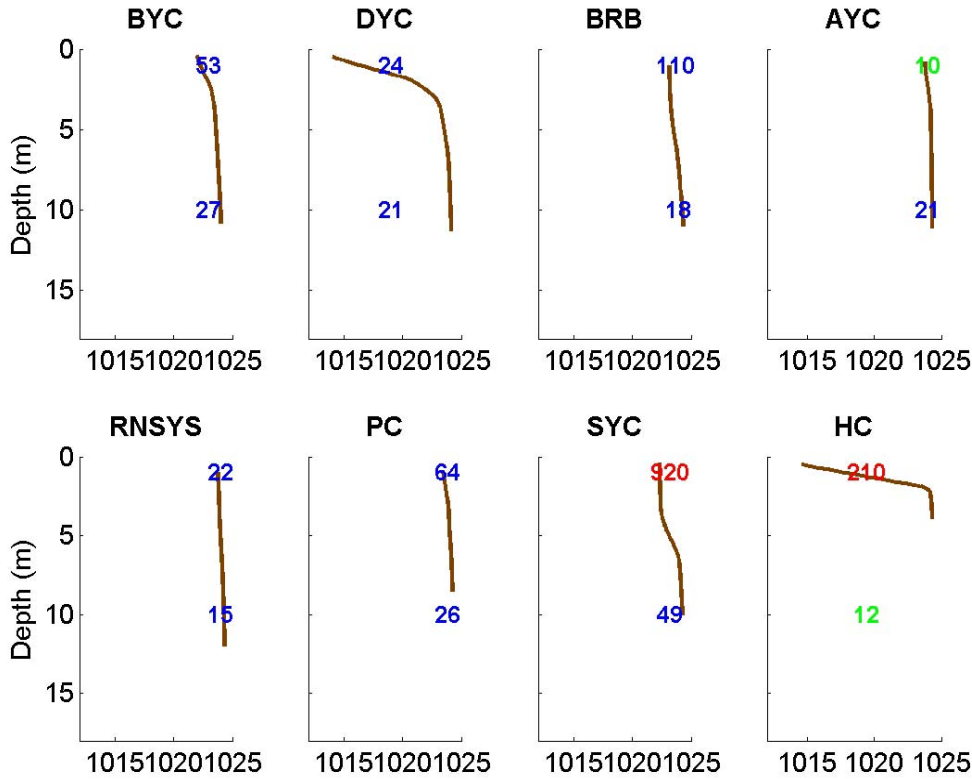
Salinity in PSU Temperature in °C





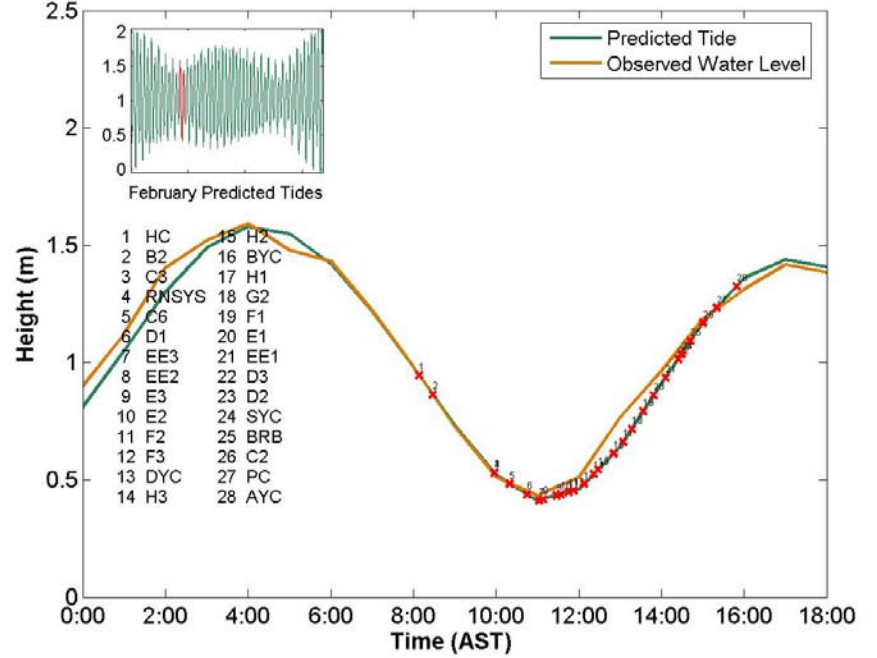
Unless otherwise labeled:
 - **density** contour
 interval is 0.5 kg/m³

Yacht Clubs

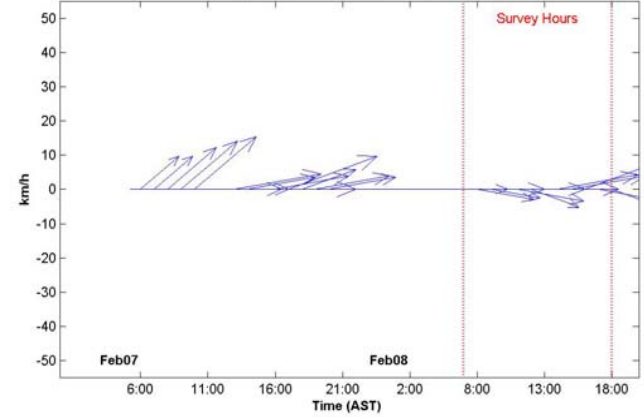


Weather data collected at the Shearwater Airport

Halifax Harbour Water Level - Feb08

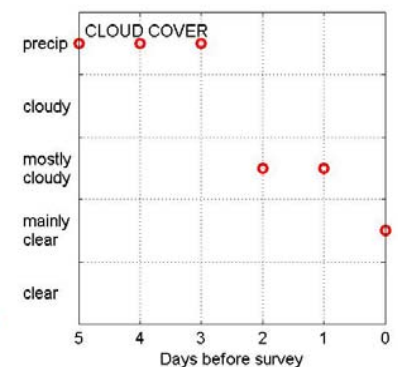
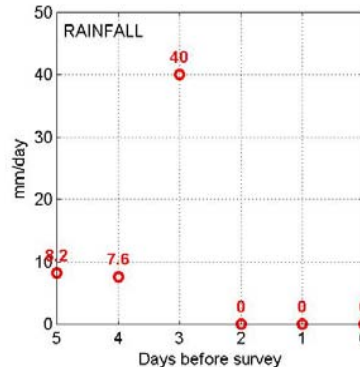


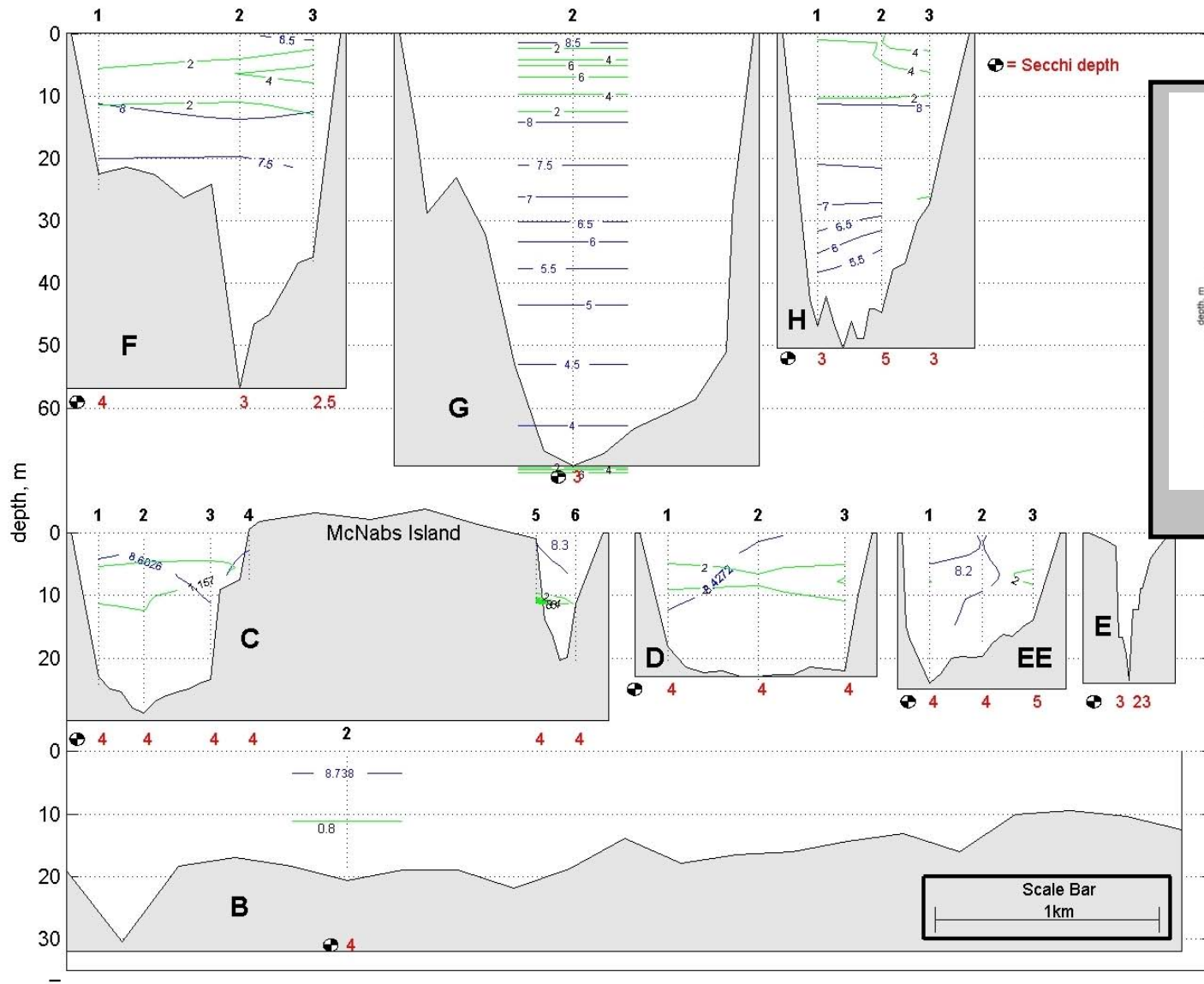
Wind Speed and Direction at Shearwater Airport



Potential Density in kg/m³

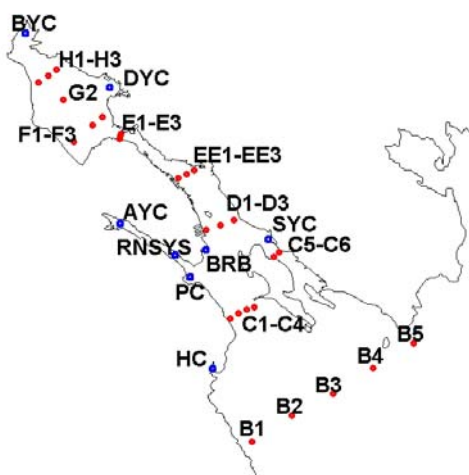
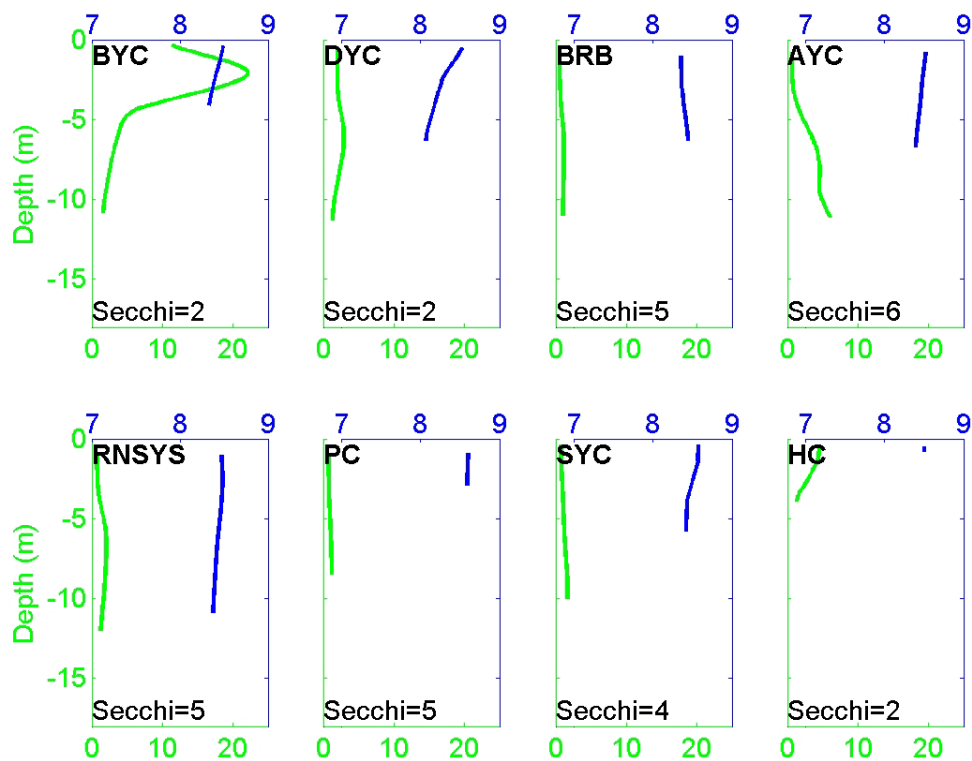
Fecal coliform: above swimming limit (200 cfu/100mL)
 above shellfish limit (14 cfu/100mL)
 below limits





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 - Feb08

