

Real Time Water Quality Monthly Report: Lower Humber River @ Humber Village Bridge February 2004

General

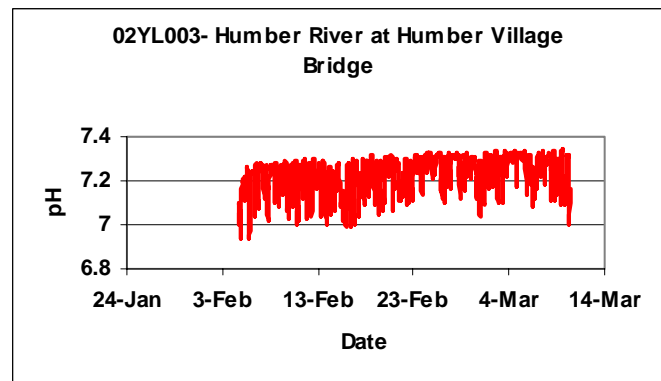
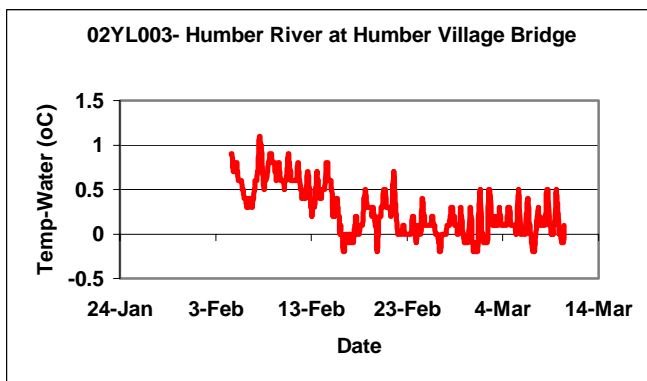
- The Water Resources Management Division staff monitor the real-time web page on a daily basis.

Maintenance and Calibration of Instrumentation

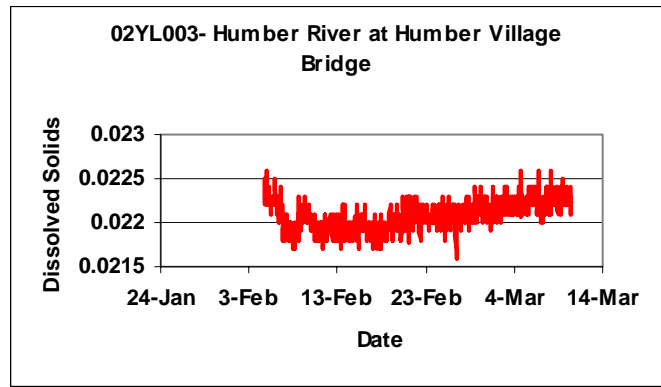
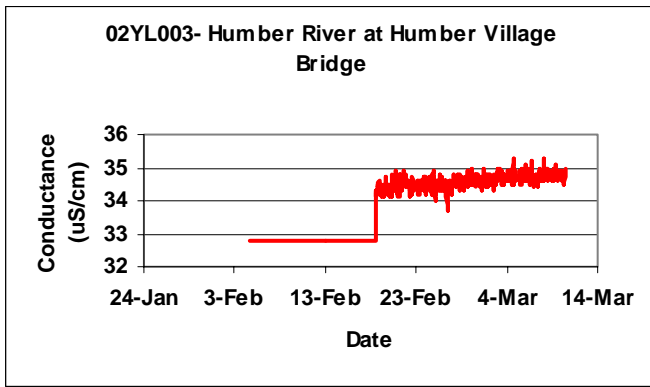
- After the Hydrolab Datasond was removed for calibration and maintenance on Jan 13th, 2004 problems were encountered in trying to calibrate the DO probe. The Datasond was returned to Campbell Scientific Inc. for service.
- The DO sensor would not calibrate to a barometric pressure greater than 600 mmHg, when it should have calibrated to 760 mmHg. The sensor was cleaned and serviced by Campbell Scientific Inc., but still would not calibrate and was replaced. The MPL board displayed “Hardware Measurement Error” and was also replaced. During the functional test the shuttered turbidity sensor was found to occasionally not open and was therefore replaced with the new self-cleaning turbidity sensor. All sensors were cleaned, serviced, calibrated and completed a functionality test before being returned to the Dept of Environment by Campbell Scientific Inc..
- Comparative water quality readings were taken with a Minisonde during the reinstallation of the Datasonde to ensure readings were correct. This procedure is also required as part of the QA/QC protocol. The Minisonde was calibrated before use.

Data Interpretation

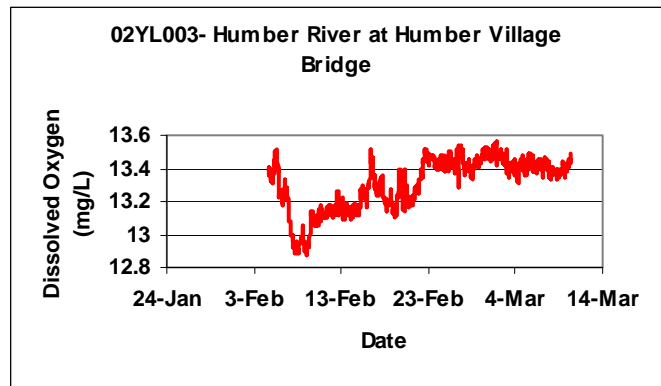
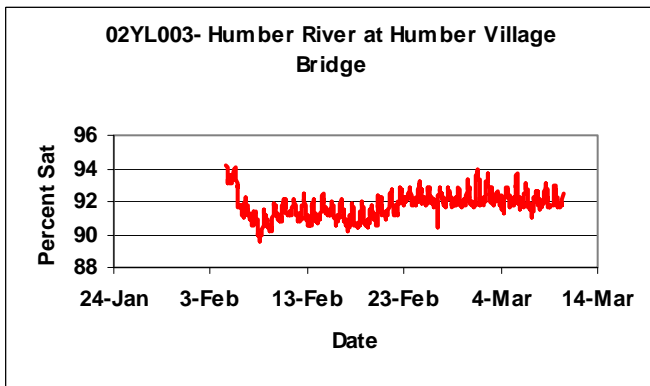
- During the period from Feb 4th, 2004 to Mar 10th, 2004 most parameters displayed normal behaviour. Water temperature continued to decrease, falling below zero by mid February by which time a sustained cold snap had set in. Ice conditions on the river and along the banks were fairly light. pH displayed normal fluctuations in range with typical pH values for the Humber River along with a slight increasing trend.



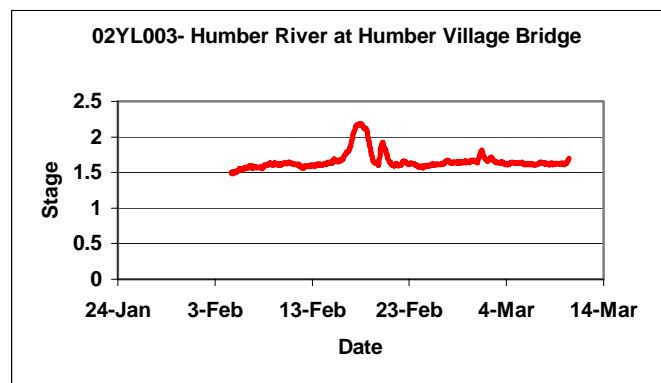
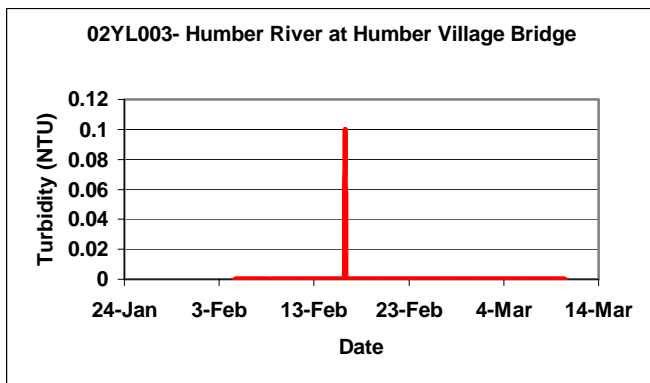
- Conductance values for this period were initially static due to a programming problem with the datalogger. Once this problem was corrected conductivity data fell within normal range for the Humber River and remained fairly constant. A dip in dissolved solids values seems to correspond to an increase in stage or streamflow during mid February.



- Dissolved oxygen levels were initially high, took a dip and then worked back up. High DO corresponds with decreased water temperatures. Problems with the DO sensor now appear to be fixed.



- Turbidity during this period remained at 0 NTU, except for a small spike corresponding to the observed rise in stage or streamflow. Problems with the turbidity sensor now appear to be fixed.



Additional Information

- The above data was the second batch produced from the new real time water quality station on the Humber River at the Humber Village Bridge. Problems with two of the water quality sensors now appear to be fixed. A programming problem with the datalogger was also rectified.

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