

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

General

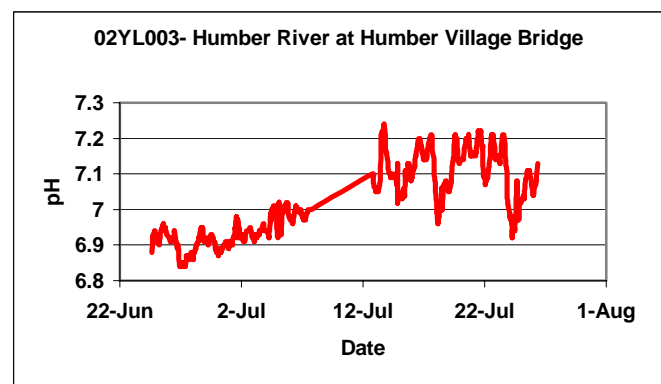
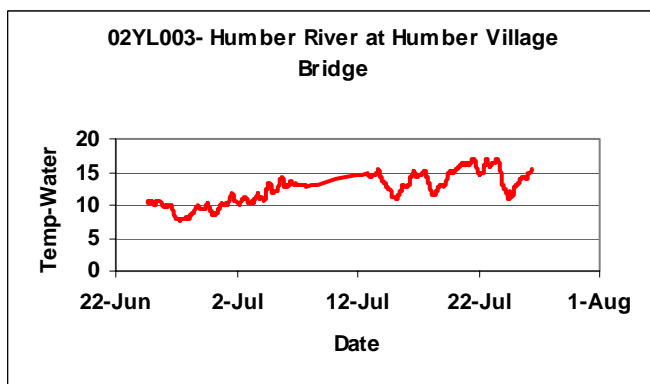
- The Water Resources Management Division staff monitor the real-time web page on a daily basis.

Maintenance and Calibration of Instrumentation

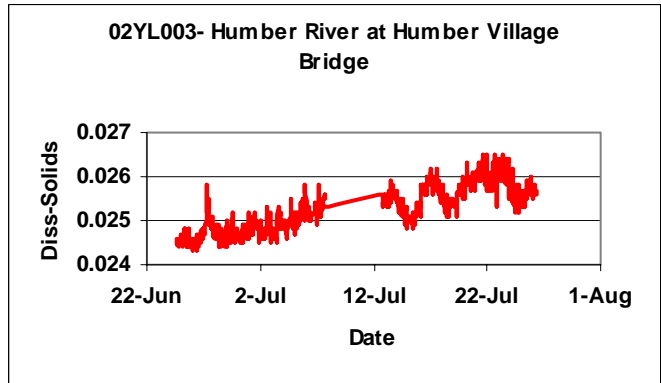
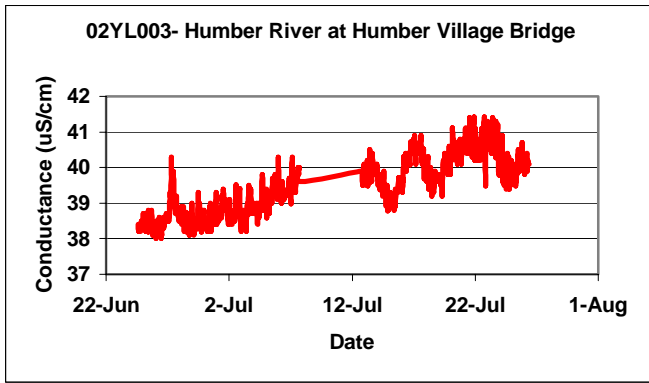
- All sensors calibrated without problems.
- Comparative water quality readings were taken with a Minisonde during the reinstallation of the Datasonde to ensure readings were correct. This procedure is also required as part of the QA/QC protocol. The Minisonde was calibrated before use.
- A water sample was taken for laboratory analysis as part of QA/QC procedures for the first time.
- On July 13th, the hydrolab was disconnected for a short period so that the cable between the probe and the datalogger could be readjusted. No data readings were missed.

Data Interpretation

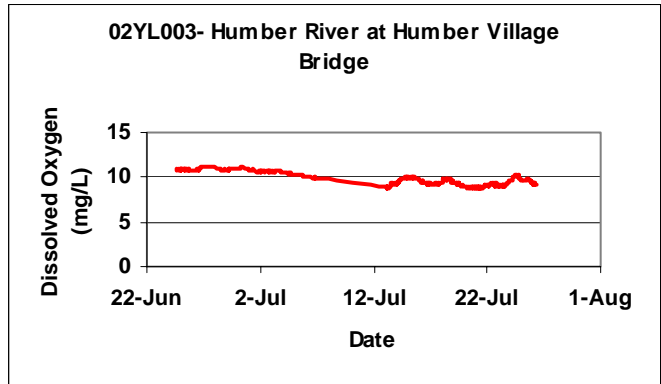
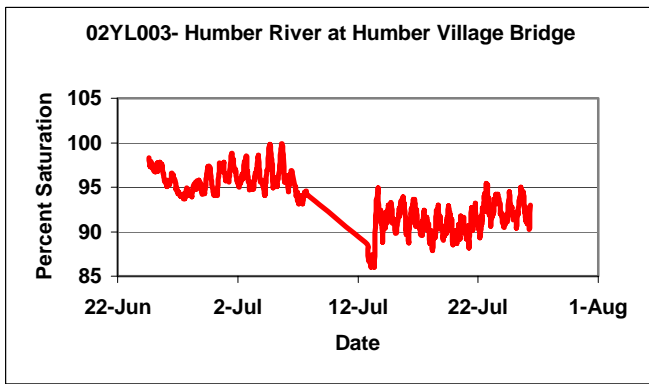
- For some reason, no data was available from July 7-12th, as indicated by the breaks in the middle of most graphs.
- During the period from June 24th, 2004 to July 26th, 2004 parameters displayed normal behaviour. Water temperature continued to increase as ambient air temperature increased. Greater diurnal fluctuations in water temperature were observed over this period most likely due to daytime warming and nighttime cooling effects. Due to the readjustment of the hydrolab cable, the probe was lowered slightly into the water column. pH displayed normal fluctuations in range with typical pH values for the Humber River. pH also showed greater diurnal variation and a tendency to drift upward slightly.



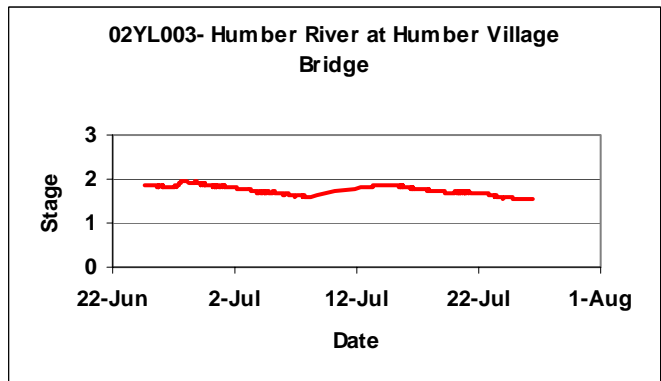
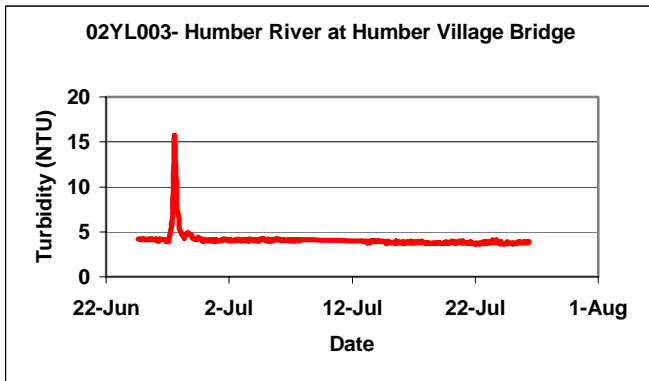
- Conductance values for this period fell within normal range for the Humber River. Both conductance and dissolved solids displayed slight increasing trends over this period. Dissolved solids tend to become more concentrated with decreased runoff as indicated by the Stage graph.



- Oxygen levels decreased over this period corresponding to the steady increase in water temperature. The decreasing trend seemed to level off by mid July.



- Background turbidity levels were again slightly above 0 NTU during this period. A large spike in turbidity occurred in late June corresponding to the slight rise in stage or streamflow. Interestingly, a slight increase in stage or streamflow in mid-July did not see a corresponding spike in turbidity. It is believed that farm fields were still relatively bare during late June, but sufficiently covered by mid-July to mitigate turbid runoff.



Additional Information

- Missing data from July 7-12th has had some effect on the output graphs. In addition, the readjustment of the hydrolab cable seems to have intensified diurnal variation for some of the parameters, especially temperature. By mid-July, full summer conditions seem to predominate

water quality variables, especially temperature and conductance. Activities in the watershed now appear to be having less of an impact on turbidity with fuller vegetation coverage of farm fields.

Prepared by: Paula Dawe

Department of Environment

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Ph: (709) 637-2542

Fx: (709) 637-2541

Email: PaulaDawe@gov.nf.ca