

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

General

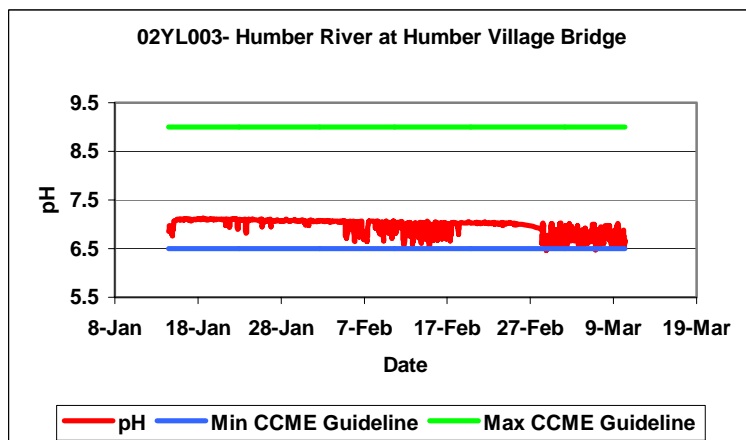
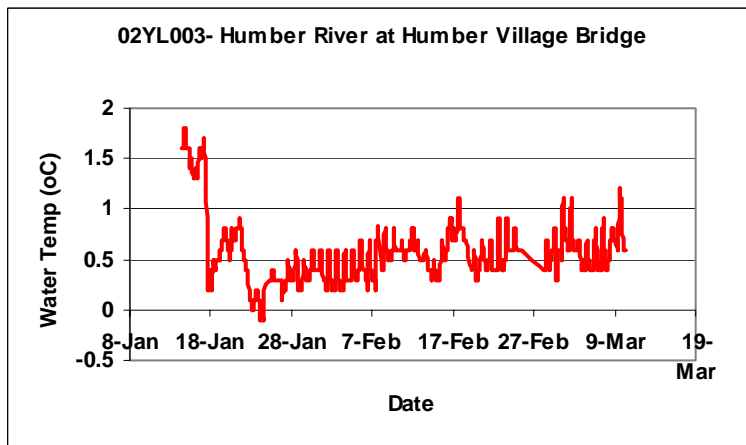
- The Water Resources Management Division staff monitor the real-time web page on a daily basis.

Maintenance and Calibration of Instrumentation

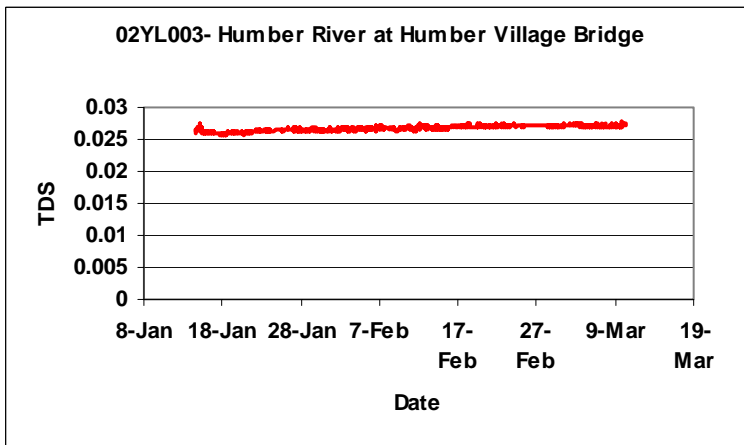
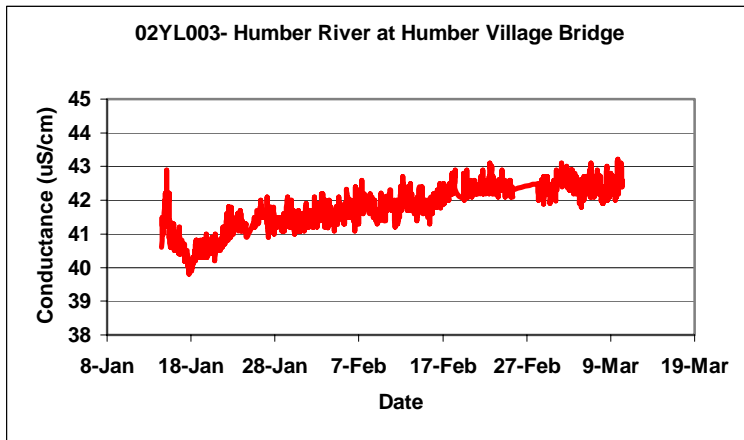
- All sensors calibrated without problem.
- Comparative water quality readings were taken with a Minisonde during removal and reinstallation of the Datasonde to ensure readings were correct. This procedure is also required as part of the QA/QC protocol. The Minisonde was calibrated before use.
- A water sample was taken for laboratory analysis as part of QA/QC procedures on reinstallation.

Data Interpretation

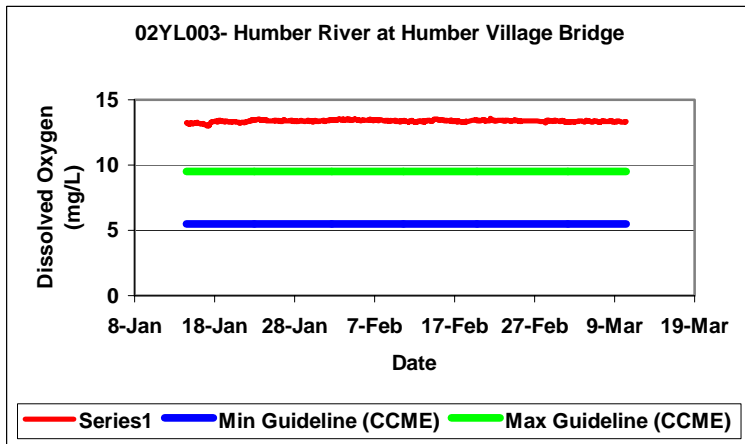
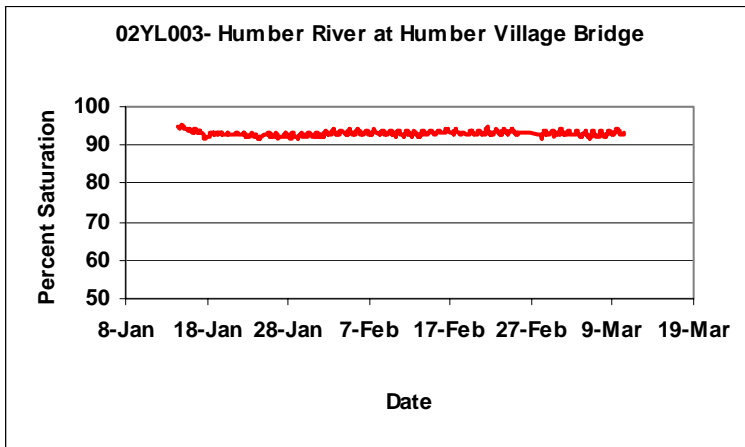
- During the period from Jan 14th, 2005 to Mar 10th, 2005 all parameters displayed normal behaviour reflective of conditions.
- Water temperature continued to decrease until the end of January, rising slightly towards the end of February. pH was observed to have two distinct behaviours during this period- almost flat-lining and variability within a 0.5 range.
- A slight decrease in pH below the minimum guideline was observed towards the end of February.



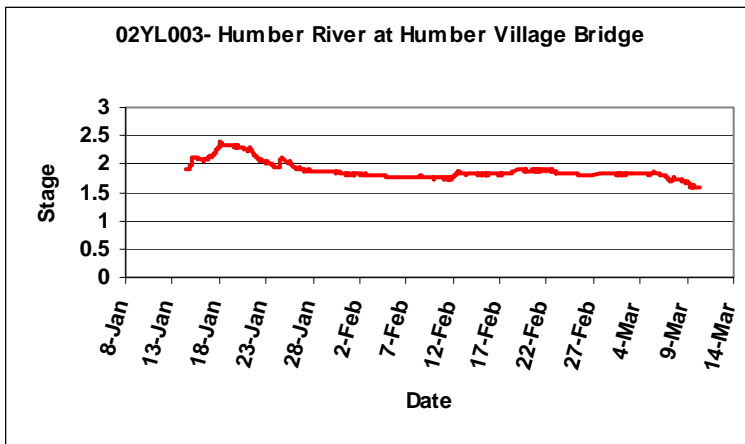
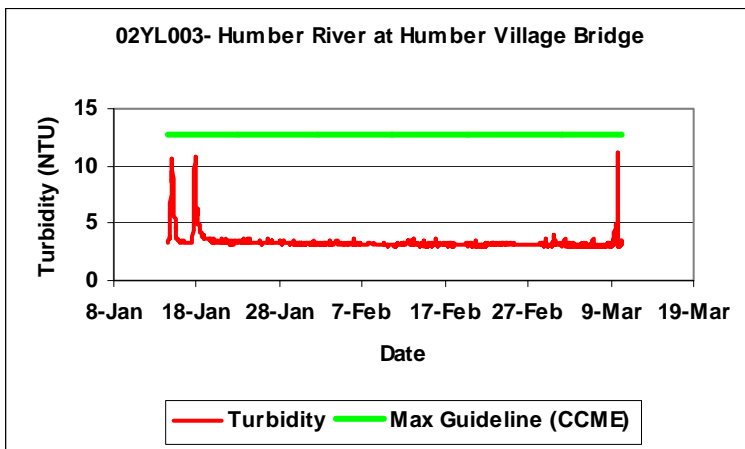
- Conductance and TDS values for this period fell within normal range for the Humber River. Both conductance and dissolved solids displayed a slight increasing trend over this period.



- Dissolved oxygen levels and percent saturation were steady over this period.
- DO was above the maximum CCME guideline for dissolved oxygen, however, high DO values are normal in the Humber River especially coupled with colder water temperatures.



- Background turbidity levels stayed around 3.3 NTU throughout this entire period, except for three minor peaks of approximately 11 NTU. These spikes in turbidity coincide with rises in streamflow.
- The CCME guideline for turbidity allows for an increase of 8 NTU above background levels. Background levels on the Humber River were taken as the long-term average of turbidity. None of the observed spikes exceed the guideline.



Additional Information

- For the most part, water quality readings held steady over this period, particularly pH and DO. Water temperature continued to decrease during the first part of this period and increase during the later part. Conductivity and dissolved solids displayed a slight increasing trend. There were three spikes in turbidity, none of which were significant.
- The following table provides summary statistics on water quality parameters of the Humber River from this period.

	Temp-Water (oC)	pH	Conductance (uS/cm)	Diss-Solids (g/L)	Percent-Saturation	Diss-Oxy (mg/L)	Turbidity (NTU)
Max	1.80	7.10	42.87	0.0274	106.32	14.87	11.20
Min	-0.05	6.08	39.67	0.0254	92.57	13.08	2.90
Average	0.70	6.74	40.76	0.0260	99.02	14.12	3.37
Standard Deviation	0.32	0.26	0.33	0.0002	3.56	0.45	0.78

- The following table provides long-term summary statistics on water quality parameters from the Humber River RTWQ station going back to Dec 2003.

	Temp-Water (oC)	pH	Conductance (uS/cm)	Diss-Solids (g/L)	Percent-Saturation	Diss-Oxy (mg/L)	Turbidity (NTU)
Max	20.67	7.31	42.87	0.03	108.60	15.35	955.00
Min	-0.10	5.44	32.53	0.02	87.71	8.50	0.00

Average	6.23	6.74	37.54	0.02	98.00	12.30	2.75
Standard Deviation	5.82	0.26	2.42	0.00	4.26	1.80	10.37

Prepared by: Paula Dawe
Department of Environment
July 28, 2004
Ph: (709) 637-2542
Fx: (709) 637-2541
Email: PaulaDawe@gov.nf.ca