

Real Time Water Quality Monthly Report Lower Humber River at Humber Village Bridge March-April 2006

General

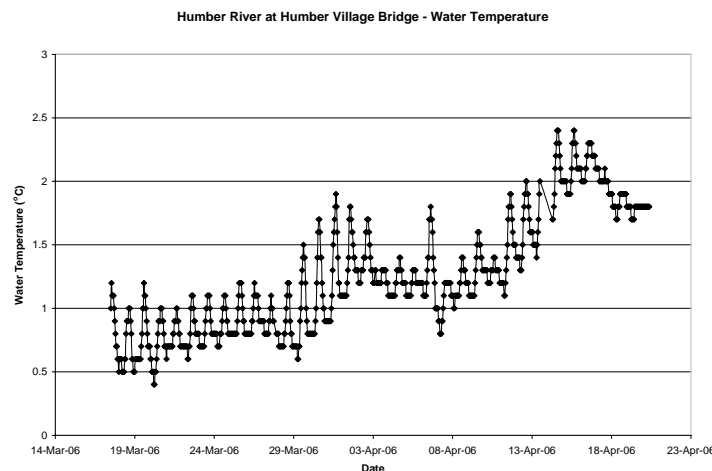
- The Water Resources Management Division staff analyses the real-time web page on a daily basis.

Maintenance and Calibration of Instrumentation

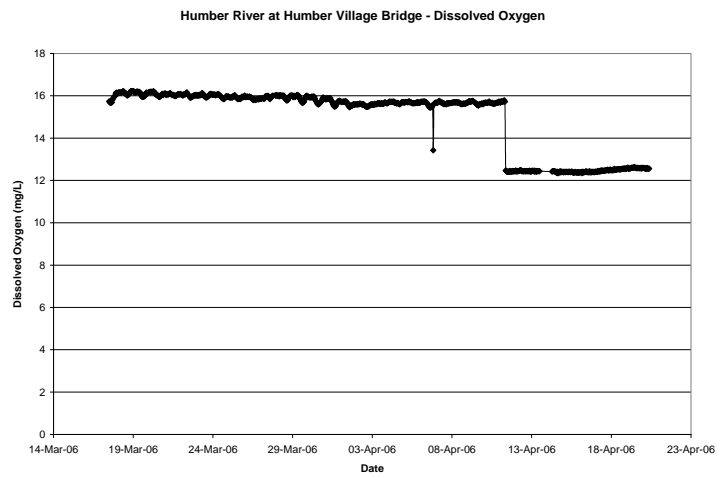
- All sensors calibrated with no problem.
- Comparative water quality readings were taken with a Minisonde during the reinstallation of the Datasonde to ensure readings were correct. This procedure was also required as part of the QA/QC protocol. The Minisonde was calibrated before use.
- A water sample was taken for laboratory analysis as part of QA/QC procedures upon reinstallation.

Data Interpretation

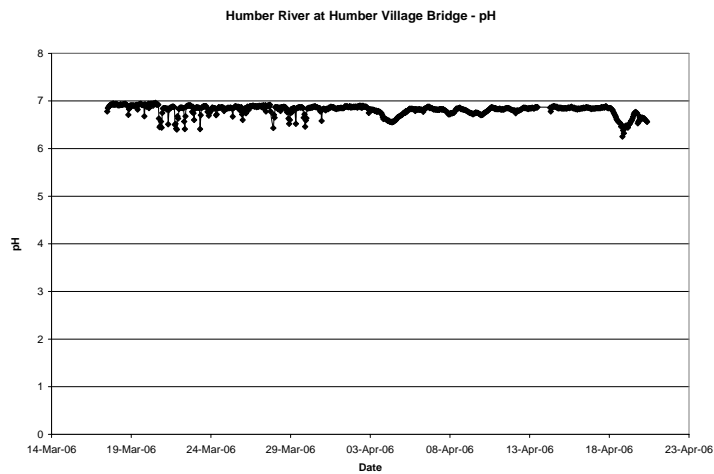
- During the period of March 17 to April 20, 2006 the water quality remained relatively stable with the exception of dissolved oxygen which had problems with the delay time.
- Temperature increased throughout the month from approximately 0.4°C to 2.4°C.



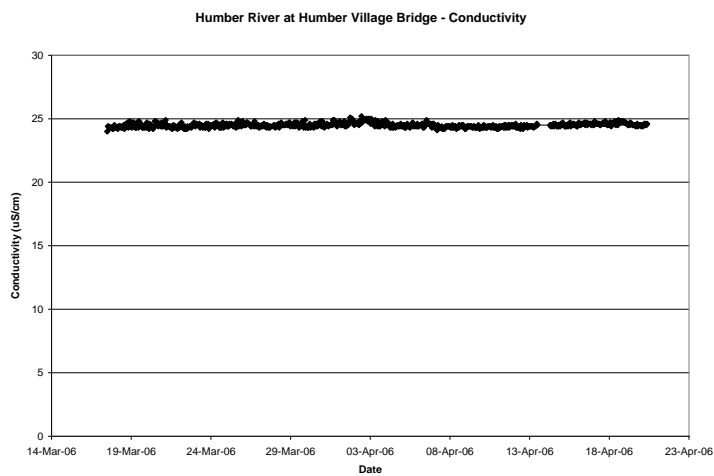
- The dissolved oxygen of Humber River showed high levels for the first part of the month; at approximately 16mg/L and dropping off significantly on April 11th to approximately 12.5 mg/L. This was due to the default in the delay for the setup of the Hydrolab. The delay default was not allowing the Hydrolab to warm-up enough to accurately read the dissolved oxygen concentrations. On April 11th, a field visit to Humber River changed the delay to allow for the appropriate time delay. The later part of the month show more reasonable dissolved oxygen values for Humber River at this time of year. The DO concentrations seen in the previous month were also affected by the error in the time delay.



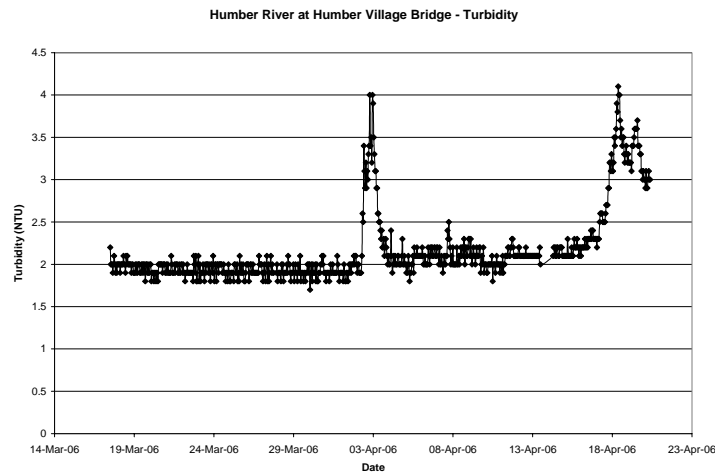
- pH remained relatively stable with small fluctuations throughout the month. The pH values generally remained above the minimum aquatic pH guideline of 6.5.



- Conductivity remained very stable in Humber River throughout the month of March to April.



- The turbidity values generally remained below 2.5 NTU. Turbidity remained relatively stable throughout the month with the exception of two spike seen on April 2 and April 18 with value of 4.0 and 4.1 NTU respectively.



Additional Information:

- With the exception of dissolved oxygen, water quality in Humber River behaved normally for the period of February 16 to March 16, 2006.
- The following table provides summary statistics on water quality parameters for the Humber River for this time period between March 17 and April 20, 2006.

	Temp- Water (°C)	pH	Conductance (uS/cm)	Diss- Solids (g/L)	% Saturation	Dissolved Oxygen (mg/L)	Turbidity (NTU)
Max	2.32	7.04	32.60	0.0208	128.77	16.75	4.1
Min	0.39	6.40	24.01	0.0154	103.9	13.38	1.7
Average	1.2	6.89	28.50	0.0182	120.04	15.64	2.17
Standard Deviation	0.44	0.10	2.34	0.0015	7.84	1.19	0.44

- The following table provides summary statistics on water quality parameters for the Humber River RTWQ station going back to December 2003.

	Temp- Water (°C)	pH	Conductance (uS/cm)	Diss- Solids (g/L)	% Saturation	Dissolved Oxygen (mg/L)	Turbidity (NTU)
Max	20.67	7.43	44.85	0.0287	148.1	20.01	955.0
Min	-0.10	5.44	24.01	0.0154	87.71	8.50	0.0
Average	6.70	6.76	37.14	0.0238	100.73	12.42	2.76
Standard Deviation	5.74	0.26	3.25	0.0020	9.86	2.16	7.54

Prepared by: Annette Tobin

Department of Environment and Conservation
Regional Water Quality Officer - Western
Ph: (709) 637-2431
Fx: (709) 637-2541
Email: AnnetteTobin@gov.nl.ca