

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

General

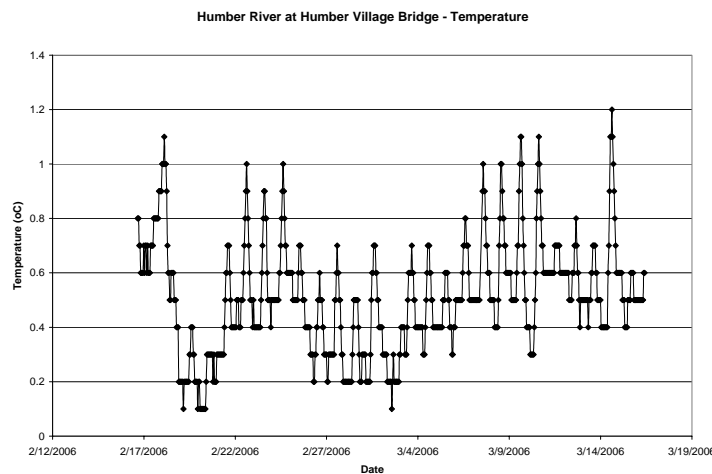
- The Water Resources Management Division staff analyses the real-time web page on a daily basis.

Maintenance and Calibration of Instrumentation

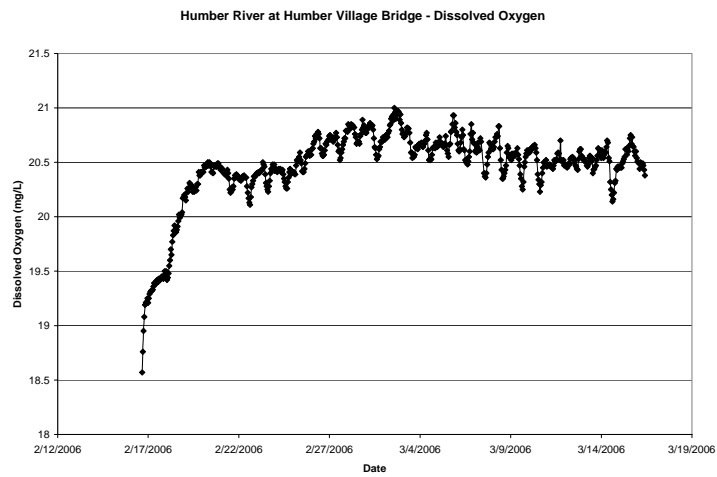
- All sensors calibrated with no problem.
- Comparative water quality readings were taken with a Minisonde during the reinstallation of the Datasonde to ensure readings were correct. This procedure was also required as part of the QA/QC protocol. The Minisonde was calibrated before use.
- A water sample was taken for laboratory analysis as part of QA/QC procedures upon reinstallation.
- The Datasonde and Minisonde were sent for annual servicing in January 2006.

Data Interpretation

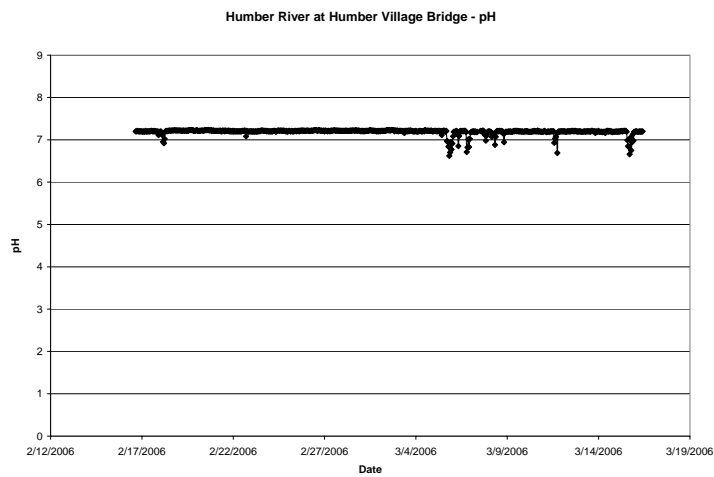
- During the period of February 16 to March 16, 2006 the water quality remained relatively stable with the exception of some fluctuations in temperature.
- Temperature fluctuated throughout the month between 0.1°C to 1.2°C.



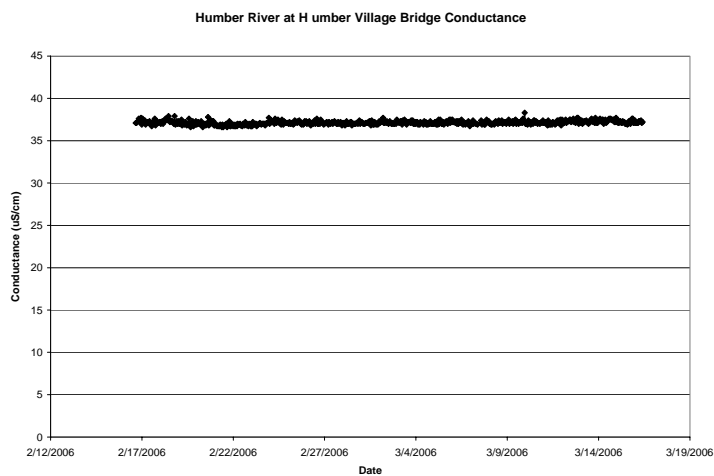
- The dissolved oxygen of Humber River showed an increase throughout the month. DO values for this month are approximately 20mg/L which is very uncommon and unusual for this river. It is possible that the calibration for DO of the Hydrolab was not accurate which could lead to the uncommonly high dissolved oxygen levels.



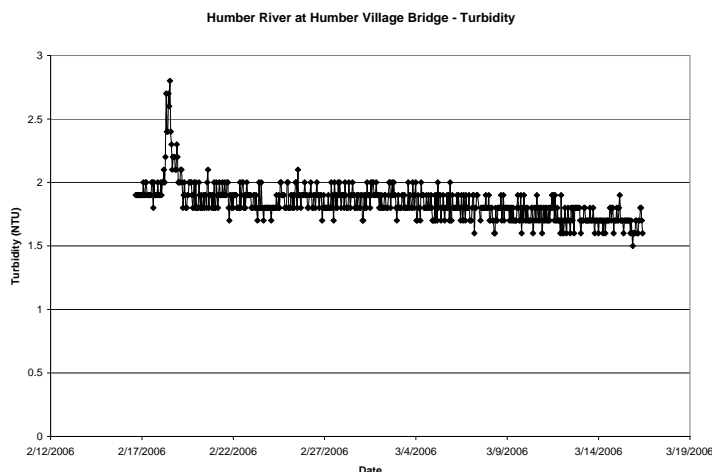
- pH remained relatively stable with values slightly above 7.0 units as is normal for this station. There were some small fluctuations that caused the pH to go below 7.0 but still remained above the minimum aquatic guideline of 6.5.



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



- The turbidity values generally remained below 2 NTU. Turbidity remained relatively stable throughout the month with the exception of a small spike seen on February 18 with a value of 2.8 NTU.



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 February 16 to March 16, 2006.

| | Temp-Water (°C) | pH | Conductance (uS/cm) | Diss-Solids (g/L) | % Saturation | Dissolved Oxygen (mg/L) | Turbidity (NTU) |
|---------------------------|-----------------|------|---------------------|-------------------|--------------|-------------------------|-----------------|
| Max | 1.2 | 7.23 | 38.3 | 0.0245 | 156.1 | 21 | 2.8 |
| Min | 0.1 | 6.62 | 36.6 | 0.0234 | 140.1 | 18.57 | 1.5 |
| Average | 0.5 | 7.19 | 37.1 | 0.0238 | 153.0 | 20.47 | 1.8 |
| Standard Deviation | 0.2 | 0.08 | 0.2 | 0.0001 | 2.3 | 0.34 | 0.1 |

- 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 | 20.7 | 7.4 | 44.9 | 0.0287 | 148.1 | 20.01 | 955.0 |
| Min | -0.1 | 5.4 | 31.4 | 0.0203 | 87.7 | 8.50 | 0.0 |
| Average | 7.0 | 6.8 | 37.6 | 0.0241 | 99.8 | 12.27 | 2.8 |
| Standard Deviation | 5.7 | 0.3 | 2.7 | 0.0016 | 8.95 | 2.08 | 7.7 |

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