Real Time Water Quality Deployment Report
Lower Humber River at Humber Village Bridge
December 2007 – March 2008

General

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

Maintenance and Calibration of Instrumentation

- The instrument at Humber River was reinstalled on December 5th, 2007. No field readings were taken upon removal and reinstallation of the instrument on December 5th.

- The instrument was deployed until March 26th, 2008 (112-day deployment period) at which point it was removed for maintenance and calibration. The extended deployment period is due to a staff vacancy in the Western Region during the deployment period. The results from comparing the Minisonde values to the Datasonde values during removal on March 26th, and reinstallation on March 27th, can be seen in **Table 1**.

Table 1: QA/QC Data Comparison Rankings for removal/reinstallation on March 26th and 27th 2008

Station	Date	Action	Minisonde vs. Datasonde Comparison Ranking			
			Temperature	pH	Conductivity	Dissolved Oxygen
Humber River at Humber Village Bridge	March 26th, 2008	Removal	Good	Good	Poor	Good
	March 27th, 2008	Installation	Excellent	Good	Poor	Fair

Data Interpretation

- During the deployment period of December 5th, 2007 to March 26th, 2008 the water quality remained relatively stable for all parameters with the exception of turbidity where there was a problem with the probe being blocked with vegetative debris.

- The water temperature (**Figure 1**) showed a slight decreasing trend over the early part of the deployment and then stabilized during the colder winter months. This is typical for this time of the year with a temperature range of 5.0 °C to –0.1 °C.

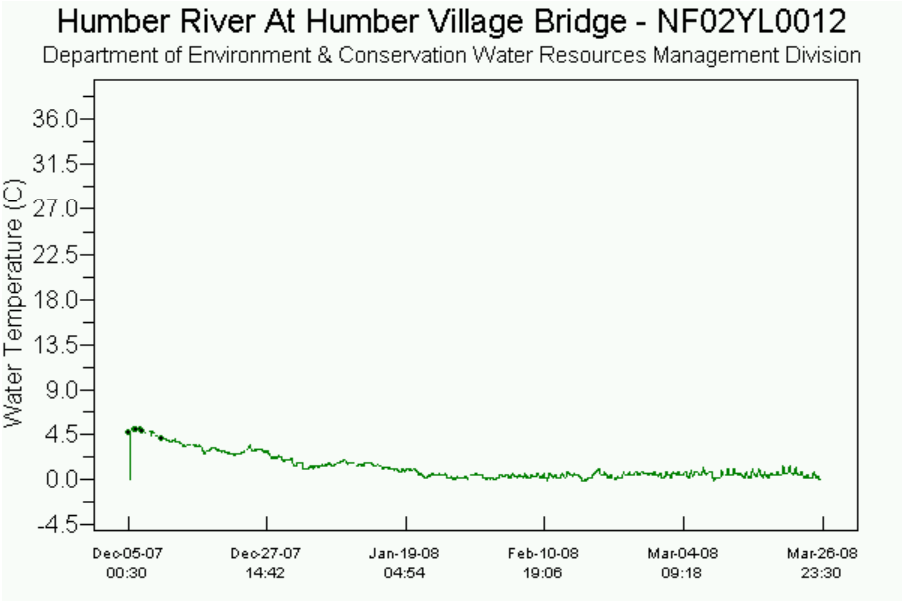

Figure 1

- The dissolved oxygen (DO) (**Figure 2**) increased over the early half of the deployment period which corresponds to the decreasing temperature. Once the temperature stabilized so too did the DO. The DO values ranged from 12.4mg/L to 14.55mg/L.

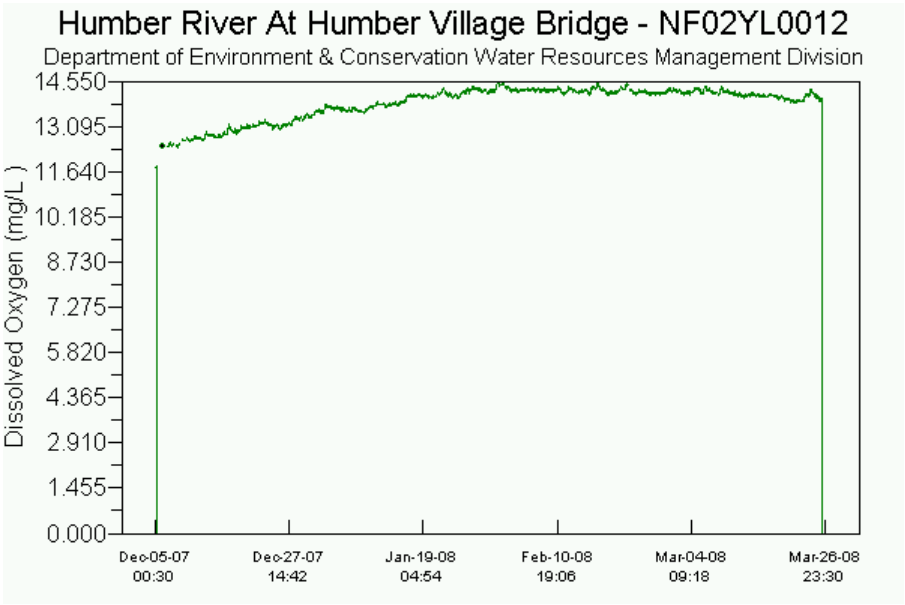

Figure 2

- pH values (**Figure 3**) remained relatively stable throughout the deployment period with an average of 6.77 and a range of 6.02 – 6.88.

- The CCME Protection of Aquatic Life guideline for pH is a range between 6.5 – 9.0 and approximately 22% of the pH readings were slightly below the lower limit of 6.5.

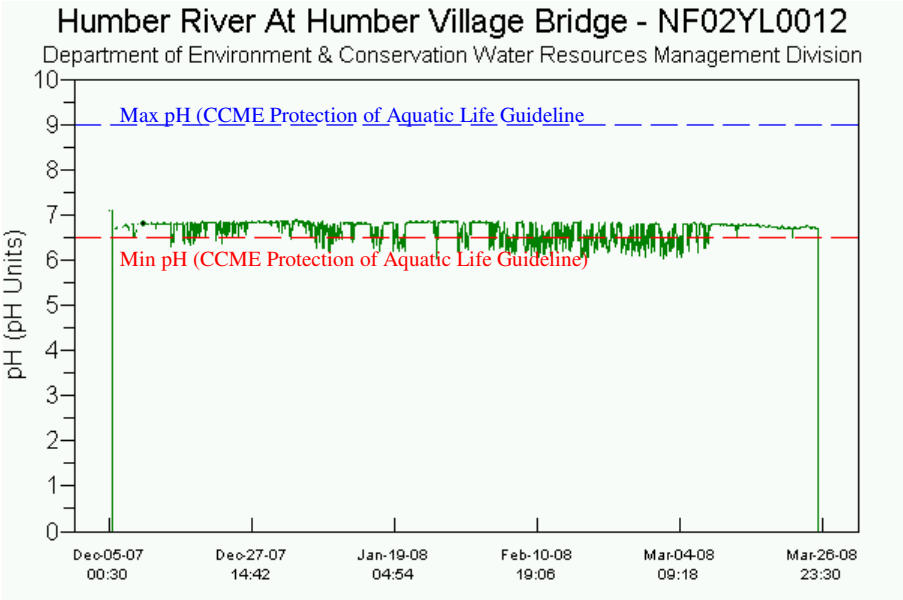

Figure 3

- Conductivity (**Figures 4**) remained consistent at background levels throughout the deployment period. The conductivity values ranged from 40.8µS/cm to 45.7µS/cm with an average of 42.3µS/cm.

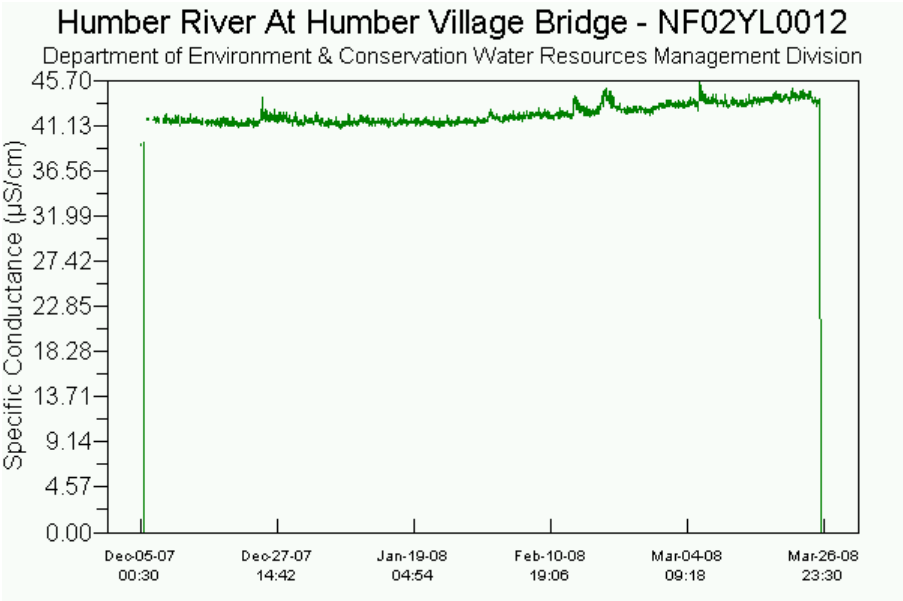

Figure 4

- From the middle of February until the end of the deployment period there is considerable fluctuation in the turbidity readings with extremely high values of up to 2874.0 NTU. These extreme values were due to an accumulation of vegetative matter around the probe. Turbidity readings from mid February until the end of the deployment period are not valid because the probe was fouled by vegetative matter (photo 1).

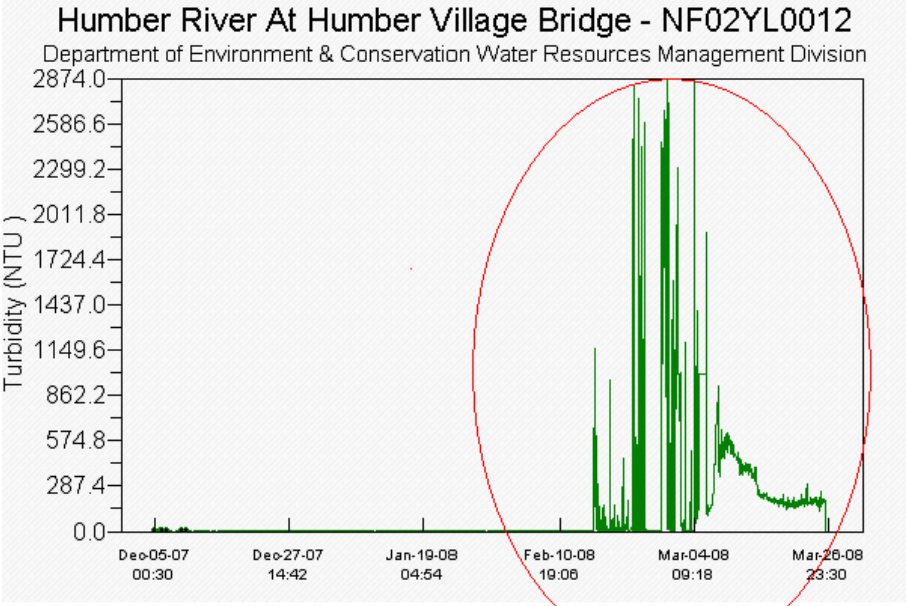

Figure 5

Photo 1

- The turbidity values (**Figure 5**) remained consistent throughout the early portion of the deployment period up until the middle of February. Figure 6 shows the Turbidity Values from December 5, 2007 until February 15, 2008 before the probe was fouled with vegetative matter. Turbidity values for this period range from 2.2 NTU to 7.2 NTU which is much more typical for this station.

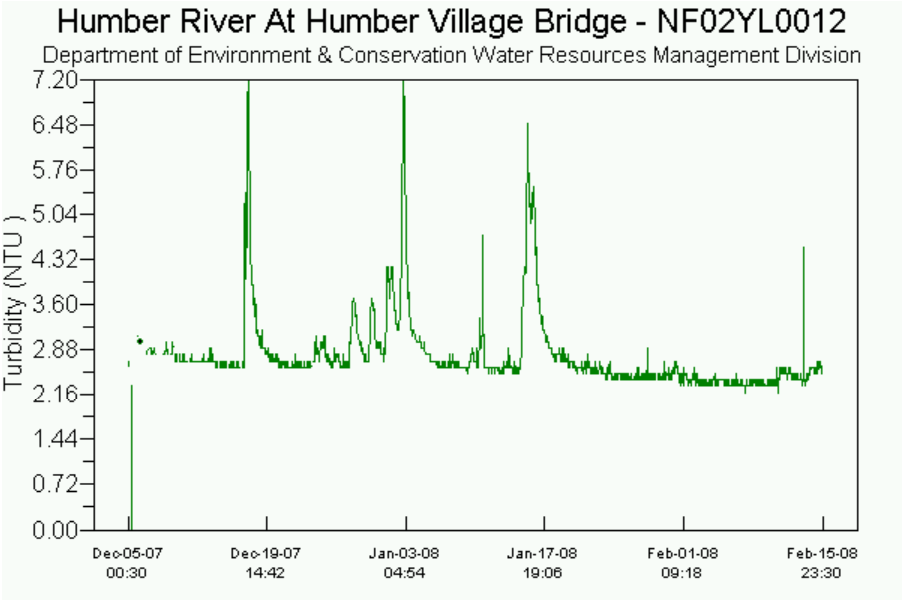

Figure 6

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