

Real Time Water Quality Monthly Report Lower Humber River at Humber Village Bridge November – December 2006

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 removed on November 6th, 2006 for cleaning and calibration and then reinstalled on November 7th. The results from comparing the Minisonde values to the Datasonde values during removal and reinstallation on November 6th/7th, 2006 can be seen in **Table 1**.

Table 1: QA/QC Data Comparison Rankings upon removal/reinstallation on Nov. 6th/7th, 2006

Station	Date	Action	Minisonde vs. Datasonde Comparison Ranking			
			Temperature	pH	Conductivity	Dissolved Oxygen
Humber River at Humber Village Bridge	November 6 th , 2006	Removal	Excellent	Excellent	Marginal	Poor
	November 7 th , 2006	Installation	Excellent	Fair	Poor	Fair

- The instrument was deployed until December 13th (37-day deployment period) at which point it was removed for maintenance and calibration. The results from comparing the Minisonde values to the Datasonde values during removal on December 13th, 2006 can be seen in **Table 2**.

Table 2: QA/QC Data Comparison Rankings upon removal on December 13th, 2006

Station	Date	Action	Minisonde vs. Datasonde Comparison Ranking			
			Temperature	pH	Conductivity	Dissolved Oxygen
Humber River at Humber Village Bridge	December 13 th , 2006	Removal	Excellent	Fair	Good	Poor

- A water sample was taken for laboratory analysis as part of QA/QC procedures upon reinstallation.

Data Interpretation

- During the deployment period of November 7th – December 13th, 2006 the water quality remained relatively stable for most parameters.
- The water temperature (**Figure 1**) decreased over the deployment period with a range of 8.1°C to 4.4°C.

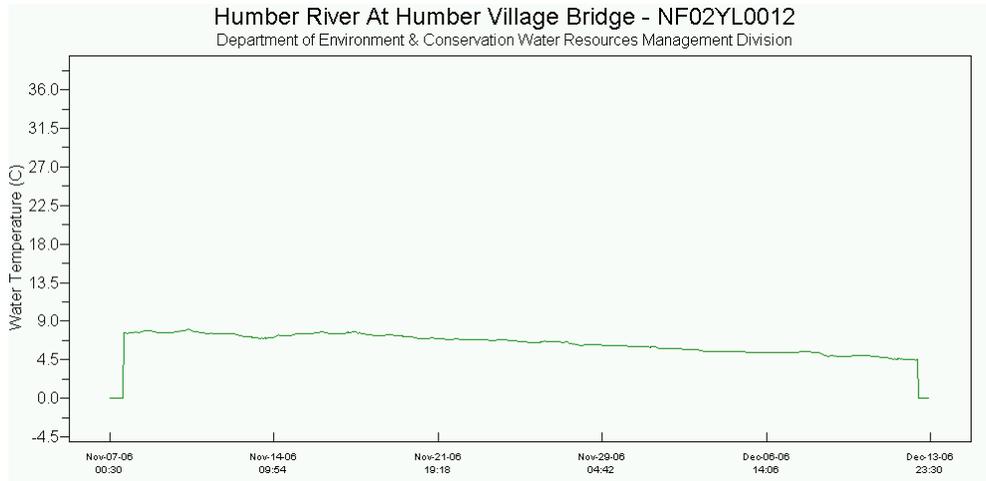


Figure 1

- The dissolved oxygen (**Figure 2**) increased throughout the deployment period which corresponds to the decrease of temperature in **Figure 1**. The dissolved oxygen values ranged from 9.8mg/L to 10.76mg/L. These values fall within the recommended CCME Protection of Aquatic Life guidelines for dissolved oxygen (cold water/other life stages – above 6.5; warm water/other life stages – above 5.5; warm water/early life stages – above 6; cold water/early life stages – 9.5 mg/L).

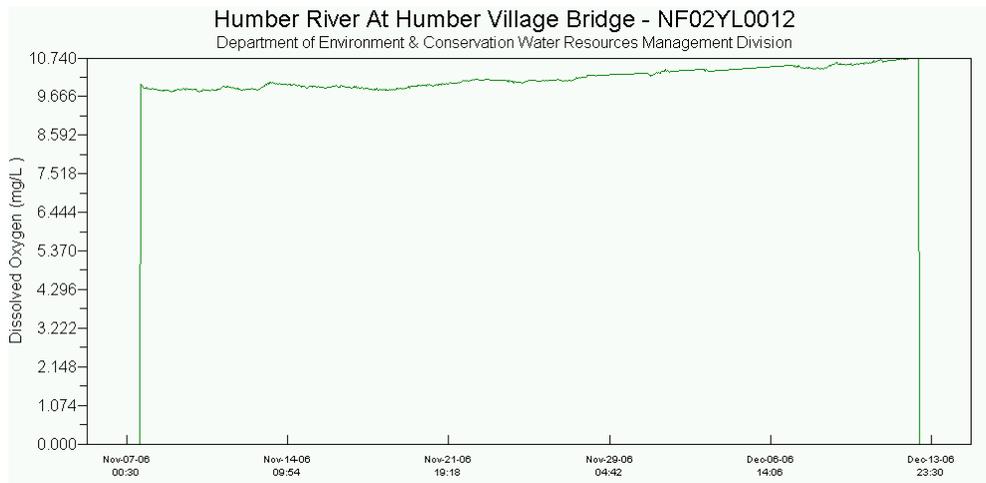


Figure 2

- pH values (**Figure 3**) remained relatively stable at approximately 7.0 units. The range for pH was 6.46 – 6.84 with only one reading (6.46) falling slightly outside the recommended range (6.5 – 9.0) for the CCME Protection of Aquatic Life guidelines.

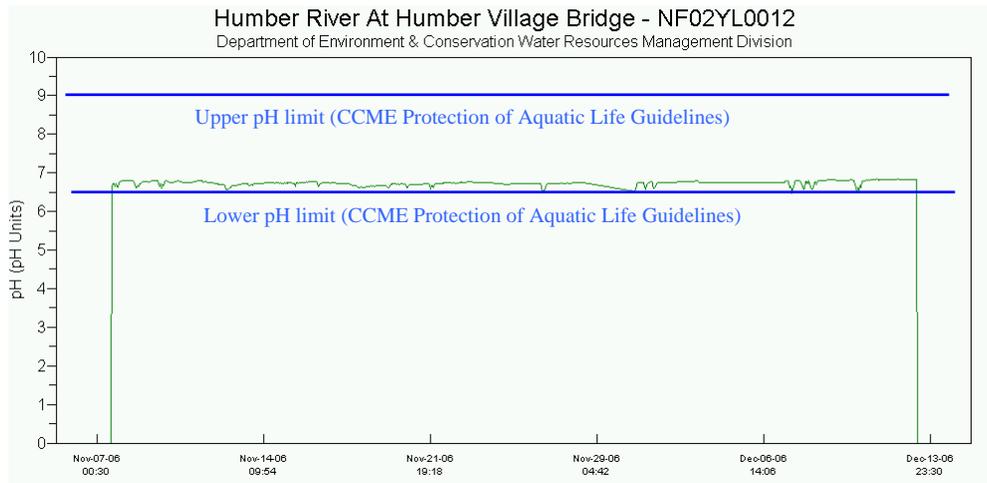


Figure 3

- Conductivity (**Figures 4**) remained constant throughout the deployment period. The conductivity values ranged from 36.5 μ S/cm to 38.3 μ S/cm.

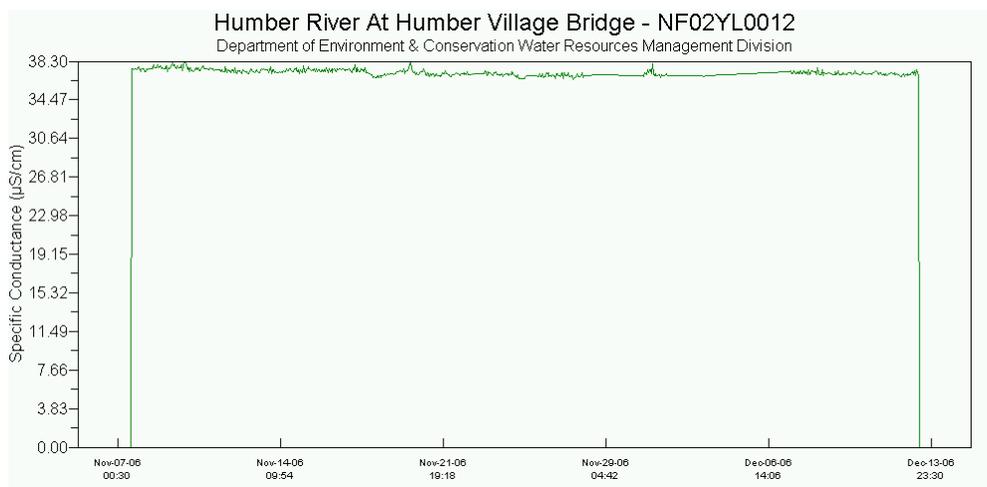


Figure 4

- The turbidity values (**Figure 5**) generally remained below 3 NTU which is the typical background concentration for this station. There was one spike in turbidity (6.6 NTU) on November 10th which corresponds to an increase in stage at the same time period (**Figure 6**). The climate data for the area (Deer Lake) is in **Appendix A**.

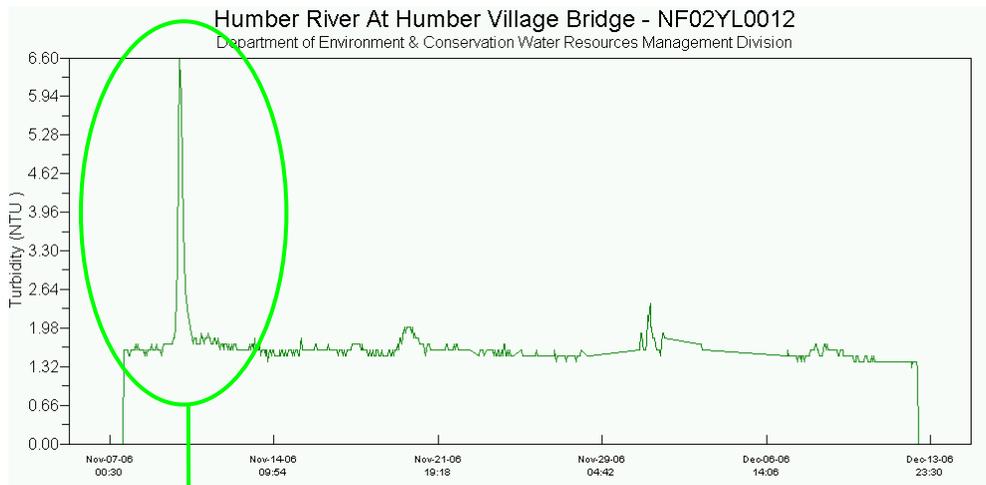


Figure 5

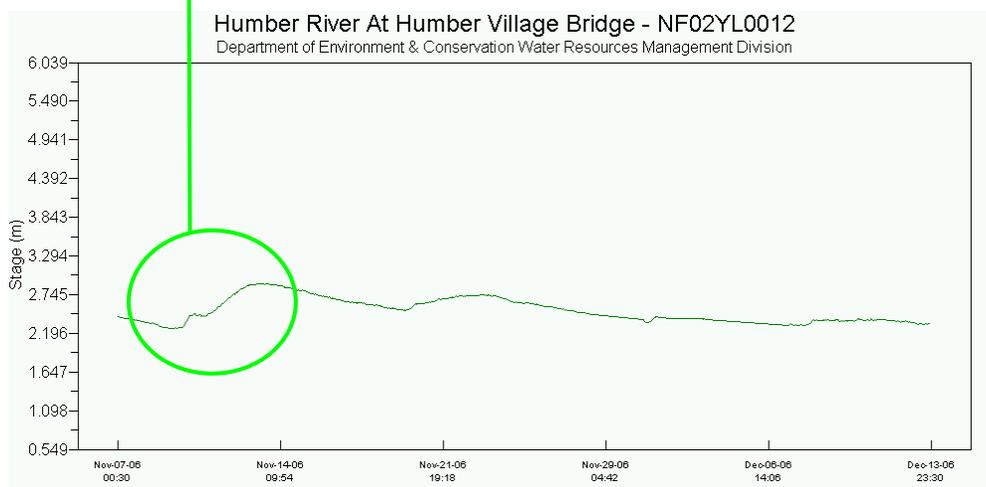


Figure 6

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