

Real Time Water Quality Monthly Report Lower Humber River at Humber Village Bridge September – November 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 September 14th, 2006 for cleaning and calibration and then reinstalled on September 15th. The results from comparing the Minisonde values to the Datasonde values during removal and reinstallation on September 14th/15th, 2006 can be seen in **Table 1**.

Table 1: QA/QC Data Comparison Rankings upon removal/reinstallation on Sept. 14th/15th, 2006

Station	Date	Action	Minisonde vs. Datasonde Comparison Ranking			
			Temperature	pH	Conductivity	Dissolved Oxygen
Humber River at Humber Village Bridge	September 14 th , 2006	Removal	Excellent	Fair	Fair	Poor
	September 15 th , 2006	Installation	Good	Fair	Poor	Good

- The instrument was deployed until November 6th (52-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 November 6th, 2006 can be seen in **Table 2**.

Table 2: QA/QC Data Comparison Rankings upon removal on November 6th, 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

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

Data Interpretation

- During the deployment period of September 15th – November 6th, 2006 the water quality remained relatively stable for most parameters.
- The water temperature (**Figure 1**) decreased from mid September to early November with a range from 15.8°C to 7.8°C over the deployment period.

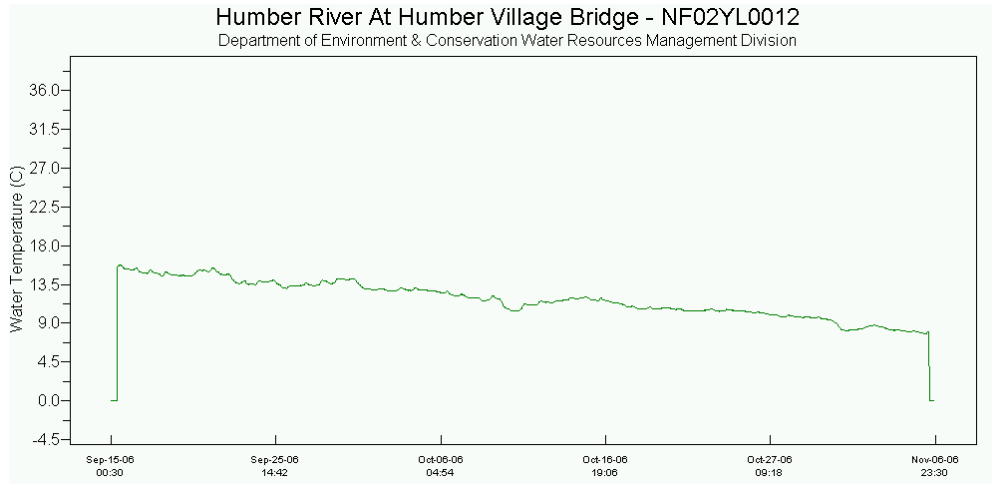


Figure 1

- The dissolved oxygen graph (**Figure 2**) showed an increase in dissolved oxygen values over the deployment period. This corresponds to the decrease in temperature seen in **Figure 1**. The dissolved oxygen values ranged from 8.37mg/L to 9.35mg/L. These values fall within the recommended CCME Protection of Aquatic Life guidelines for dissolved oxygen in most cases (cold water/other life stages – above 6.5; warm water/other life stages – above 5.5; warm water/early life stages – above 6); however, fall below the most conservative limit for cold water/early life stages – 9.5 mg/L.

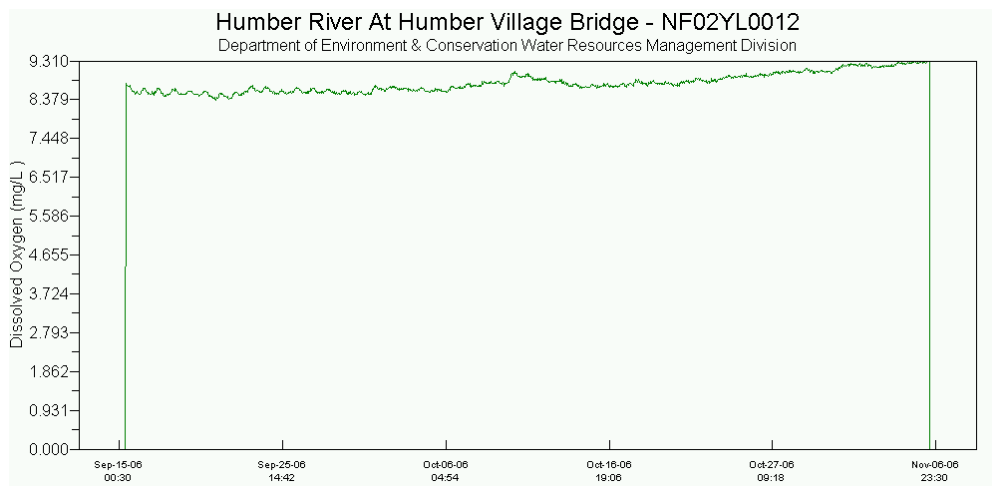


Figure 2

- pH values (**Figure 3**) remained consistent throughout the deployment period with a range of 6.7 – 7.1. All values remain within the recommended range (6.5 – 9.0) for the CCME Protection of Aquatic Life guidelines.

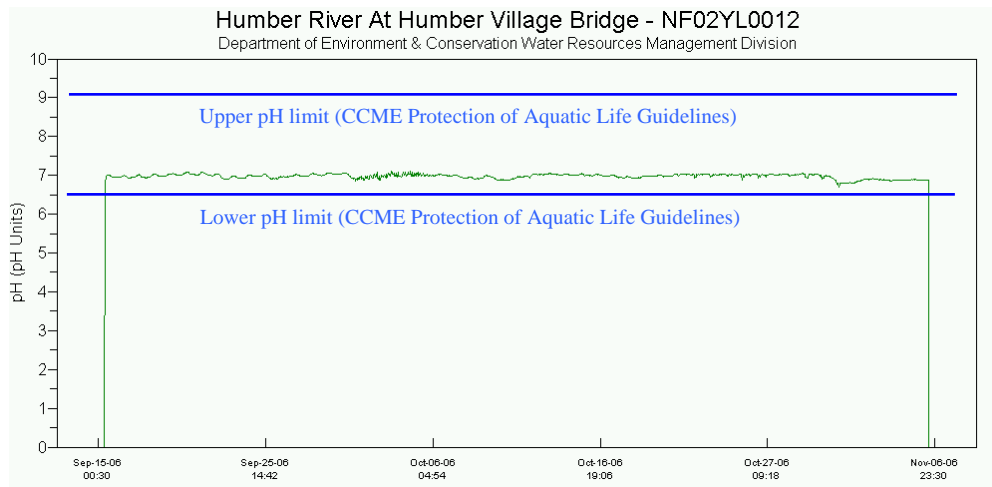


Figure 3

- Conductivity (**Figure 4**) remained consistent throughout the deployment period with a range of 23.7 μ S/cm to 25.9 μ S/cm.

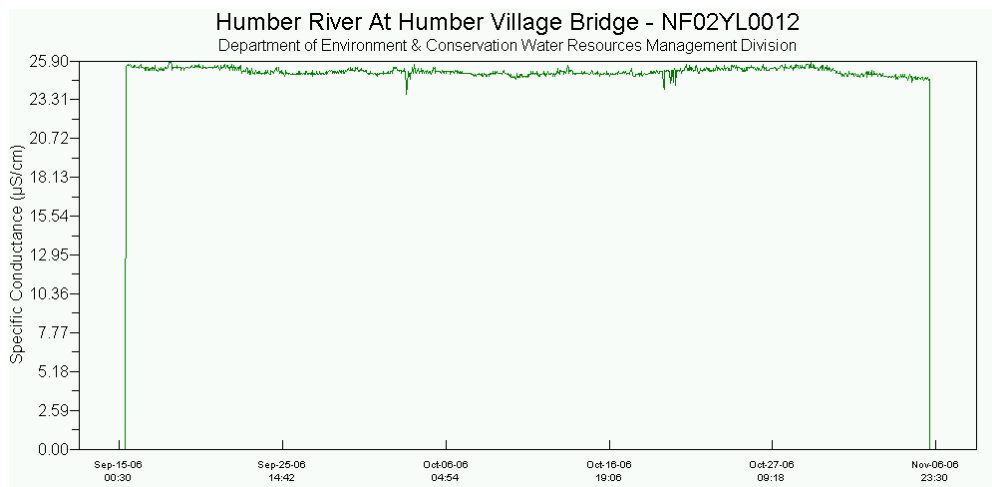


Figure 4

- The turbidity values (**Figure 5**) remained below 4 NTU which is the typical background concentration for this station. There was one water quality event that occurred during October 22nd & October 23rd where turbidity levels spiked to 5.1 NTU and 5.4 NTU respectively. These small spikes are consistent with a rise in stage as can be seen in **Figure 6**. **Appendix A** shows climate data for the area (Deer Lake).

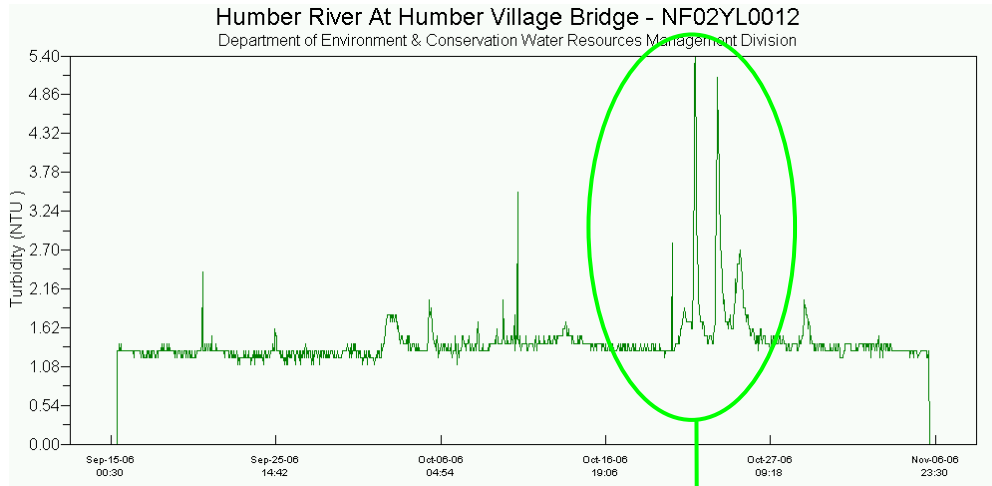


Figure 5

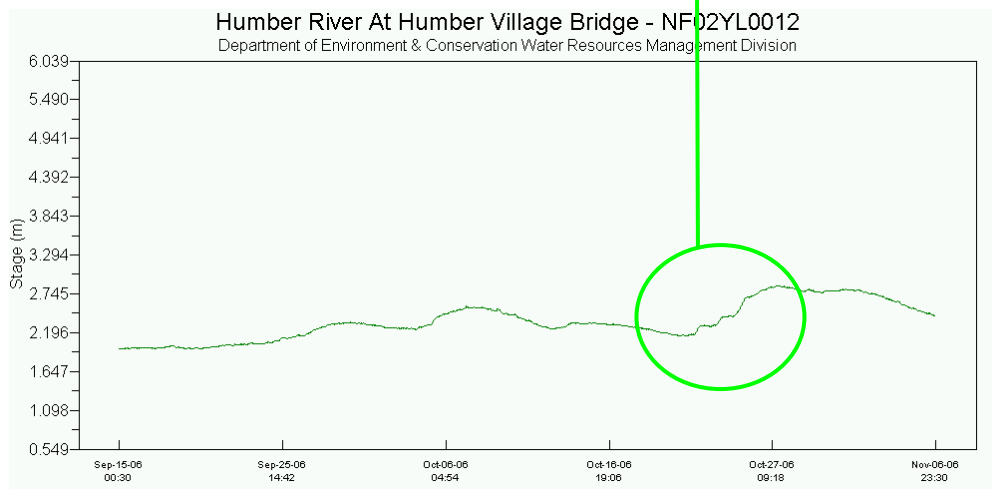


Figure 6

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