

## Real Time Water Quality Monthly Report Minipi River September - October 2006

### General

- The Water Resources Management Division staff monitors the real-time web page on a daily basis.
- The RTWQ station at Minipi River was initially installed on September 22<sup>nd</sup>, 2006. Pictures of the Minipi River site are in **Appendix A**.

### Maintenance and Calibration of Instrumentation

- The instrument at Minipi River was initially installed on September 22<sup>nd</sup>, 2006. The results from comparing the Minisonde values to the Datasonde values during the initial installation on September 22<sup>nd</sup> can be seen in **Table 1**.

**Table 1: QA/QC Data Comparison Rankings upon initial installation on September 22<sup>nd</sup>, 2006**

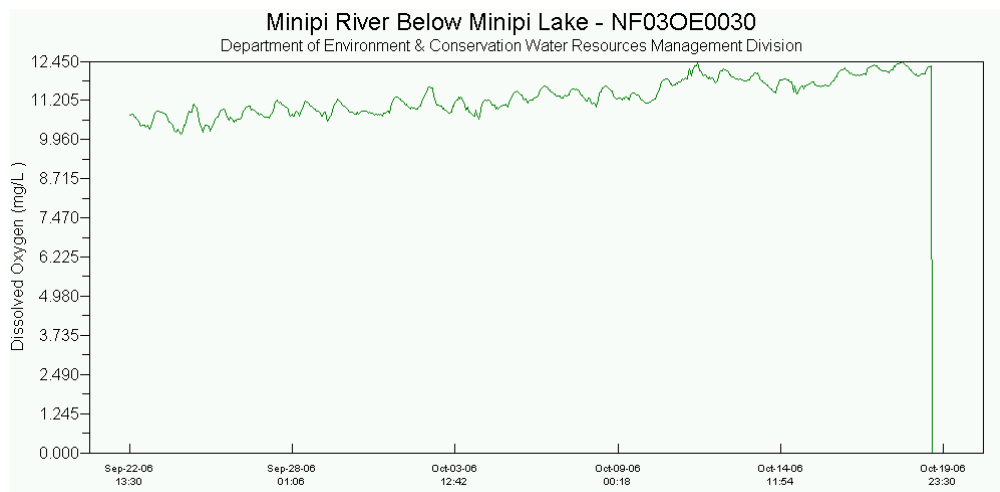
Station	Date	Action	Minisonde vs. Datasonde Comparison Ranking			
			Temperature	pH	Conductivity	Dissolved Oxygen
Minipi River	September 22 <sup>nd</sup> , 2006	Initial Installation	NA*	Fair	Marginal	Fair

\* Temperature readings were not transmitted from the instrument due to an additional temperature probe that was already installed at the station in conjunction with the hydrometric stations. This temperature is not working properly and will be removed in Spring 2007.

- The Minipi River instrument was removed on October 19<sup>th</sup>, 2006 for the winter months. It will be reinstalled in the spring when ice conditions allow. The comparison of Minisonde values to the Datasonde values as is regularly completed for QA/QC data comparison ranking is not available. Minisonde readings are not available due to the fact that weather conditions changed the removal time of the instrument and the Minisonde was not calibrated at the time of removal.

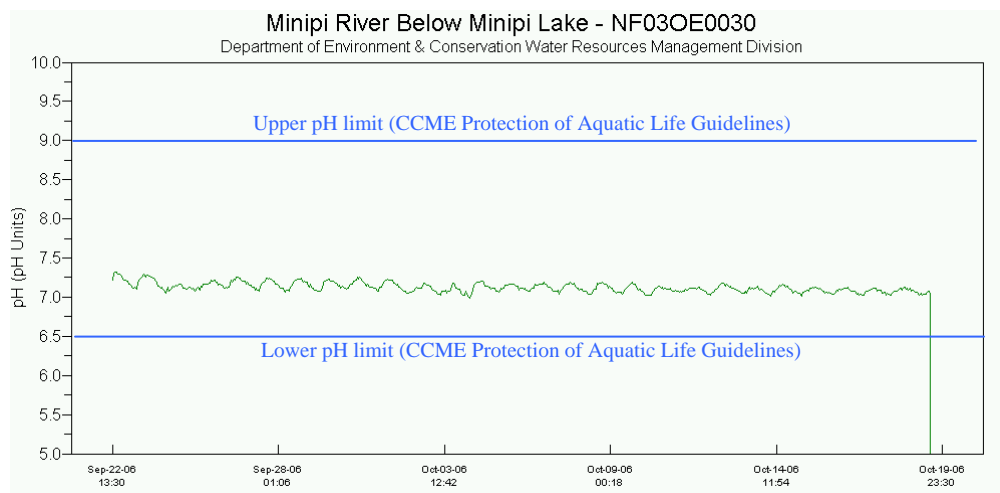
## Data Interpretation

- This monthly report interprets the data from the Minipi River station for the period of September 22<sup>nd</sup> – October 19<sup>th</sup>, 2006.
- Water temperature readings are not available for Minipi River for the time period September 22<sup>nd</sup> – October 19<sup>th</sup>, 2006. Temperature readings were not transmitted from the instrument due to an additional temperature probe that was already installed at the station in conjunction with the hydrometric stations. This temperature is not working properly and will be removed in spring 2007. Temperature readings will then be available from the Datasonde temperature probe.
- The dissolved oxygen values (**Figure 1**) showed a slight increase throughout the deployment period as would be expected during this time of the year. The dissolved oxygen values ranged from 10.12 - 12.45 mg/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).



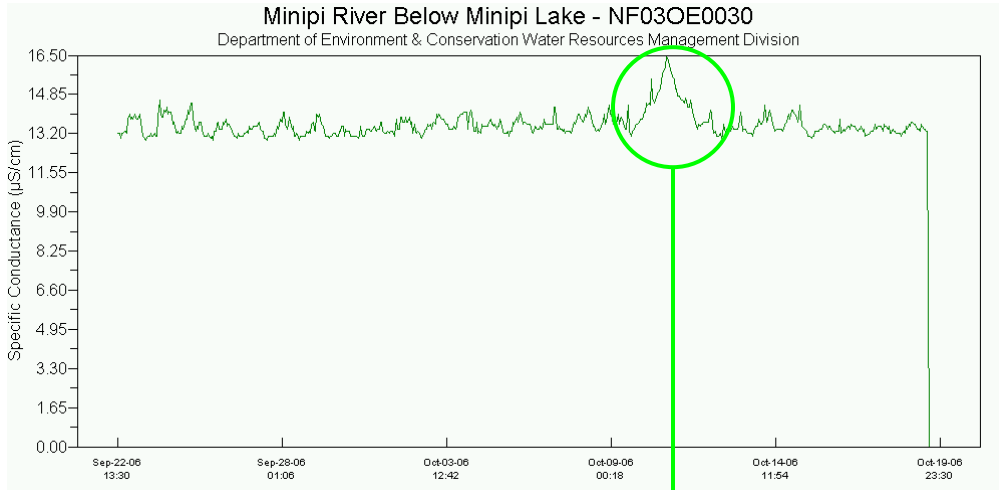
**Figure 1**

- The pH values (**Figure 2**) for Minipi River station remained fairly consistent throughout the deployment period. The pH values ranged from 6.99 – 7.32 with all values falling within the recommended range (6.5 – 9.0) for the CCME Protection of Aquatic Life guidelines.

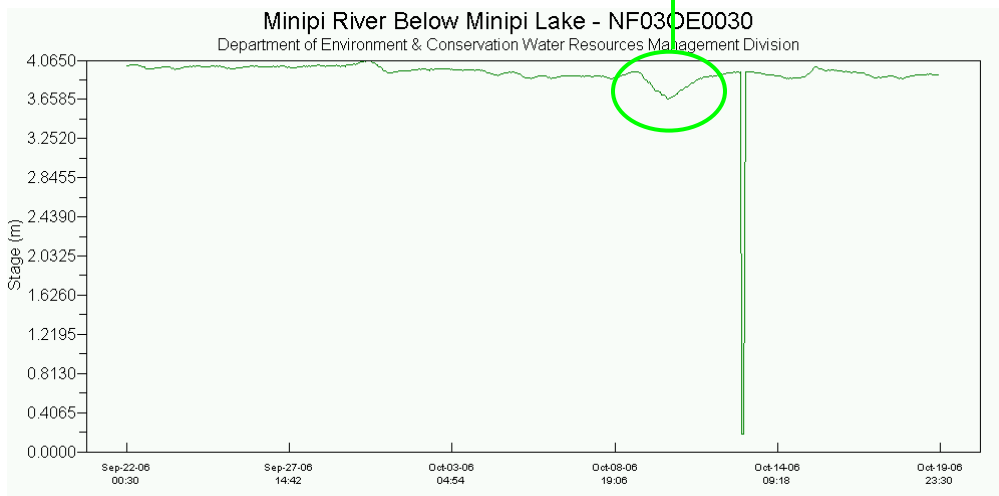


**Figure 2**

- The specific conductivity values (**Figure 3**) remained fairly consistent throughout the deployment period with a slight increase and subsequent decrease seen on October 10<sup>th</sup> with a maximum value of 16.5 $\mu$ S/cm. The conductivity values dropped back down to normal background values after October 10<sup>th</sup>. There was a slight drop in stage (**Figure 4**) during the same period of time which could explain the increase seen in conductivity on October 10<sup>th</sup>. There was a heavy rainfall during that period as well (**Appendix B**).

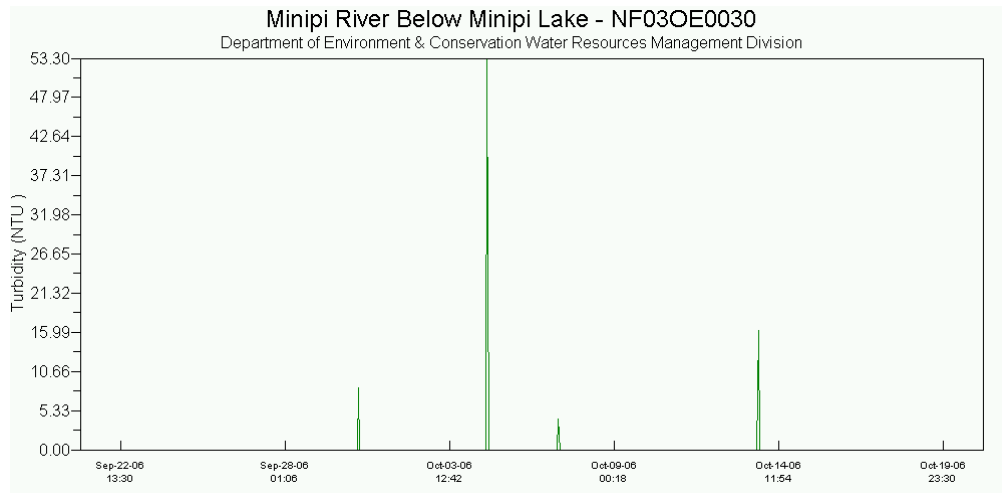


**Figure 3**



**Figure 4**

- The turbidity values (**Figure 5**) remained consistent around 0 NTU throughout the deployment period. There was one turbidity value of 53.3 NTU evident for one hour on October 4<sup>th</sup>, 2006. There were three additional turbidity spikes seen throughout the deployment period but all existed for one hour and were below 20 NTU. These one hour spikes were likely due to a disturbance of the sensor from a shifting of the equipment or organic material brushing past the sensor.



**Figure 5**

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**Appendix A – Pictures of Minipi River RTWQ Station during Initial Installation**



**Picture 1: Minipi River RTWQ Station Location**



**Picture 2: Minipi River RTWQ Station Location**



**Picture 3: Hydrometric Hut at Minipi River**

## Appendix B – Climate Data for Happy Valley-Goose Bay, NL (September & October 2006)

Daily Data Report for September 2006											
Day	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days C	Cool Deg Days C	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10's Deg	Spd of Max Gust km/h
01	13.7	9.0	11.4	6.6	0.0	T	0.0	T	0		<31
02	25.9	9.9	17.9	0.1	0.0	0.0	0.0	0.0	0	22E	35E
03	26.3	12.1	19.2	0.0	1.2	0.0	0.0	0.0	0	28E	32E
04	27.0	10.6	18.8	0.0	0.8	1.0	0.0	1.0	0	24E	37E
05	15.8	10.3	13.1	4.9	0.0	T	0.0	T	0		<31
06	15.9	4.7	10.3	7.7	0.0	0.8	0.0	0.8	0		<31
07	22.0	4.2	13.1	4.9	0.0	0.0	0.0	0.0	0	22E	57E
08	24.0	7.1	15.6	2.4	0.0	0.8	0.0	0.8	0	22E	61E
09	15.2	2.5	8.9	9.1	0.0	0.0	0.0	0.0	0	27E	37E
10	12.2	2.6	7.4	10.6	0.0	0.4	0.0	0.4	0	31E	33E
11	15.9	5.8	10.9	7.1	0.0	0.0	0.0	0.0	0	26E	52E
12	21.8	9.5	15.7	2.3	0.0	0.0	0.0	0.0	0	24E	39E
13	23.1	7.4	15.3	2.7	0.0	0.0	0.0	0.0	0		<31
14	22.9	7.1	15.0	3.0	0.0	0.0	0.0	0.0	0	24E	39E
15	16.6	8.4	12.5	5.5	0.0	0.4	0.0	0.4	0		<31
16	15.6	3.7	9.7	8.3	0.0	1.8	0.0	1.8	0		<31
17	11.0	-0.6	5.2	12.8	0.0	0.4	0.0	0.4	0	27E	50E
18	9.6	-0.5	4.6	13.4	0.0	0.0	0.0	0.0	0		<31
19	9.1	-2.6	3.3	14.7	0.0	11.2	0.0	11.2	0		<31
20	10.5	4.2	7.4	10.6	0.0	10.4	0.0	10.4	0		<31
21	15.5	6.3	10.9	7.1	0.0	3.8	0.0	3.8	0		<31
22	12.1	3.2	7.7	10.3	0.0	T	0.0	T	0	28E	56E
23	13.2	2.5	7.9	10.1	0.0	0.2	0.0	0.2	0	23E	46E
24	12.9	4.6	8.8	9.2	0.0	1.2	0.0	1.2	0		<31
25	8.9	4.0	6.5	11.5	0.0	7.6	0.0	7.6	0	34E	46E
26	13.3	3.3	8.3	9.7	0.0	T	0.0	T	0	23E	41E
27	14.3	0.7	7.5	10.5	0.0	0.0	0.0	0.0	0	24E	41E
28	19.5	0.1	9.8	8.2	0.0	0.0	0.0	0.0	0	18E	44E
29	17.2	8.4	12.8	5.2	0.0	0.2	0.0	0.2	0	18E	41E
30	19.4	6.4	12.9	5.1	0.0	0.2	0.0	0.2	0	24E	83E
Sum				213.6	2.0	40.4	0.0	40.4			
Avg	16.7	5.2	10.9								
Xtrm	27.0	-2.6								24E	83E

Daily Data Report for October 2006											
Day	Max Temp °C	Min Temp °C	Mean Temp °C	Heat Deg Days C	Cool Deg Days C	Total Rain mm	Total Snow cm	Total Precip mm	Snow on Grnd cm	Dir of Max Gust 10's Deg	Spd of Max Gust km/h
01	13.1	-0.1	6.5	11.5	0.0	0.0	0.0	0.0	0		
02	11.4	-0.9	5.3	12.7	0.0	0.0	0.0	0.0	0		
03	10.3	3.5	6.9	11.1	0.0	0.6	0.0	0.6	0		
04	12.9	2.6	7.8	10.2	0.0	0.6	0.0	0.6	0		
05	9.1	1.2	5.2	12.8	0.0	0.0	0.0	0.0	0		
06	9.8	1.0	5.4	12.6	0.0	0.0	0.0	0.0	0		
07	12.2	7.1	9.7	8.3	0.0	0.2	0.0	0.2	0		
08	7.2	0.9	4.1	13.9	0.0	0.0	0.0	0.0	0		
09	17.0	1.1	9.2	8.8	0.0	6.6	1.8	7.6	0		
10	7.3	0.2	3.8	14.2	0.0	0.2	0.0	0.2	0		
11	7.6	-2.7	2.5	15.5	0.0	0.0	T	T	0		
12	10.1	-3.6	3.3	14.7	0.0	T	0.0	T	0		
13	9.2	4.4	6.8	11.2	0.0	3.2	0.0	3.2	0		
14	12.9	2.8	7.7	10.3	0.0	2.4	0.0	2.4	0		
15	16.2	2.6	9.4	8.6	0.0	5.8	0.0	5.8	0		
16	9.2	0.0	4.6	13.4	0.0	T	0.0	T	0		
17	7.7	0.1	3.9	14.1	0.0	T	0.0	T	0		
18	3.5	0.2	1.9	16.1	0.0	T	0.2	0.2	0		
19	4.8	-2.4	1.2	16.8	0.0	T	1.2	1.2	T		
20	5.8	-2.8	1.5	16.5	0.0	0.0	0.0	0.0	0		
21	7.8	-0.4	3.7	14.3	0.0	T	0.0	T	0		
22	6.0	3.6	4.8	13.2	0.0	0.2	0.0	0.2	0		
23	6.1	3.3	4.7	13.3	0.0	0.2	0.0	0.2	0		
24	4.8	1.7	3.3	14.7	0.0	0.4	0.0	0.4	0		
25	5.4	1.8	3.6	14.4	0.0	T	0.0	T	0		
26	5.7	1.2	3.5	14.5	0.0	T	0.0	T	0		
27	4.3	0.7	2.5	15.5	0.0	0.0	T	T	0		
28	3.9	-0.5	1.7	16.3	0.0	0.0	T	T	0		
29	4.1	-0.2	2.0	16.0	0.0	1.0	2.0	3.0	0		
30	5.8	0.4	3.1	14.9	0.0	3.0	T	3.0	T		
31	3.4	-1.3	1.1	16.9	0.0	0.0	0.0	0.0	0		
Sum				417.3	0.0	24.4	4.4	28.8			
Avg	8.2	0.8	4.5								
Xtrm	17.3	-3.6									

Days when heavy precipitation was recorded during the deployment period