

**Real Time Water Quality Monthly Report  
 Aur Resources Inc.  
 June - July 2006**

**General**

- The Water Resources Management Division staff monitors the real-time web page on a daily basis.
- Aur Resources Inc. will be informed of any significant water quality events in the future in the form of a monthly report.

**Maintenance and Calibration of Instrumentation**

- As noted in the previous monthly report (May/June), the instrument at Gills Pond Brook was removed on June 20<sup>th</sup>, 2006 for cleaning and calibration and then reinstalled later in the day on June 20<sup>th</sup>. The results from comparing the Minisonde values to the Datasonde values during removal and reinstallation on June 20<sup>th</sup>, 2006 can be seen in **Table 1**.

**Table 1: QA/QC Data Comparison Rankings upon removal/reinstallation on June 20<sup>th</sup>, 2006**

Station	Date	Action	Minisonde vs. Datasonde Comparison Ranking			
			Temperature	pH	Conductivity	Dissolved Oxygen
Tributary to Gills Pond Brook	June 20 <sup>th</sup> , 2006	Removal	Fair	Excellent	Poor	Fair
	June 20 <sup>th</sup> , 2006	Installation	Excellent	Fair	Poor	Marginal

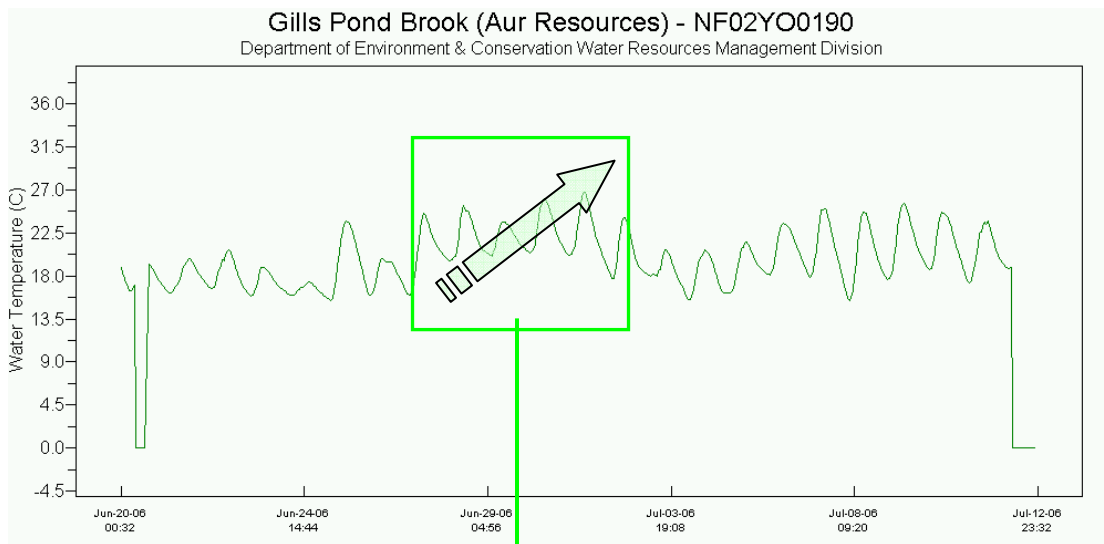
- The instrument was deployed until July 12<sup>th</sup> (23-day deployment period) at which point it was removed for maintenance and calibration. The results from comparing the Minisonde values to the Datasonde values during removal on July 12<sup>th</sup>, 2006 can be seen in **Table 2**.

**Table 2: QA/QC Data Comparison Rankings upon removal on July 12<sup>th</sup>, 2006**

Station	Date	Action	Minisonde vs. Datasonde Comparison Ranking			
			Temperature	pH	Conductivity	Dissolved Oxygen
Tributary to Gills Pond Brook	July 12 <sup>th</sup> , 2006	Removal	Excellent	Good	Fair	Good

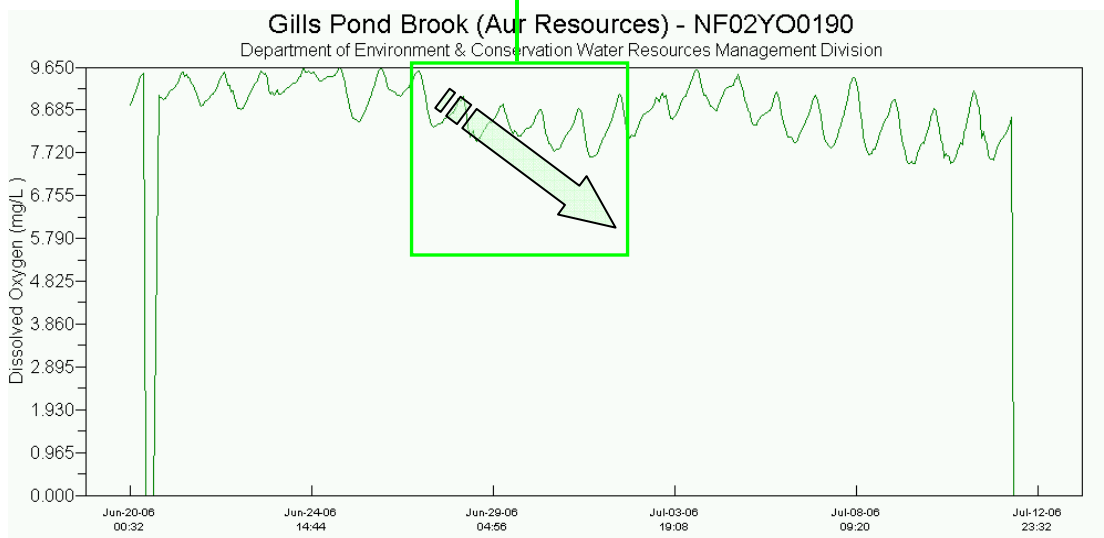
## Data Interpretation

- This monthly report interprets the data from the Gills Pond Brook station for the period of June 20<sup>th</sup> – July 12<sup>th</sup>, 2006.
- As can be seen in **Figure 1** the water temperature remained fairly consistent over the deployment period with a very strong diurnal pattern being detected in the data. The temperature ranged from 15.46°C - 26.73 °C.

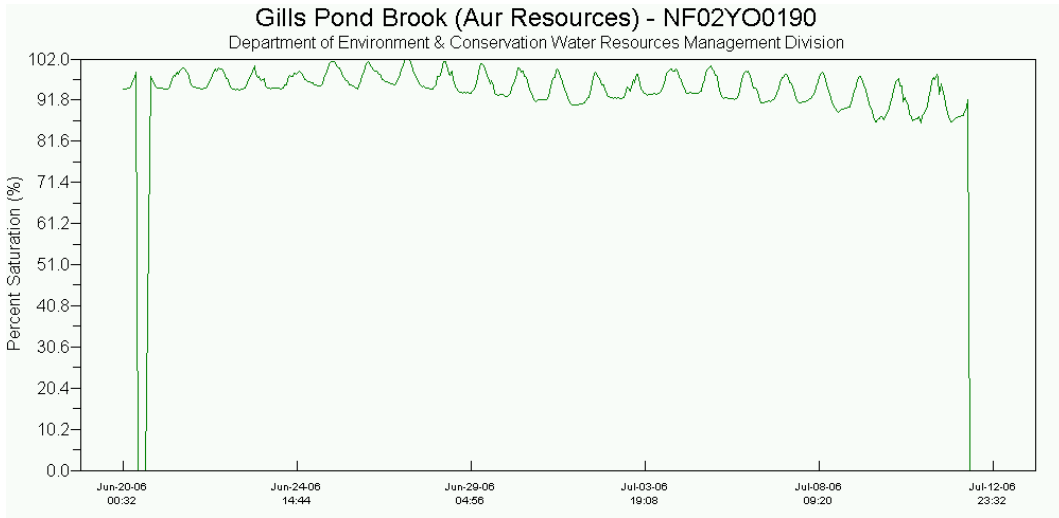


**Figure 1**

- The dissolved oxygen values (and associated % saturation values) remained very consistent over the deployment period (**Figure 2a & b**). As the water temperature rose during the middle of the deployment period, the dissolved oxygen values dropped accordingly. The dissolved oxygen values ranged from 9.65 mg/L to 7.47 mg/L. As is the case in most NL water, 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, they fall below the most conservative limit for cold water/early life stages – 9.5 mg/L.

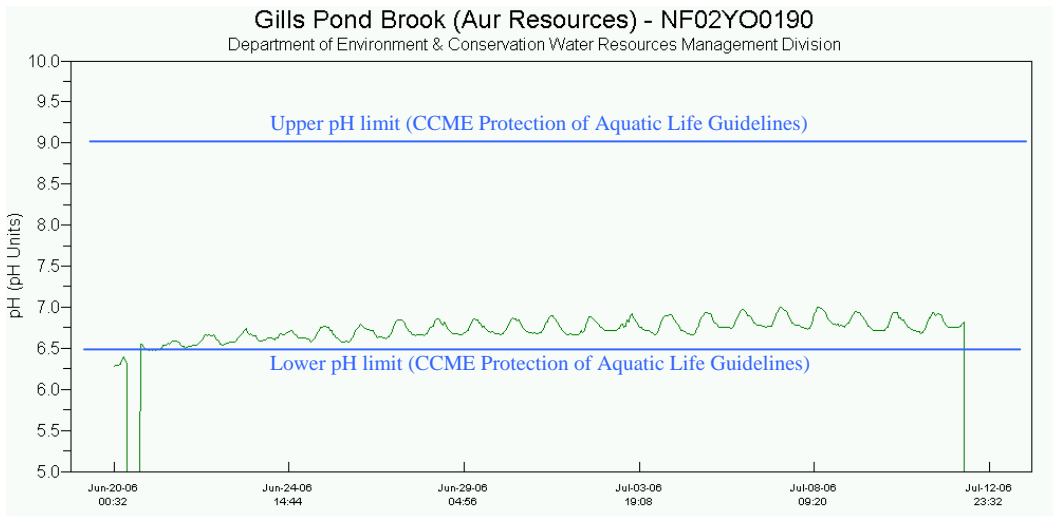


**Figure 2a**



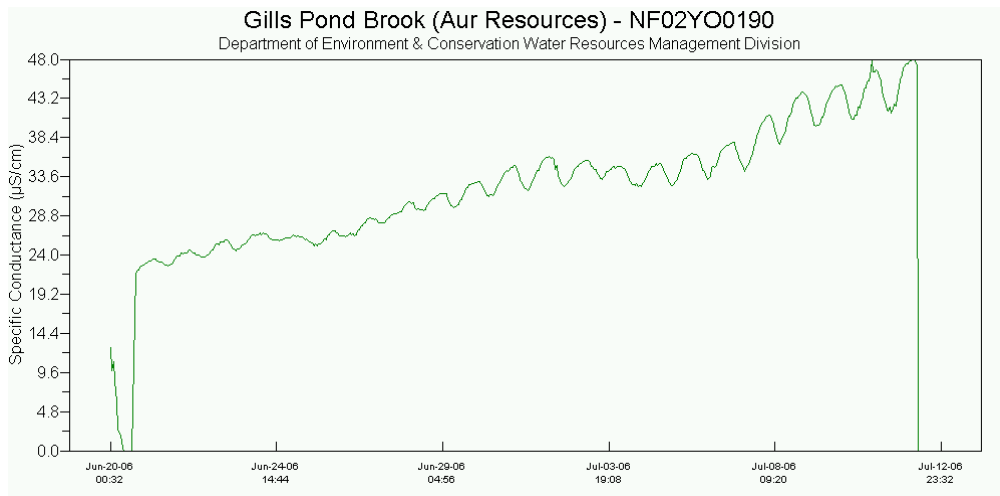
**Figure 2b**

- The pH values for the Gills Pond Brook station remained very consistent over the deployment period (**Figure 3**). The pH values ranged from 6.47 – 7 with some of the values falling slightly outside the recommended range (6.5 – 9.0) for the CCME Protection of Aquatic Life guidelines due to the naturally acidic nature of NL waters.

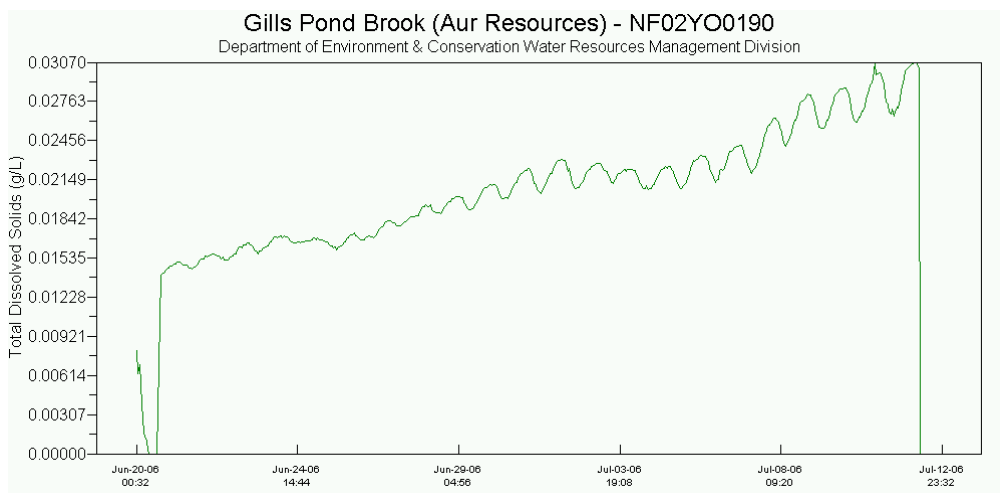


**Figure 3**

- The specific conductivity values (and associated total dissolved solids) increased consistently over the deployment period (**Figure 4a & b**) with values ranging from 21.8 – 48  $\mu\text{S}/\text{cm}$ . Upon redeployment on July 13<sup>th</sup> (after cleaning/calibration) the conductivity values remained in the 40  $\mu\text{S}/\text{cm}$  range. This is an indication that the conductivity sensor was reading accurately throughout the deployment period.

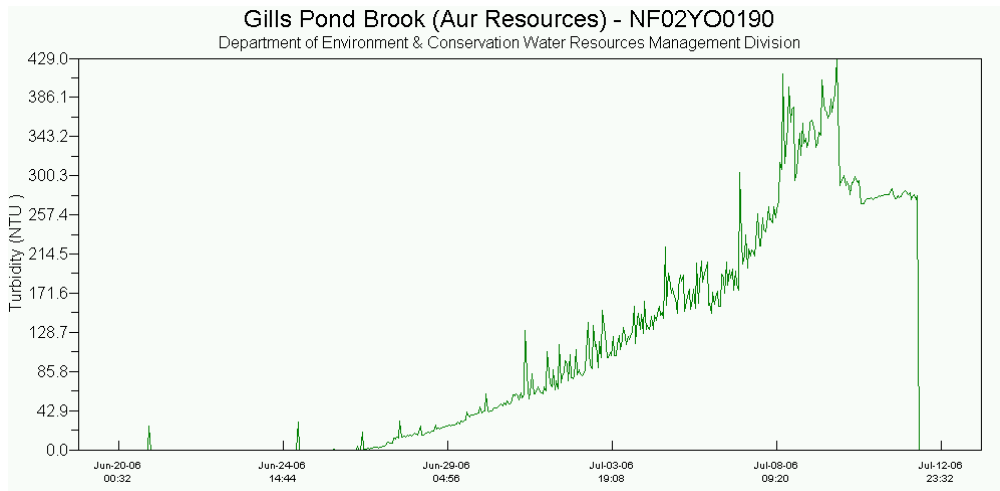


**Figure 4a**



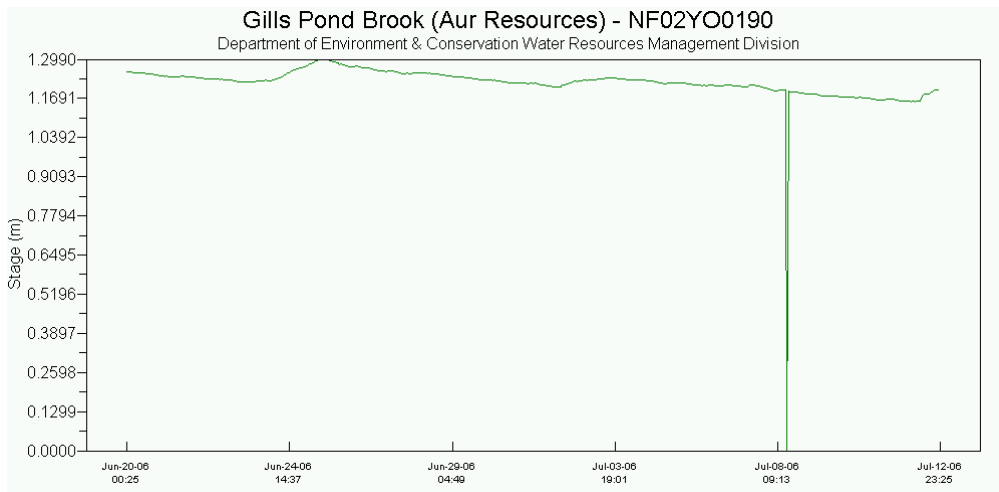
**Figure 4b**

- The turbidity values (**Figure 5**) at the beginning of the deployment period remained near 0 NTU until June 26<sup>th</sup> with only two small spikes. After that point in time, the turbidity values consistently increased reaching a maximum turbidity value of 429 NTU on July 10<sup>th</sup>. This increase in turbidity is difficult to explain however it is possible that the instrument deployment casing may have contributed due to sediment being trapped inside the casing. This situation will continue to be monitored.



**Figure 5**

- The stage (**Figure 6a**) remained fairly consistent with a slight decrease over the deployment period. There was an increase in stage seen on June 25<sup>th</sup> with a maximum value of 1.299 m. The maximum stage seen in **Figure 6a** is due to increase rainfall on the two previous days as seen in **Figure 6b**.



**Figure 6a**

Daily Data Report for June 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	15.1	1.2	8.2	9.8	0.0			7.9	0		
02	19.8	6.7	13.3	4.7	0.0			0.0	0		
03	23.3	8.9	16.1	1.9	0.0			0.0	0		
04	22.6	8.6	15.6	2.4	0.0			4.2	0		
05	14.3	11.0	12.7	5.3	0.0			4.2	0		
06	11.7	4.7	8.2	9.8	0.0			0.0	0		
07	20.4	7.6	14.0	4.0	0.0			0.0	0		
08	19.6	6.5	13.1	4.9	0.0			0.0	0		
09	20.6	-0.3	10.2	7.8	0.0			1.6	0		
10	23.2	11.6	17.4	0.6	0.0			4.6	0		
11	18.8	13.9	16.4	1.6	0.0			10.4	0		
12	17.1	13.3	15.2	2.8	0.0			0.0	0		
13	18.7	9.7	14.2	3.8	0.0			0.0	0		
14	15.0	9.8	12.4	5.6	0.0			3.3	0		
15	22.8	4.7	13.8	4.2	0.0			7.3	0		
16	20.9	8.4	14.7	3.3	0.0			0.7	0		
17	28.7	4.9	16.8	1.2	0.0			0.0	0		
18	28.5	10.9	19.7	0.0	1.7			0.0	0		
19	28.9	14.0	21.5	0.0	3.5			0.0	0		
20	23.2	13.1	18.2	0.0	0.2			0.0	0		
21	22.8	13.9	18.4	0.0	0.4			0.0	0		
22	23.9	14.6	19.3	0.0	1.3			0.0	0		
23	23.9	12.4	18.2	0.0	0.2			13.4	0		
24	19.6	14.2	16.9	1.1	0.0			3.9	0		
25	26.6	14.7	20.7	0.0	2.7			0.0	0		
26	23.3	6.5	14.9	3.1	0.0			0.0	0		
27	28.2	8.9	18.6	0.0	0.6			4.1	0		
28	26.3	17.2	21.8	0.0	3.8			0.0	0		
29	27.9	17.3	22.6	0.0	4.6			0.0	0		
30	30.5	19.8	25.2	0.0	7.2			0.0	0		
Sum				77.9	26.2			65.6			
Avg	22.2	10.3	16.3								
Xtbn	30.5	-0.3									

## Climate Data for Badger June 2006

Days when heavy precipitation was recorded during the deployment period

Figure 6b

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