

## Stream Water Chemistry Report Summary

### Stream Name: Swan Lake Drain

Water Chemistry Parameters	Observed Value	Standard
Total Suspended Solids	7.23 mg/L	< 11.2 mg/L
Alkalinity	252.67 mg/L	< 224.83 mg/L
Chloride	8.09 mg/L	
Total Phosphorus	0.028 mg/L	< 0.01 - 0.03 mg/L
Chlorophyll a Content	0.545 mg/L	
Temperature	15.52 C	< 25.15 C
pH	8.23	Between 6.5-8.5
Conductivity	0.391	
Dissolved Oxygen	6.92 mg/L	> 6.0 mg/L
Total Organic Nitrogen	0.795 mg/L	< 1.1mg/L

The water chemistry at the Swan Lake Drain indicates a site with only mild disturbances. The total phosphorus at this site is one of the lowest when the reference site is excluded. Moreover, the phosphorus values do not surpass the recommended standard of 0.03mg/L; however, it does surpass the more stringent standard of 0.01mg/L. As the phosphorus level at this site is above the 0.01mg/L as well as the reference site, it is possible that human-mediated phosphorus is entering this stream; however, it could also be due to natural differences between these two systems. The organic nitrogen at this site, conversely, is the highest of the six sites monitored and is the strongest indicator of disturbance at this site. While this value is still below the recommended guidelines for nitrogen in a freshwater system, it is 0.3 mg/L above the reference site. Of all the sites monitored, this site is the most likely to have a human-mediated source of nitrogen entering into it. As with the other streams monitored, the pH and the dissolved oxygen at this site are within the expected ranges for a freshwater system in Ontario and are not of obvious concern.

The remaining variables are less indicative of a disturbance in this watershed. The total suspended solids are well below the suggested federal guideline. This suggests that the amount of suspended solids within this stream are as expected, compared to reference conditions. The chlorophyll *a* content at this site is also comparatively low when the values at the other four non-reference sites are considered. This stream actually has the lowest chlorophyll *a* content other than the reference site. As with the majority of the sites observed, Swan Lake Drain has alkalinity values above the guideline value. The relatively high conductivity value suggests that this site also has a stronger ground water connection which would bring in water rich in CaCO<sub>3</sub>. This source of CaCO<sub>3</sub> would cause the alkalinity values to be much higher than reference conditions as the reference site lacked such a source.