

Stream Water Chemistry Report Summary

Stream Name: Stokes River

Water Chemistry Parameters	Observed Value	Standard
Total Suspended Solids	14.4 mg/L	< 11.2 mg/L
Alkalinity	207.67 mg/L	< 224.83 mg/L
Chloride	5.13 mg/L	
Total Phosphorus	0.045 mg/L	< 0.01 - 0.03 mg/L
Chlorophyll a Content	1.51 mg/L	
Temperature	15.3 C	< 25.15 C
pH	8.06	Between 6.5-8.5
Conductivity	0.330 spc	
Dissolved Oxygen	7.15 mg/L	> 6.0 mg/L
Total Organic Nitrogen	0.697 mg/L	< 1.1mg/L

Stokes River's water chemistry indicates disturbance in the region of the study site. The most notable concern is the phosphorus concentration (0.045 mg/L) which surpasses the provincial standards. The organic nitrogen at this site is also elevated when compared to reference conditions (0.557 mg/L) suggesting this nitrogen and phosphorus may be entering the system from human sources. As per all other sites the pH and dissolved oxygen at this site fall well within the provincial recommended range as expected.

The remaining variables also indicate signs of disturbance. The total suspended solids at this site is above both the recommended standard as well as the reference site for the region. This suggest some activity within the region may be increasing erosion rates. This could also be related to the amount of suspended algae in the stream. The chlorophyll *a* content was the highest at Stokes River when compared to any of the other six sites monitored. This could be a result of nitrogen and phosphorus being elevated at this site, fertilizing the algae in the stream. This also could be related to differences in stream morphology such as incoming light. Interestingly, this stream was the only site with an alkalinity value below the recommended standard. Not surprisingly this stream was also the one with the lowest conductivity value excluding the reference site itself. This suggests that this stream has a weaker connection to the ground water in the region and has a larger portion of the water draining off the land itself.

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