

Table 3: Summary of selected trophic status classification schemes for lakes

Lake Trophic Status							Reference
Ultra-oligotrophic	Oligotrophic	Oligo-mesotrophic	Mesotrophic	Meso-eutrophic	Eutrophic	Hypereutrophic	
Total Phosphorus (µg/L)							
-	<10	-	10 - 35	-	35-100	> 100	OECD (1982)
<4	4 - 10	-	10 - 20	20 - 35	35 - 100	> 100	CCME (1999)
-	<5	-	10 - 30	-	-	> 100	Chambers et al. (2001)
<5	-	5 - 10	-	10 - 30	30 - 100	> 100	Wetzel (1983)
-	<10	-	10 - 30	-	-	> 100	Nürnberg (1996)
Chlorophyll <i>a</i> (µg/L)							
-	<2.5	-	2.5 - 8	-	8 - 25	> 25	OECD (1982)
0.01 - 0.5	0.3 - 3	-	2 - 15	-	10 - 500	-	Wetzel (1983)
-	<3.5	-	3.5 - 9	-	9.1 - 25	> 25	Nürnberg (1996)
Secchi Depth (m)							
-	> 6	-	3 - 6	-	<1.5	-	OECD (1982)
-	> 4	-	2 - 4	-	1 - 2.1	<1	Nürnberg (1996)
Total Nitrogen (µg/L)							
-	<350	-	350 - 650	-	651 - 1,200	> 1,200	Nürnberg (1996)
<1 - 250	-	250 - 600	-	500 - 1,100	-	500 - > 15,000	Wetzel (1983)
Inorganic Nitrogen (µg/L)							
<200	-	200 - 400	-	300 - 650	500 - 1,500	> 1,500	Wetzel (1983)

Table 4: Results of mass-balance modeling to predict the effect of discharge of treated sewage effluent on water quality in the northwest basin of Sheardown Lake

Parameter	Unit	Effluent Concentration	Initial Lake Concentration	Predicted Lake Concentration at the End of 1.5 Years	CCME Guideline for the Protection of Aquatic Life
BOD5	mg/L	10	0.5 ^{1,2}	0.5	-
TSS	mg/L	10	1 ²	1	Maximum average increase of 25 mg/L above background for long-term exposures
Fecal Coliform Bacteria	CFU/100 mL	1	0 ¹	0.02	
Nitrates	mg/L N	10	0.053 ²	0.07	2.93
TP	mg/L	0.5	0.0015 ²	0.0030	Remain within CCME trophic category and up to a 50% increase above the baseline level.
Total ammonia	mg/L N	2	0.01 ²	0.01	0.34-7.3 ³

¹Estimated from data collected at Camp Lake.

²Value used represents one half of the analytical detection limit.

³Based on an ambient range of pH of 7.5-8.5 and a temperature of 0-10°C

APPENDIX “E”

➤ Photographs



Photo looking north showing the local drainage ditch

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