

Lake Water Quality Sampling Results, 2010

Sampling Site Locations

- 203---Cathedral of the Pines Camp bay
- 205---Fosters, deepest bay east of peninsula
- 103---Public landing bay
- 201---Neiharts, across bay from public landing
- 100---Island, just east of island

Water quality Parameters

Total Phosphorus, ppb(parts per billion); Plan Goal (summer average)---15ppb

Site	June	July	August 8	August 24	September
203	11	12	19	20	20
205	10	16	20	22	20
103	9	15	18	20	26
201	10	17	27	18	65 (excl as anomaly)
100	10	12	16	20	25
Average	10	14.4	20	20	22.75 (excl 65)
Overall summer average---17.4ppb					

Chlorophyll-a, ppb; Plan Goal---8ppb

203	3	3	3	32	15
205	3	6	4	30	12
103	3	3	2	27	12
201	3	4	4	21	31
100	2	1	4	26	17
Average	2.8	3.4	3.4	27.2	17.4
Overall summer average---10.8ppb					

Secchi Disk (Clarity), Ft to see disk; Plan Goal---6 ft

203	8	8.5	8	4	5.5
205	10.5	9	9	4.5	6
103	7	6.5	6	4	5
201	6	5	5	4	5.5
100	7.5	8.5	6.5	4	5.5
Average	7.8	7.5	6.9	4.1	5.7
	Overall summer average---6.4 ft				

Interpretation: Overall averages for total phosphorus and chlorophyll-a did not reach our lake management plan goal, but secchi disk which is the measure of clarity did better than goal by 0.4 ft---0.4 ft deeper clarity than our goal. For the first two parameters early summer results were better than goal---phosphorus had 8 of 10 samples better than goal for June and July and all 15 chlorophyll-a samples were better than goal in June, July and early August. The latter is a measure of bloom e.g. algae in the lake. It is very interesting to observe the dramatic increase in chlorophyll-a from early August to later August--- about a 9-fold increase in average concentration. A decrease in clarity of 2.8 ft promptly followed. Then in September samples, our lake showed a recovery to better measures for chlorophyll-a and clarity. Phosphorus concentrations change less dramatically but show a clear increase through our summer season---perhaps indicating the influence of more people and lake-affecting behavior during the summer. So it is clear that all property owners in the watershed and lake users should continue or improve lake-protective actions and behaviors. Improved water quality---lake management plan goal achievement-- will improve our personal lake experiences and protect our property values.