Lake Water Quality Sampling Results, 2010//2011

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	'11Ave
203	11//14	12//26	19//22	20 //21	20	20.8
205	10//9	16//14	20//18	22//24	20	16.3
103	9//8	15//16	18//28	20 //20	26	18.0
201	10//12	17//20	27//19	18 //20	65 (excl as anomaly)	17.8
100	10	12	16	20	25	
Average	10//10.8	14.4//19	20//21.8	20//21.2		22.75 (excl 65)

Overall summer average---17.4ppb//18.2

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

203	3//4	3//6	3//6	32//14	15	7.5
205	3//3	6//6	4//6	30//15	12	7.5
103	3//4	3//3	2//5	27//8	12	5.0
201	3//3	4//4	4//6	21//8	31	5.3
100	2	1	4	26	17	
Average	2.8//3.5	3.4//4.8	3.4//5.8	27.2//11.2	17.4	

Overall summer average---10.8ppb//6.3

Secchi Disk (Clarity), Ft to see disk; Plan Goal---6 ft						'11Ave
203	8 //8	8.5//8	8//6	4//5	5.5	6.8
205	10.5//9	9//9	9//6.5	4.5//5.5	6	7.5
103	7 //7	6.5//7	6//5	4//5	5	6.0
201	6//7.5	5//7.5	5//5.5	4//5	5.5	6.4
100	7.5	8.5	6.5	4	5.5	
Average	7.8//7.8	7.5//7.8	6.9//5.8	4.1//5.1	5.7	

Overall summer average---6.4 ft//6.6ft

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.