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Case ID	2506201	Client name	John (Indian Lake)

Basic Water Chemistry Report	Result	Acceptable*	Optimal*
Hardness (ppm)	78	>20 ppm	50 to 150 ppm
Calcium (ppm)	22.152	>5 ppm	15 to 45 ppm
Alkalinity (ppm)	87	20 to 400 ppm	50 to 150 ppm
pH	8.26	5.5 to 10	6.5 to 9
Total dissolved salts (salinity; ppt)	0.138	0.5 to 10 ppt**	0.5 to 3 ppt**
Nitrite (ppm)	0.112	<1 ppm	<0.5 ppm
Total ammonia nitrogen (TAN; ppm)	0.05	<2.5 ppm***	<1.0 ppm
Un-ionized ammonia (ppm)	0.004	<0.60 ppm	<0.25 ppm
Chlorides (ppm)	20	5 to 1,800 ppm	50 to 100 ppm
Temperature at time of analysis	22.8		
Total Nitrogen (ppm)	0.3		
Total Phosphorus (ppm)	0.42		

*The designations of acceptable and optimal are based upon the water quality parameters required to support most fresh, warmwater fish populations commonly found in ponds.
** Values for freshwater fish.
*** TAN values presented are generally considered safe, although at pH above 8.5 or at temperatures above 85F, the toxicity to fish increases dramatically.

Comments:

The overall base water chemistry for this lake is excellent for producing a high production fishery (assuming proper fisheries management). Everything is exactly where it should be except for total phosphorus being slightly high and total nitrogen being low. This combination creates a nitrogen to phosphorus ratio that is not ideal for growing phytoplankton, which is why some plankton are present but overall the water is clearer than it should be. Correcting this is pretty simple and would

involve some light nitrogen only fertilization in the spring and potentially periodically throughout the summer and some water column phosphorus binding to lower total phosphorus and prevent excessive plant growth or cyanobacteria blooms. Both of these things are something that typically requires more than DIY approaches as overfertilization is very easy to do and phosphorus binding products can be harmful if applied incorrectly.

For questions please contact Garrett @ garrett@pristinepondsolutions.com