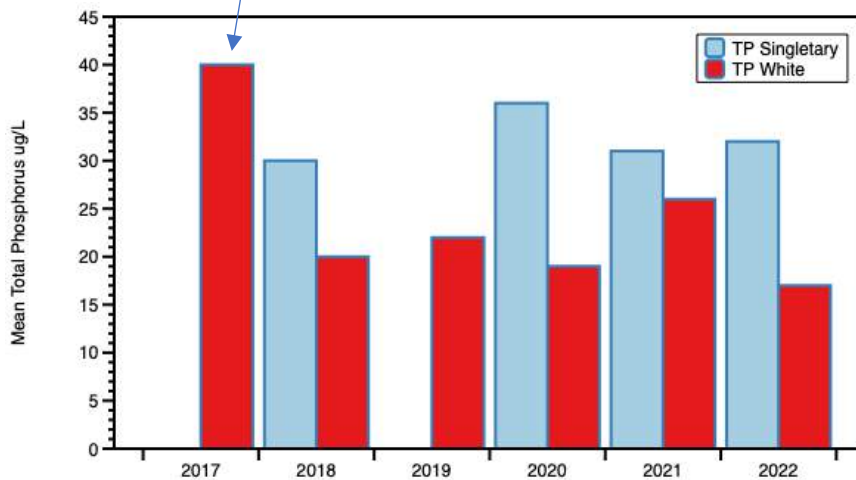


# Report to White Lake Town Board November 2022

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LIMNOSCIENCES

## 1. A Look at Phosphorus Data

The lab report for September 2022 was recently received, so this is a good time to look at trends over the past five years in concentrations of the nutrient phosphorus. The alum treatment that was done in May 2018 was designed to strip phosphorus from the water column, with the added benefit of coagulating/reducing the high levels of phytoplankton that had caused the elevated phosphorus levels.



Total phosphorus levels in the month of September, from 2017 to 2022. Values for White Lake are in red. 2017 and 2018 data from NC DEQ; 2019 to 2022 data from LIMNOSCIENCES.





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<b>CASE FILE NUMBER:</b>	<b>1735172</b>	<b>PAGE 1</b>
<b>REPORT DATE:</b>	<b>10/14/22</b>	
<b>DATE SAMPLED:</b>	<b>09/23/22</b>	<b>DATE RECEIVED: 09/26/22</b>
<b>FINAL REPORT, LABORATORY ANALYSIS OF SELECTED PARAMETERS ON WATER</b>		
<b>SAMPLES FROM TOWN OF WHITE LAKE</b>		

**CASE NARRATIVE**

Seven water samples were received by the laboratory in good condition and analyzed according to the chain of custody. No difficulties were encountered in the preparation or analysis of these samples. Sample data follows while QA/QC data is contained on subsequent pages.

**SAMPLE DATA**

SAMPLE ID	TOTAL-P (mg/L)	SRP (mg/L)	N03+N02 (mg/L)	TOTAL-N (mg/L)	CHLOR_a (ug/L)	PHAEO_a (ug/L)	DOC (mg/L)
WL - C1	0.014	<0.001	<0.010	0.509	9.1	2.5	7.14
WL - C2	0.016	<0.001	0.014	0.564	8.5	3.8	7.32
WL - B1	0.020	<0.001	0.011	0.506	9.1	3.3	7.89
WL - B2	0.017	<0.001	<0.010	0.516	13	1.8	7.58
WL - A1	0.019	<0.001	0.017	0.519	10	2.6	7.64
WL - A2	0.018	<0.001	0.018	0.524	9.6	3.8	7.44
SL - 1	0.032	0.016	0.031	0.458	30	0.4	11.7

SAMPLE ID	TURBIDITY (NTU)	AMMONIA (mg/L)	DISSOLVED NITROGEN (mg/L)	TOC (mg/L)
WL - C1	2.0	<0.010	0.350	8.71
WL - C2	1.9	<0.010	0.375	8.69
WL - B1	2.1	<0.010	0.365	8.51
WL - B2	2.0	<0.010	0.336	8.52
WL - A1	2.3	<0.010	0.413	8.84
WL - A2	2.3	<0.010	0.380	9.06
SL - 1	4.4	0.024	0.343	13.0



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<b>CASE FILE NUMBER:</b>	1735172	<b>PAGE 2</b>
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**QA/QC DATA**

QC PARAMETER	TOTAL-P (mg/L)	SRP (mg/L)	N03+N02 (mg/L)	TOTAL-N (mg/L)	CHLOR_a (ug/L)	PHAE0_a (ug/L)	DOC (mg/L)
METHOD	SM18 4500PF	SM18 4500PF	SM184500N03F	SM204500NC	SM1810200H	SM1810200H	EPA 415.1
DATE ANALYZED	10/03/22	09/27/22	09/28/22	10/04/22	09/29/22	09/29/22	10/13/22
DETECTION LIMIT	0.002	0.001	0.010	0.050	0.1	0.1	0.250
DUPLICATE							
SAMPLE ID	BATCH	BATCH	SL - 1	SL - 1	SL - 1	SL - 1	BATCH
ORIGINAL	0.026	0.032	0.031	0.458	30	0.4	<0.250
DUPLICATE	0.027	0.032	0.035	0.457	35	0.4	<0.250
RPD	2.64%	0.55%	9.99%	0.22%	14.88%	13.33%	NC
SPIKE SAMPLE							
SAMPLE ID	BATCH	BATCH	SL - 1	SL - 1			BATCH
ORIGINAL	0.026	0.032	0.031	0.458			<0.250
SPIKED SAMPLE	0.075	0.052	0.242	1.40			4.6
SPIKE ADDED	0.050	0.020	0.200	1.00			4.50
% RECOVERY	97.18%	97.49%	105.23%	94.30%	NA	NA	102.13%
QC CHECK							
FOUND	0.093	0.039	0.419	0.505			4.17
TRUE	0.094	0.039	0.408	0.499			4.00
% RECOVERY	98.94%	100.00%	102.81%	101.20%	NA	NA	104.18%
BLANK							
	<0.002	<0.001	<0.010	<0.050	NA	NA	<0.250

RPD - RELATIVE PERCENT DIFFERENCE.  
 NA - NOT APPLICABLE OR NOT AVAILABLE.  
 NC - NOT CALCULABLE DUE TO ONE OR MORE VALUES BEING BELOW THE DETECTION LIMIT.  
 OR - RECOVERY NOT CALCULABLE DUE TO SPIKE SAMPLE OUT OF RANGE OR SPIKE TOO LOW RELATIVE TO SAMPLE CONCENTRATION.

SUBMITTED BY:

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