



September 30, 2021

Reference No. 11225022-01

Mr. Bruce Bernard
Manager of Field Operations
Calvin, Giordano & Associates, Inc.
1800 Eller Drive, Suite 600
Fort Lauderdale, FL 33316

Dear Mr. Bernard:

Re: **Water Quality Monitoring – June 2021**
Lakes 4, 5, 12, 14, 22, and 32 – Treviso Bay
Naples, Collier County, Florida

GHD Services Inc. (GHD) is pleased to present the results of our water quality sampling services for Lakes 4, 5, 12, 14, 22, and 32 – Treviso Bay.

1. Water Quality Sampling - June 2021

The June 2021 sampling event consisted of the collection of six (6) surface water samples, one each from six (6) different lakes within the Treviso Bay residential community as identified on **Figure 1**.

Samples were collected using direct-dip methods from lakes 4, 5, 12, 14, 22, and 32 at locations having a minimum water depth of three (3) feet to minimize disturbance of sediments. Where applicable, samples were collected from near the outfall structure/weir, particularly if there is flow over the weir. If the water depth is too shallow near the outfall structure/weir, samples are collected using a long-reach sampling pole from the bank of the lake. See **Figure 1** for locations of outfall structures/weirs. Of note, there is no visible outfall structure/weir in Lake 5.

Conductivity, dissolved oxygen, pH, and temperature were measured in the field with a calibrated YSI Pro Plus multi-parameter water quality meter. Turbidity and total water depth were also measured at each location. Surface Water Field Sheets are attached. Field data is summarized in **Table 1**.

The collected samples are capped, labeled, packed on ice, and transported to Benchmark EnviroAnalytical, Inc., in North Port, Florida. Benchmark EnviroAnalytical, Inc. is certified by the State of Florida and NELAP (National Environmental Laboratory Accreditation Conference). Laboratory analysis are conducted for 5-Day Biochemical Oxygen Demand (BOD5), Total Suspended Solids (TSS), Total Nitrogen, nitrogen speciation (ammonia, TKN, and nitrate + nitrite), Total Phosphorus, Ortho Phosphorus (Field Filtered) and Chlorophyll-a.

All samples collected during the June 2021 sampling event were prepared and analyzed within the method required holding times. The laboratory data have been reviewed with respect to authenticity,



precision, limits of detection, and accuracy of the data. The laboratory analytical results are summarized in the attached **Table 1**. The laboratory report and data compliance memorandum are also attached.

Trend graphs have been prepared for each monitor location for laboratory analytical results and select field measurements.

2. Analytical Summary

The June 2021 sampling event represents the fourth sampling event for the select six (6) lakes in Treviso Bay.

The observed concentrations/measurements of Biological oxygen demand (BOD), dissolved oxygen, total phosphorus, orthophosphate, total suspended solids (TSS), chlorophyll *a*, pH, turbidity, and total nitrogen appear to be within typical ranges.

Biological oxygen demand (BOD) either decreased or remained undetected from the last sampling event at Lakes 4, 5, 12, 14, 22, and 32. We will continue to monitor closely and see if a trend develops.

The dissolved oxygen readings at the monitoring locations fluctuate throughout the year as anticipated given the temperature of the water and biological activity. In general, the dissolved oxygen remains well above the action level for dissolved oxygen percent (%) of a minimum of 38%. Dissolved oxygen ranged from 40.9% at Lake 12 to 71.8% at Lake 32.

Total nitrogen at Lake 4 rose from non-detect levels last month to 0.43 mg/L but remains within historic levels. All other sample locations decreased in total nitrogen. The last report noted an upward trend of total nitrogen at Lake 12, but this event showed a decrease to the lowest level recorded at that location, which dropped from 1.85 mg/L to 0.57 mg/L.

Total phosphorus either decreased or remained undetected at Lakes 4, 5, 12, 14, and 22. Lakes 32 had very slight increases in total phosphorus from 0.010 to 0.013 mg/L. Total phosphorous at Lake 5 has been trending downward. We will continue to monitor closely and see if any other trends develop.

Total suspended solids (TSS) slightly decreased at Lakes 5, 14, and 22. Last month, TSS at Lake 12 was abnormally elevated, but returned to undetected levels. TSS slightly increased at Lakes 4 and 32 but remain within expected levels. TSS at Lake 22 seems to be trending downward. We will continue to monitor closely and see if any other trends develop.

Chlorophyll-*a* remained constant at all sample locations except Lake 14 and 32. The increase at Lake 14 is 37% higher than highest recorded Chlorophyll-*a* result at this location, and the increase at Lake 32 is 62% higher than the highest recorded Chlorophyll-*a* result at this location. The significant increase in Chlorophyll-*a* at Lakes 14 and 32 may be caused by recent vegetation growth near the sample locations. We will continue to monitor closely and see if a trend develops.

Orthophosphate shows a downward trend at all sample locations since June 2020, except at Lake 4. Orthophosphate results at Lake 4 showed a slight increase from 0.008 mg/L to 0.020 mg/L, but remain within expected levels.



Total kjeldahl nitrogen (TKN) decreased at all sample locations. The TKN results at Lake 12 showed a decrease to the lowest level recorded at that location. We will continue to monitor closely and see if a trend develops.

The pH collected at all sample locations during March 2021 ranged from 7.9 at Lake 4 to 8.65 at Lake 12.

3. Conclusions and Recommendations

It appears water quality conditions have remained relatively stable given the limited amount of data between October 2020 and June 2021. We will continue to monitor closely and see if any significant trends develop.

There do not appear to be water quality concerns at this time.

The next tri-annual sampling event is planned for October 2021.

Please call if you have questions or need additional information.

Sincerely,

GHD

A handwritten signature in black ink, appearing to read "C Haydon".

Connor Haydon
Environmental Engineer

A handwritten signature in black ink, appearing to read "Lori Coolidge".

Lori Coolidge, P.G.
Principal Geologist

Encl: Attachments: Table 1
Figure 1
Trend Graphs
Laboratory Analytical Reports
Surface Water Field Sheets
Laboratory Data Compliance Memo

Table

Table 1

**Analytical Results Summary
Surface Water Quality Monitoring
Treviso Bay, Naples, Florida
June 2021**

Sample Location/Sample ID:		Lake 4					Lake 5					Lake 12				
Sample Date:		2/17/2020	6/4/2020	10/22/2020	03/04/2021	06/30/2021	2/17/2020	6/4/2020	10/22/2020	03/04/2021	6/30/2021	2/17/2020	6/4/2020	10/22/2020	03/04/2021	6/30/2021
Field Parameters	Units															
Total Water Depth	Feet	3	2.7	2.34	1.2	1.80	7	7.5	7.50	6.2	NM	1	1.95	2.30	2	2.24
Sample Depth	Feet	1.5	1.5	1.5	0.5	1	1.5	1.5	1.5	1.5	surface	overflow	surface	overflow	1.5	1.5
Conductivity, field	umhos/cm	908	1129	514	666	755	405	630	561	284	389	959	1382	658	583	817
Dissolved oxygen (DO), field	mg/L	6.07	4.36	2.78	3.50	3.82	9.25	4.46	6.72	5.60	4.48	10.03	5.25	2.69	5.69	8.65
Dissolved oxygen (DO), field	%	70.6	56.4	34.7	41.7	49.3	107.9	59.3	83.9	67.5	59.4	116.7	69.0	33.1	66.2	40.9
pH, field	s.u.	7.27	8.4	7.79	8.04	7.9	7.61	7.78	8.61	8.71	8.26	7.54	8.31	7.74	8.63	8.65
Temperature, field	Deg C	22.68	29.1	26.8	24.3	28.6	22.95	30.1	27.2	25.1	30.2	22.43	29.2	25.8	23.1	28.1
Turbidity, field	NTU	1.02	2.33	1.84	2.70	2.91	1.36	2.45	3.54	6.43	1.94	1.75	1.46	0.58	5.48	1.32
Secchi Disk	Depth															
Wet Parameters	Units															
Ammonia-N	mg/L	0.010 I	0.008 U	0.181	0.008 U	0.084	0.008 U	0.009 I	0.030 I	0.008 U	0.053	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U
TAN criteria calculation	mg/L	1.39	0.23	NS	NS	NS	1.04	0.54	NS	NS	NS	1.15	0.26	NS	NS	NS
Total kjeldahl nitrogen (TKN)	mg/L	0.651	0.812	1.19	0.870	0.431	0.654	0.750	1.04	0.828	0.638	0.708	0.710	0.927	1.85	0.570
Total nitrogen	mg/L	0.770	0.818	1.23	0.05 U	0.451	0.654	0.750	1.04	0.828	0.638	0.708	0.710	0.927	1.86	0.570
Nitrite/Nitrate	mg/L	0.119	0.006 I	0.043	0.130	0.020 I	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.008 I	0.006 U
Ortho phosphorus (Field Filtered)	mg/L	0.039	0.043	0.026	0.008	0.020	0.024	0.053	0.026	0.007 I	0.002 U	0.012	0.034	0.005 I	0.002 I	0.002 U
Total phosphorus	mg/L	0.046	0.045	0.024 I	0.084	0.022 I	0.044	0.063	0.027 I	0.014 I	0.008 U	0.020 I	0.040	0.011 I	0.047	0.008 U
Chlorophyll	mg/m3	4.58	10.4	4.87	18.4	7.73	6.71	8.71	9.27	6.17	9.17	5.55	5.55	2.19	34.9	10.3
Total suspended solids (TSS)	mg/L	1.75 I	3.00	2.20 I	0.570 U	1.93 I	5.00	2.25 I	6.20	4.80	1.00 I	1.25 I	1.50 I	0.769 I	124	0.570 U
Biochemical oxygen demand (total BOD5)	mg/L	1 U	1.0 U	1 U	1.08 I	1 U	1.11 I	1.0 U	1.49 I	1.11 I	1 U	1 U	1.0 U	1 U	4.07	1 U

Table 1

**Analytical Results Summary
Surface Water Quality Monitoring
Treviso Bay, Naples, Florida
June 2021**

Sample Location/Sample ID:		Lake 14					Lake 22					Lake 32				
Sample Date:		2/17/2020	6/4/2020	10/22/2020	03/04/2021	6/30/2021	2/17/2020	6/4/2020	10/22/2020	03/04/2021	6/30/2021	2/17/2020	6/4/2020	10/22/2020	03/04/2021	6/30/2021
Field Parameters	Units															
Total Water Depth	Feet	2.5	2.41	2.81	2.2	1.83	3	2.27	2.74	2.6	3.58	3	3.28	3.87	2.3	2.98
Sample Depth	Feet	1.5	1.5	1.5	1.5	1	1.5	surface	overflow	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Conductivity, field	umhos/cm	14.67	2066	999	967	1223	656	1057	453	450	978	426	680	298	296	508
Dissolved oxygen (DO), field	mg/L	5.79	4.36	5.45	4.13	4.31	8.62	5.96	4.20	5.14	3.83	8.4	4.27	6.44	5.08	5.71
Dissolved oxygen (DO), field	%	66.7	57.6	67.8	48.8	54.1	99.6	52.6	54.0	61.0	45.7	99.5	56.3	80.3	61.0	71.8
pH, field	s.u.	7.71	8.33	8.44	8.55	8.28	7.73	8.28	8.27	8.76	7.98	8.15	8.15	8.16	8.49	8.27
Temperature, field	Deg C	22.04	29.6	26.4	23.7	28.6	22.42	29.9	26.8	24.4	28.1	23.8	29.7	27.0	24.7	29.1
Turbidity, field	NTU	2.07	7.06	3.44	2.83	2.60	1.17	1.06	1.52	1.38	2.21	0.47	2.75	3.31	9.56	3.28
Secchi Disk	Depth															
Wet Parameters	Units															
Ammonia-N	mg/L	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U	0.026 I	0.008 U	0.008 U	0.008 U	0.008 U	0.045	0.008 U	0.008 U
TAN criteria calculation	mg/L	0.99	0.25	NS	NS	NS	0.94	0.27	NS	NS	NS	0.49	0.33	NS	NS	NS
Total kjeldahl nitrogen (TKN)	mg/L	0.816	0.926	1.35	0.908	0.750	0.648	1.05	1.23	0.807	0.678	0.483	0.897	1.65	0.791	0.639
Total nitrogen	mg/L	0.816	0.926	1.35	0.908	0.750	0.648	1.05	1.23	0.807	0.678	0.483	0.897	1.67	0.791	0.639
Nitrite/Nitrate	mg/L	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.018 I	0.006 U	0.006 U
Ortho phosphorus (Field Filtered)	mg/L	0.007 I	0.031	0.004 I	0.002 U	0.002 U	0.005 I	0.019	0.007 I	0.002 U	0.002 U	0.018	0.035	0.008	0.002 I	0.002 U
Total phosphorus	mg/L	0.029 I	0.044	0.025 I	0.020 I	0.008 U	0.024 I	0.027 I	0.030 I	0.008 U	0.008 U	0.022 I	0.058	0.041	0.010 I	0.013 I
Chlorophyll	mg/m3	8.51	10.3	11.7	5.95	16.0	4.31	5.00	6.48	2.34	4.06	2.00	7.08	7.29	3.73	11.8
Total suspended solids (TSS)	mg/L	4.50	3.75	7.50	4.40	3.60	1.00 I	3.00	2.25 I	1.60 I	0.570 U	0.750 I	5.25	4.00	1.20 I	3.40
Biochemical oxygen demand (total BOD5)	mg/L	1.55 I	1.0 U	2.32 I	1.59 I	1.03 I	1 U	3.00	1.00	1 U	1 U	1 U	1.0 U	1.25 I	1 U	1 U

Notes:

- U - Not detected at the associated reporting limit
- I - Reported value is between method detection limit and the practical quantitation limit
- NS - Not sampled during noted event
- * - DO values at or above 100% are possible super-saturation conditions due to high water temperatures and/or high volume of algae.

Figure



NOTE: LAKE 5 DOES NOT HAVE AN ABOVE WATER LEVEL OUTFALL STRUCTURE/WEIR.



WATER QUALITY SAMPLING REPORT
LAKES 4, 5, 12, 14, 22, AND 32 - TREVISO BAY
NAPLES, COLLIER COUNTY, FLORIDA

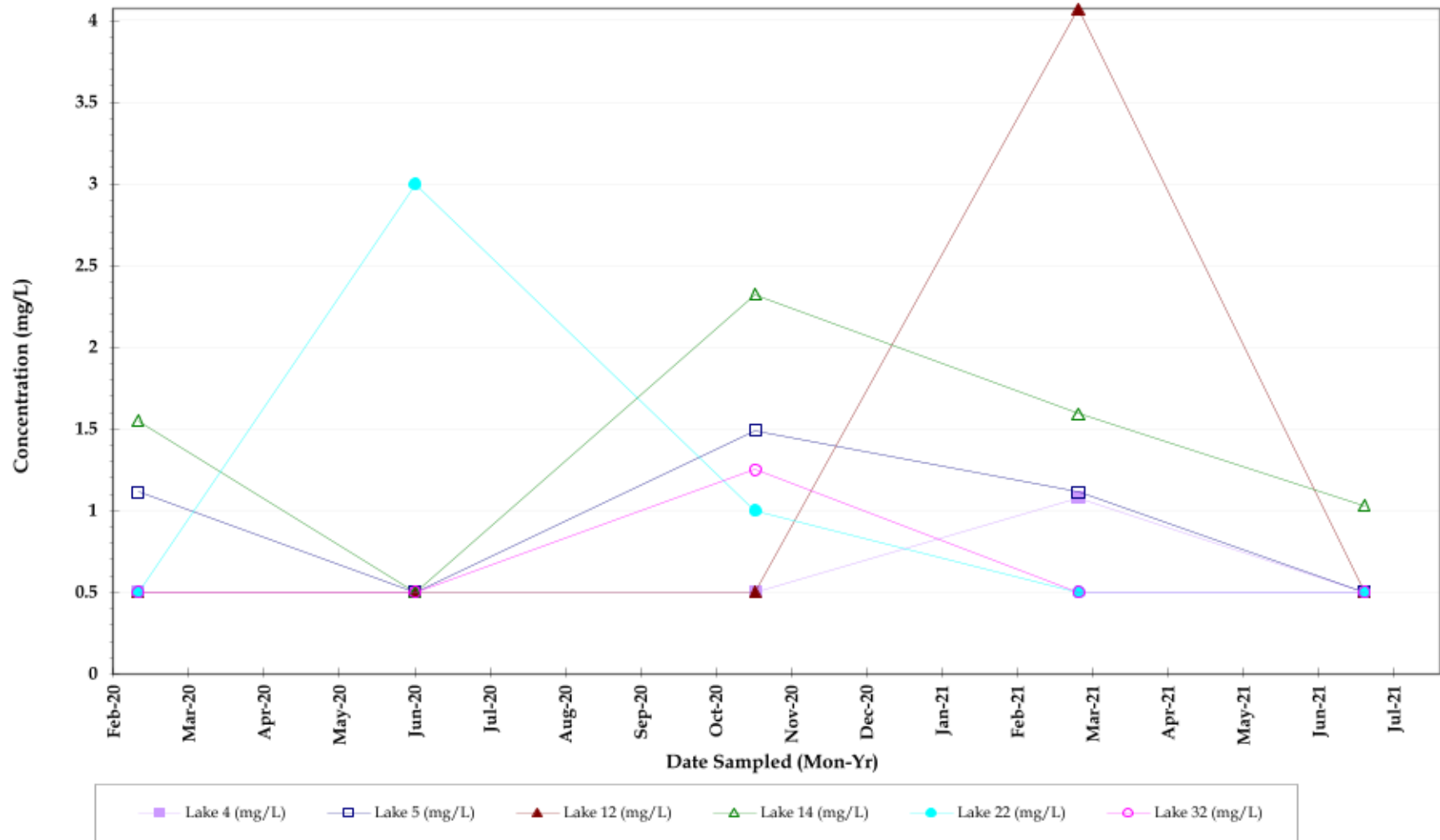
11225022-01

30-June-21

SAMPLE LOCATION MAP

FIGURE NO. 1

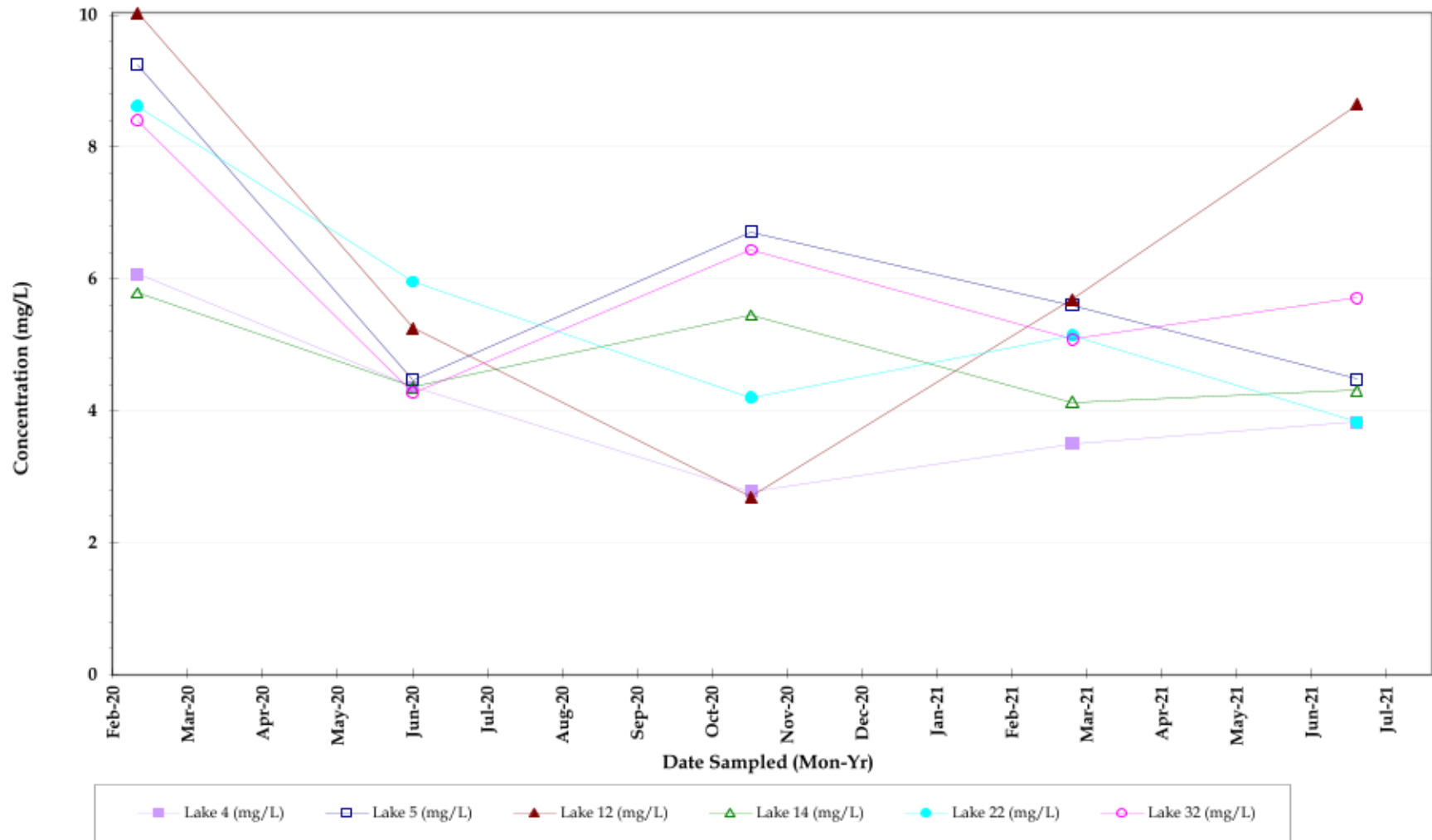
Trend Graphs



Biochemical Oxygen Demand



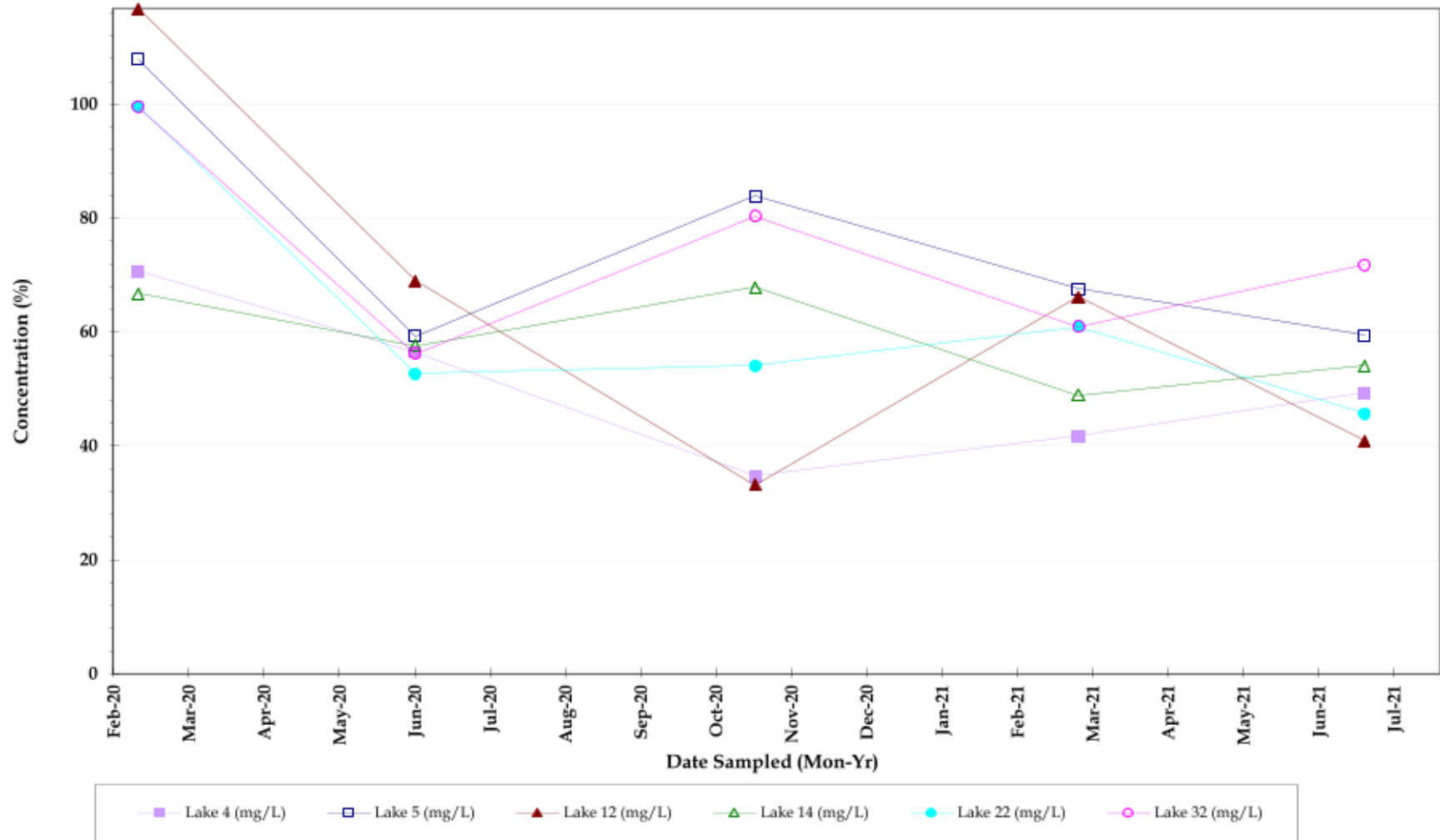
Treviso Bay
 Water Quality Surface Water Sample results
 JUNE 2021



Dissolved Oxygen (mg/L)



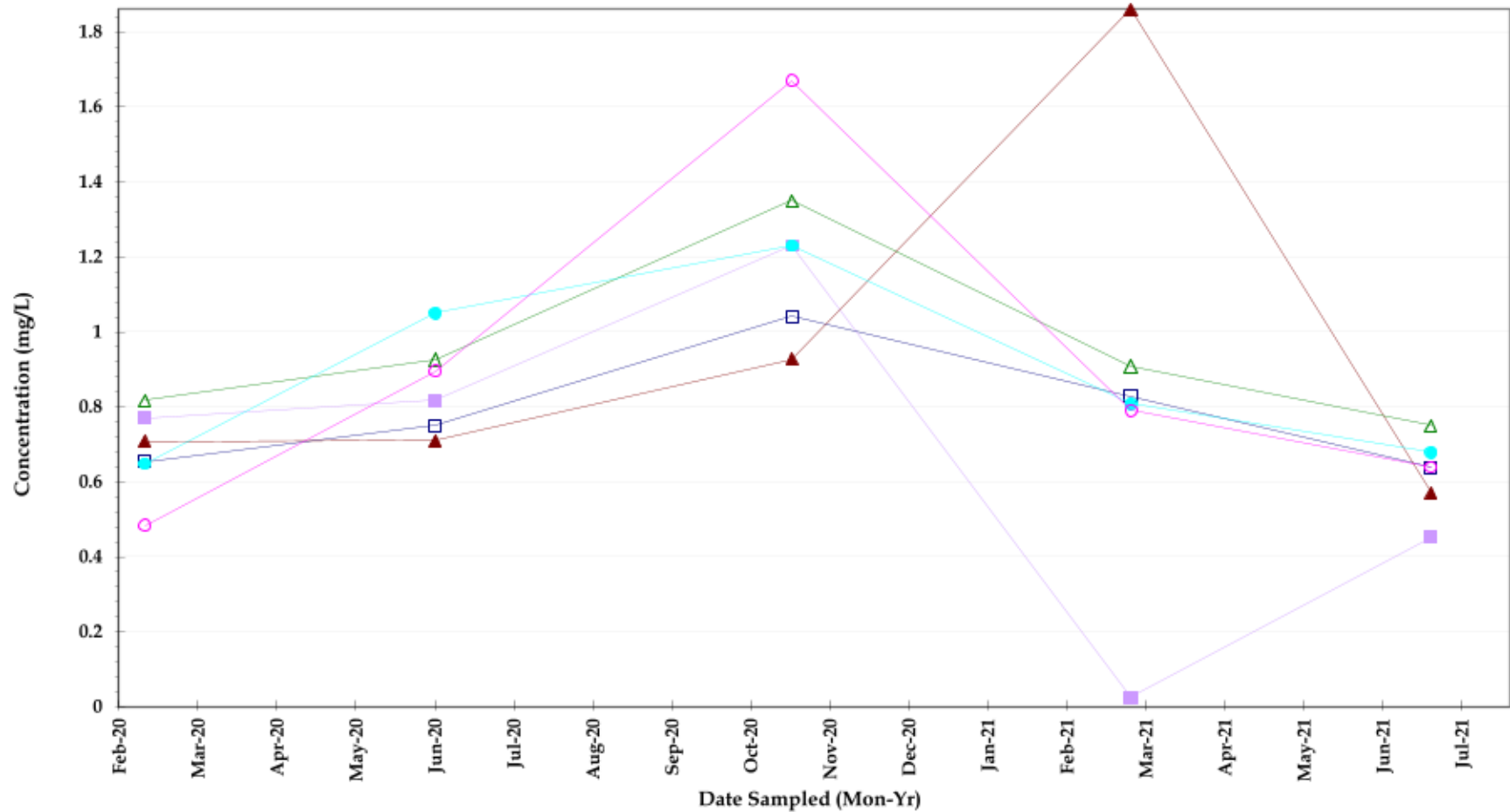
Treviso Bay
Water Quality Surface Water Sample results
JUNE 2021



Dissolved Oxygen (%)

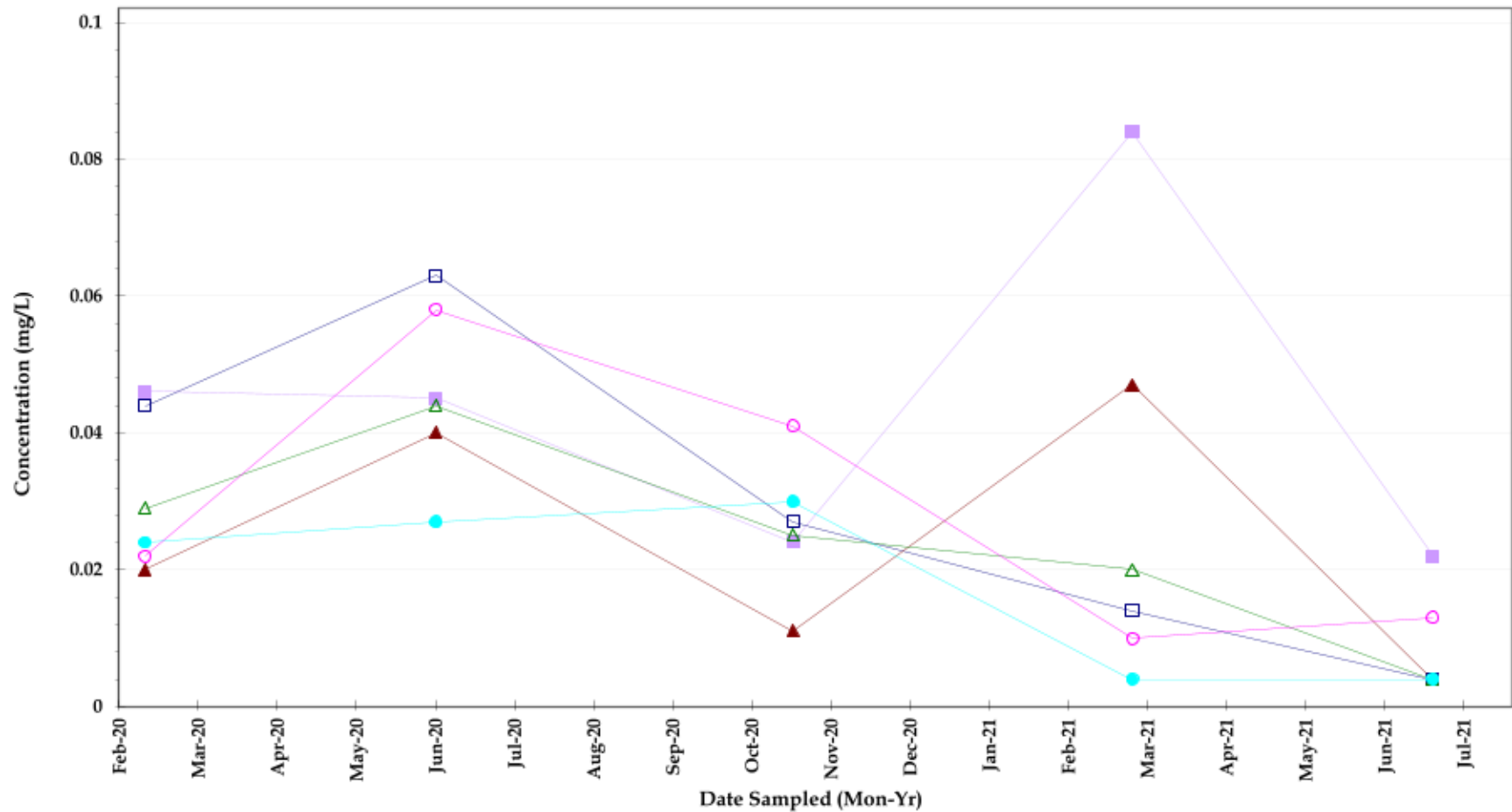


Treviso Bay
 Water Quality Surface Water Sample results
 JUNE 2021



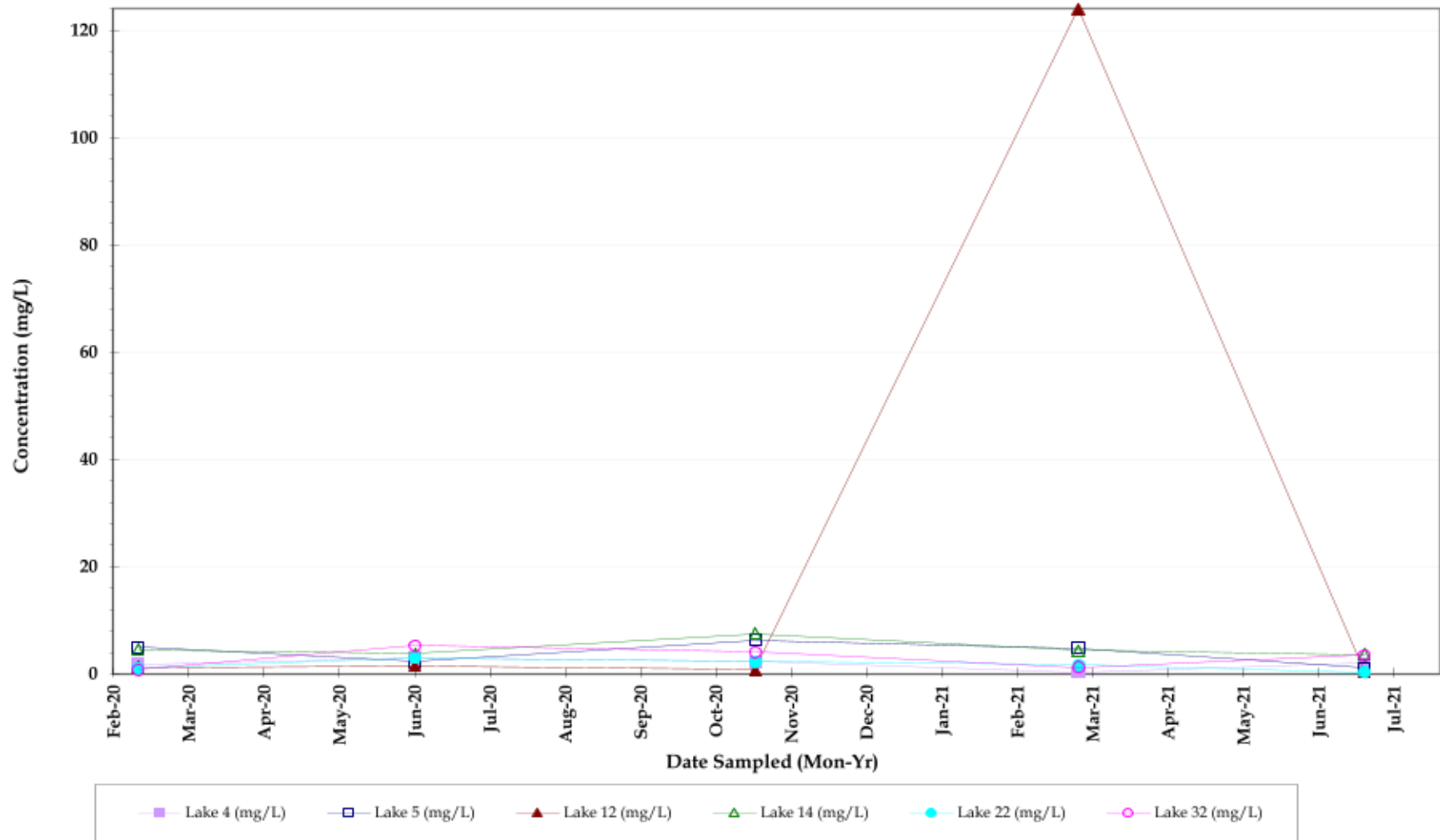
Total Nitrogen

*Treviso Bay
Water Quality Surface Water Sample results
JUNE 2021*



Total Phosphorus

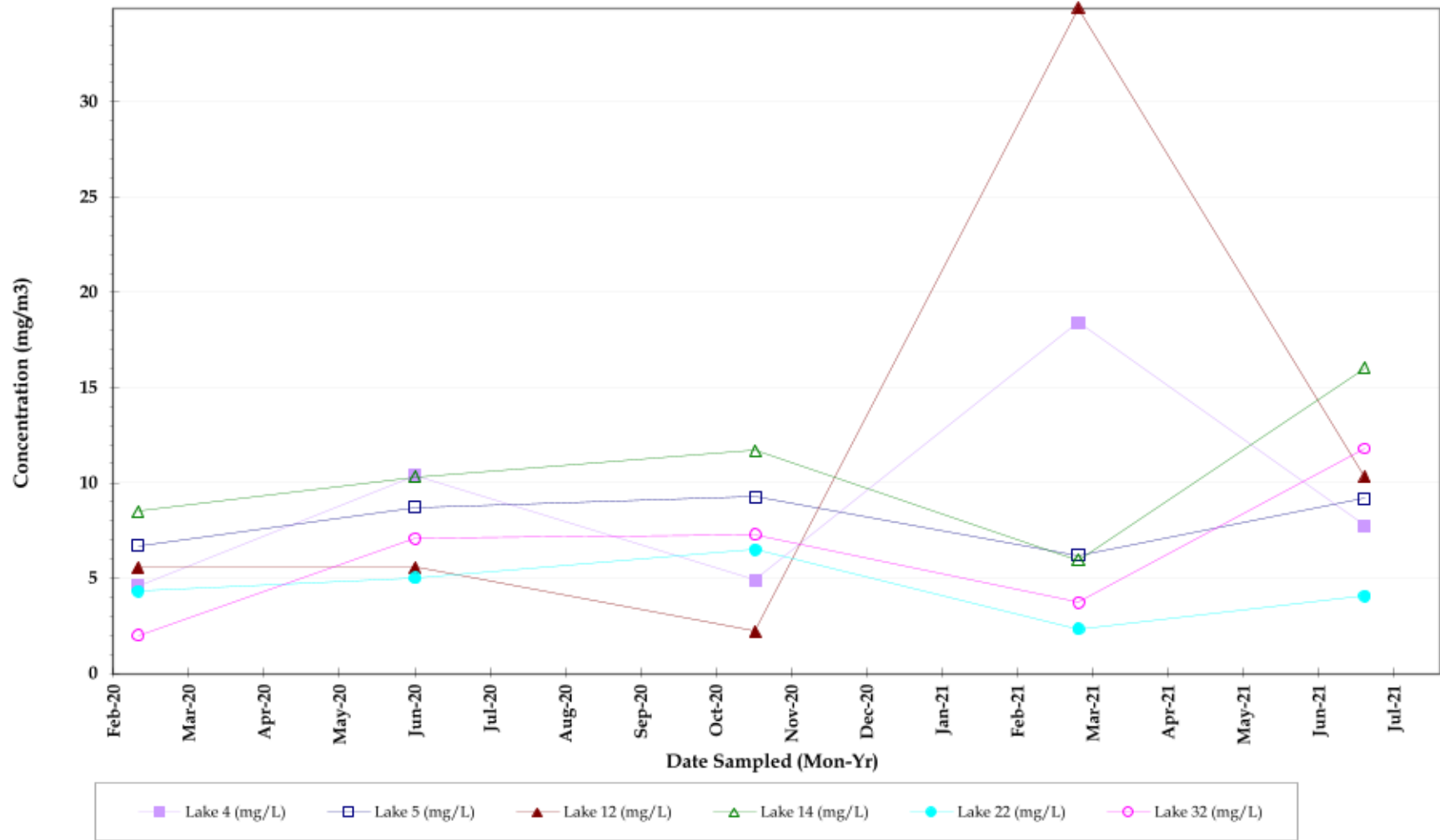
Treviso Bay
Water Quality Surface Water Sample results
JUNE 2021



Total Suspended Solids



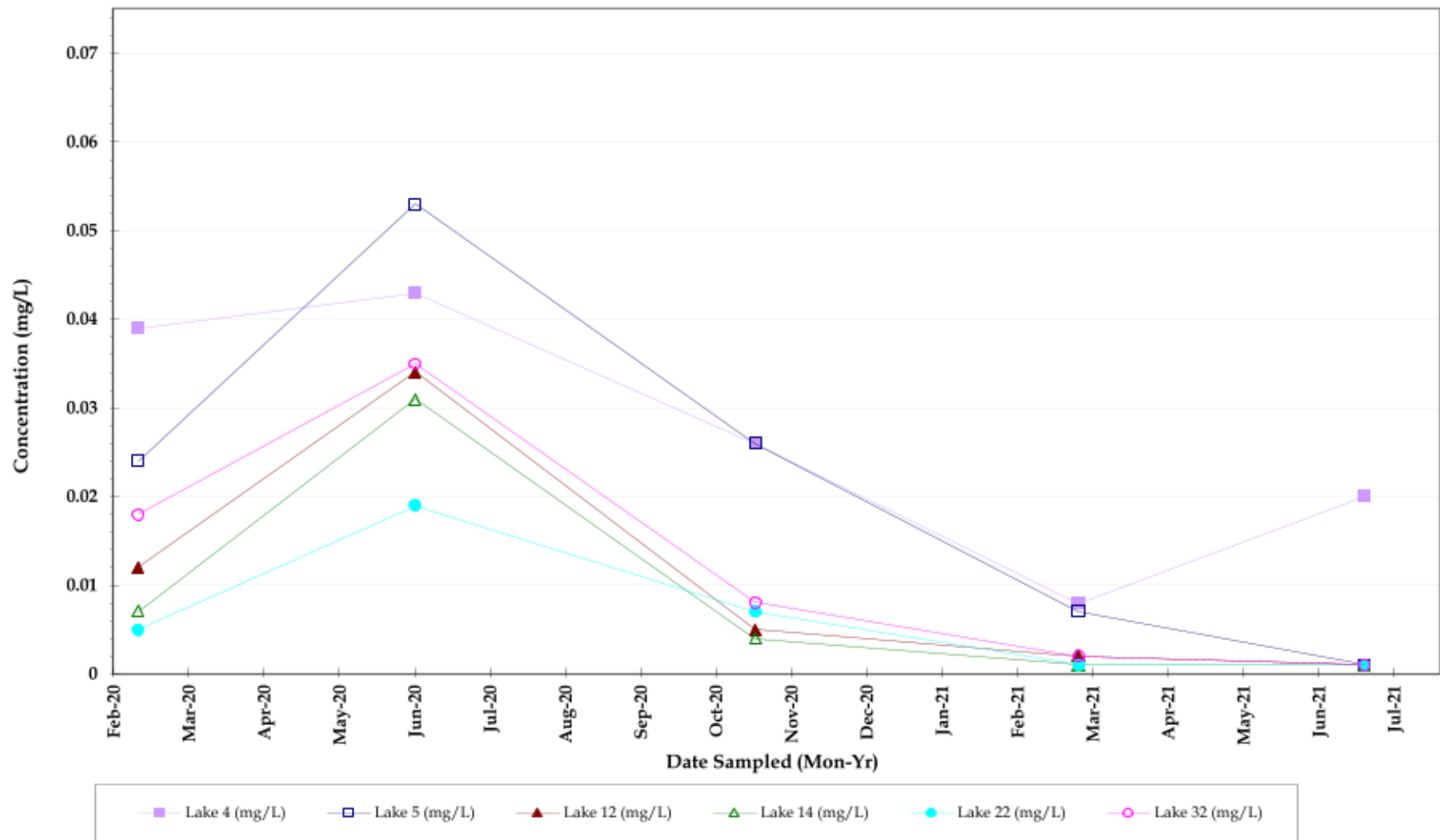
Treviso Bay
Water Quality Surface Water Sample results
JUNE 2021



Chlorophyll a



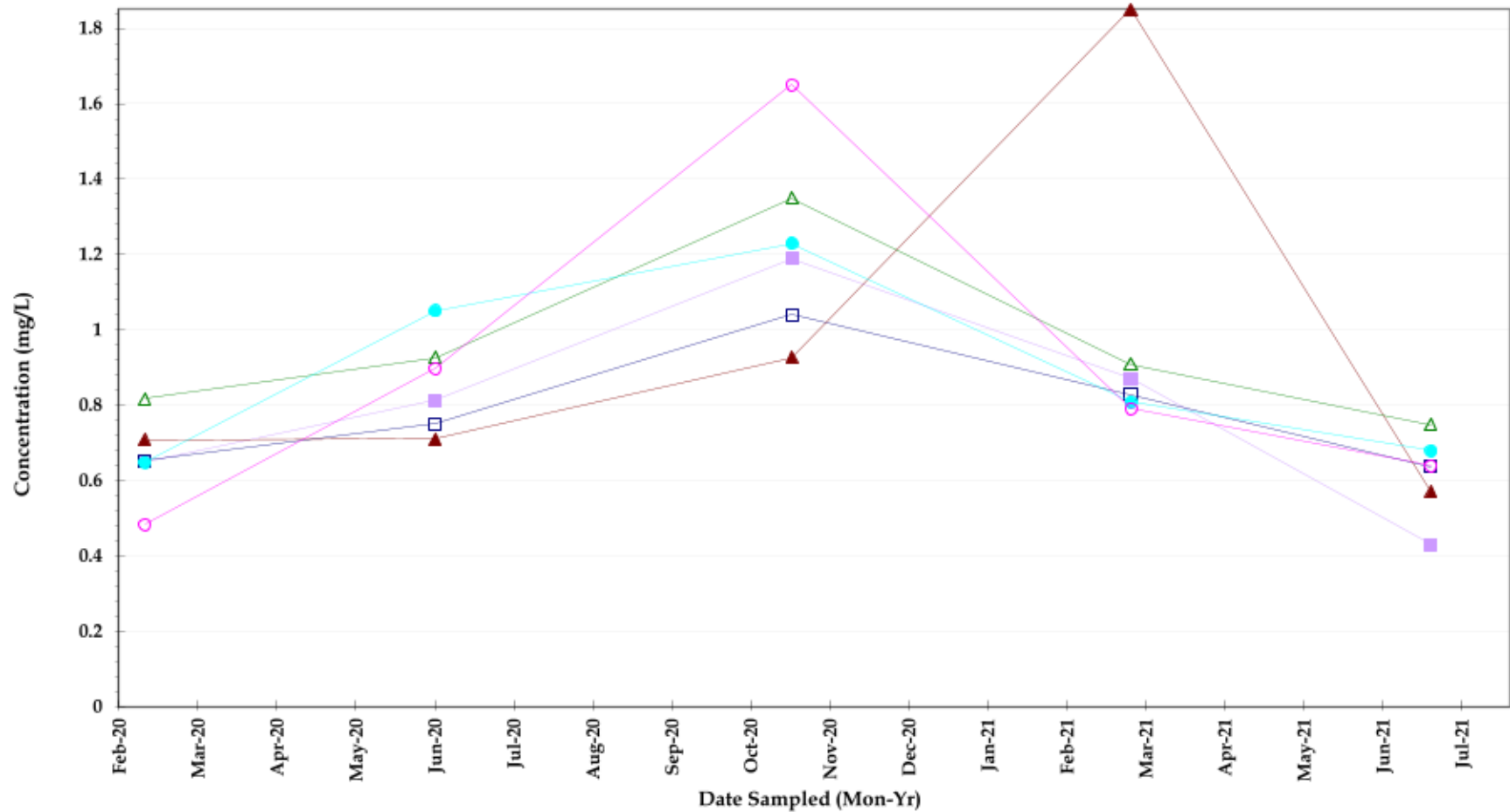
Treviso Bay
Water Quality Surface Water Sample results
JUNE 2021



Orthophosphate

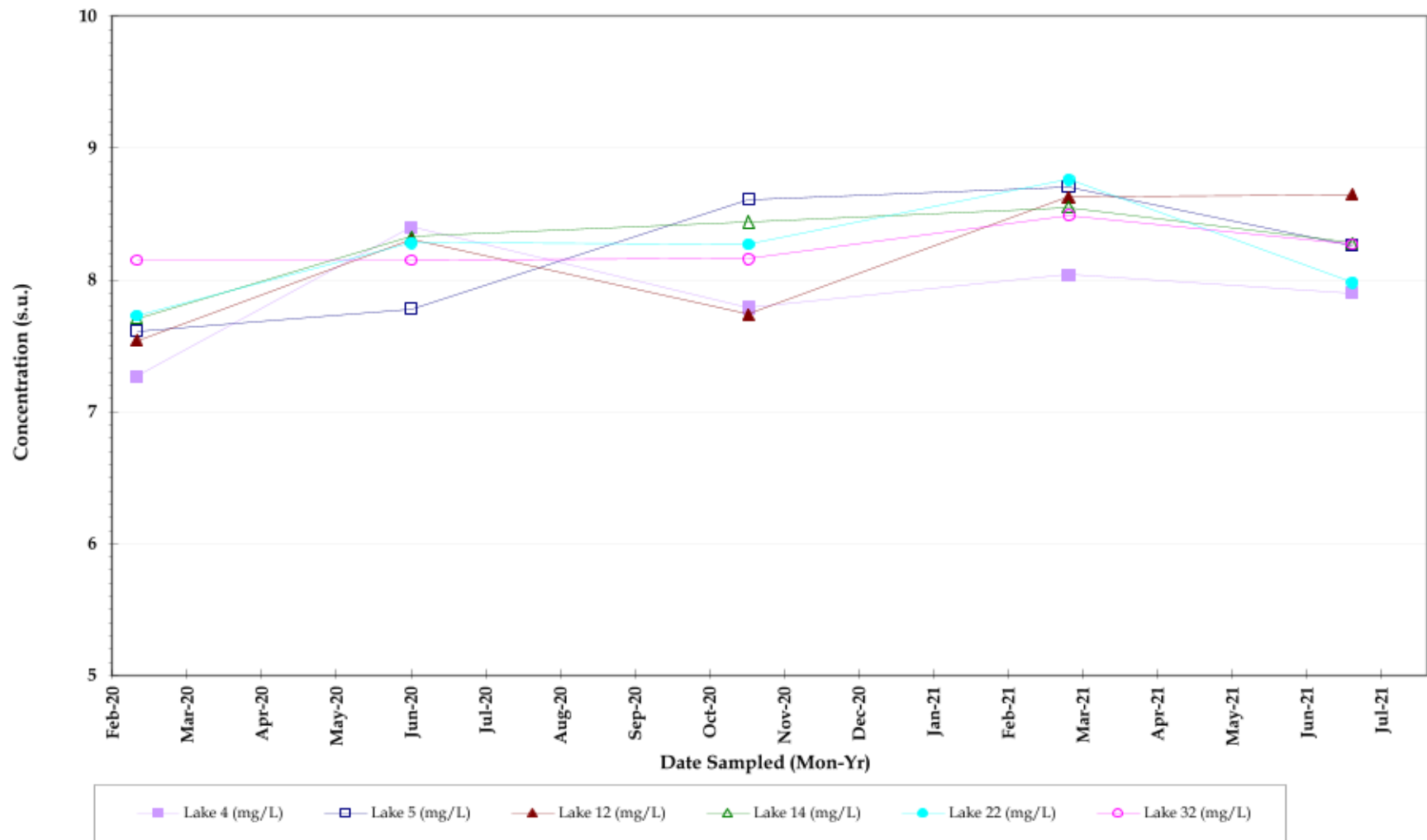


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 Water Quality Surface Water Sample results
 JUNE 2021



Total kjeldahl nitrogen (TKN)

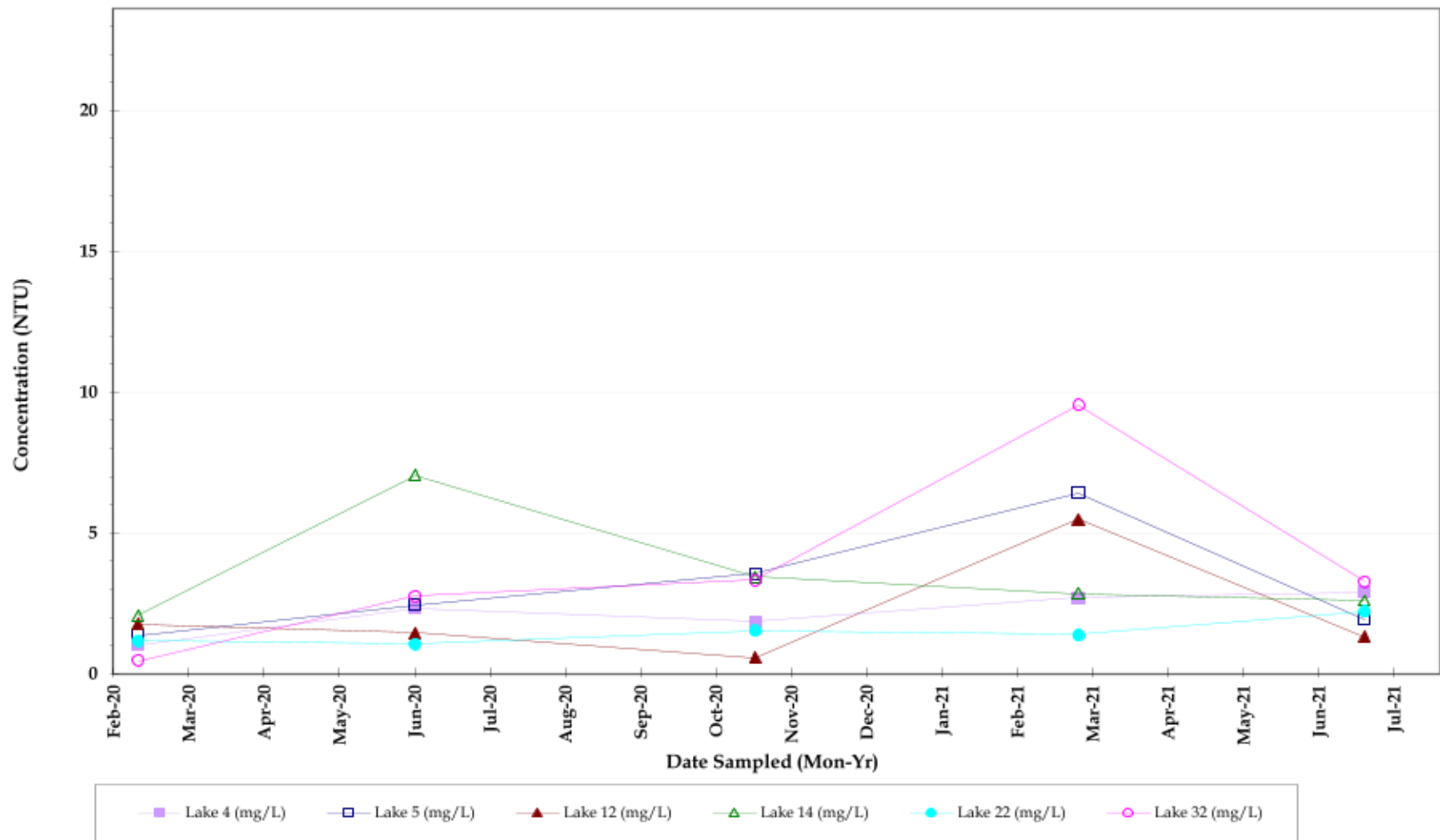
Treviso Bay
Water Quality Surface Water Sample results
JUNE 2021



pH, Field

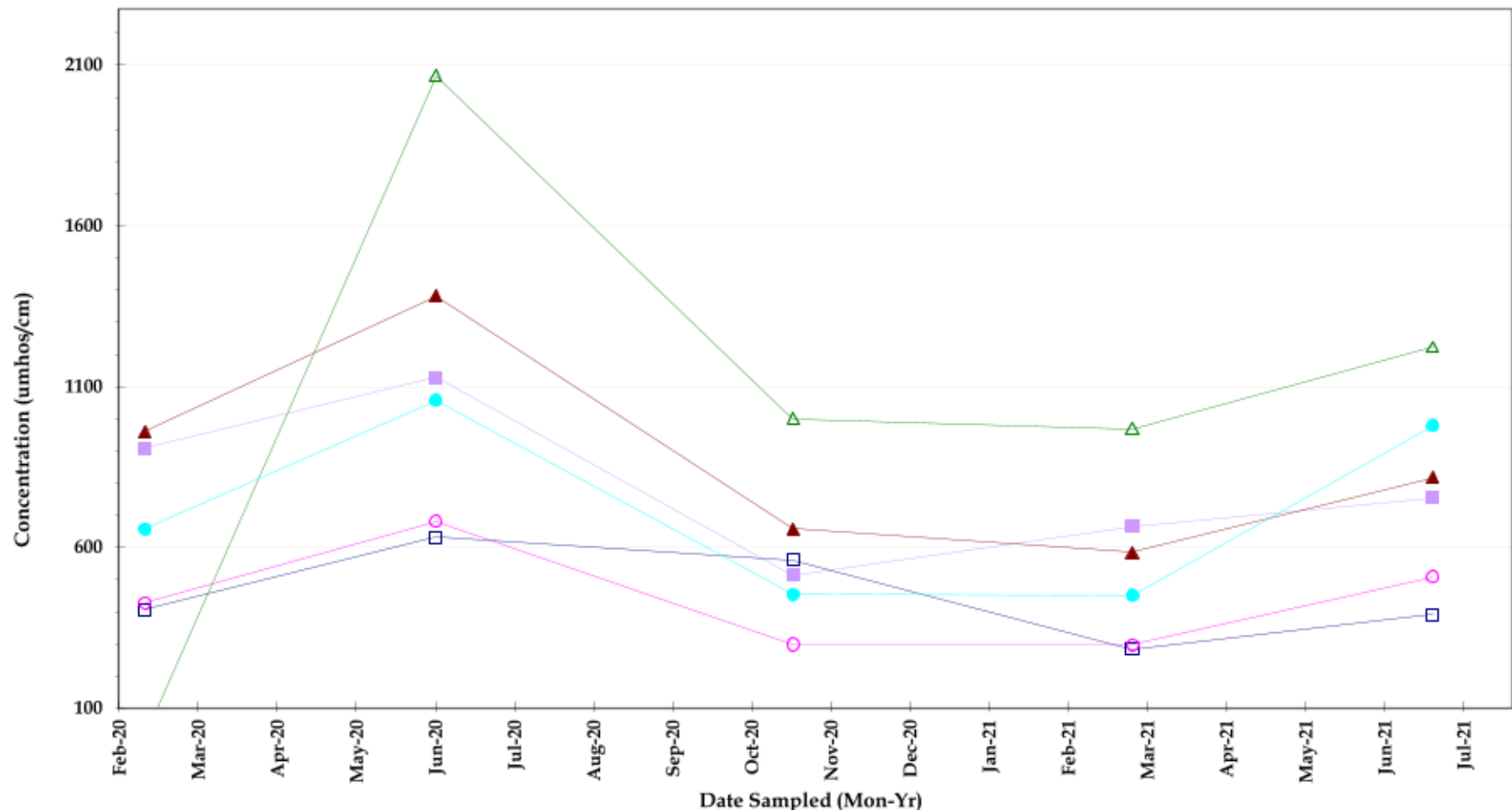
Treviso Bay
 Water Quality Surface Water Sample results
 JUNE 2021





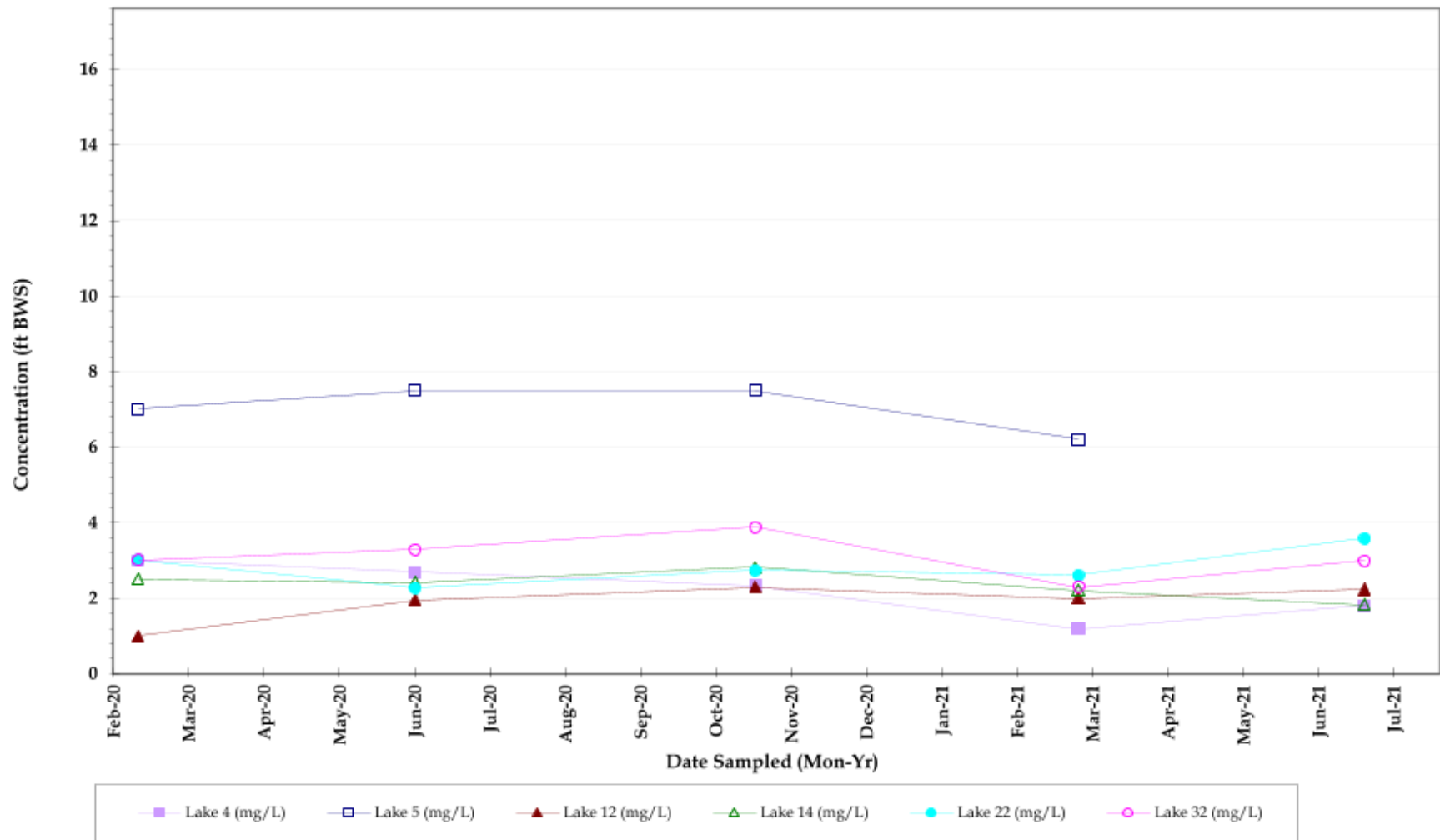
Turbidity

Treviso Bay
 Water Quality Surface Water Sample results
 JUNE 2021



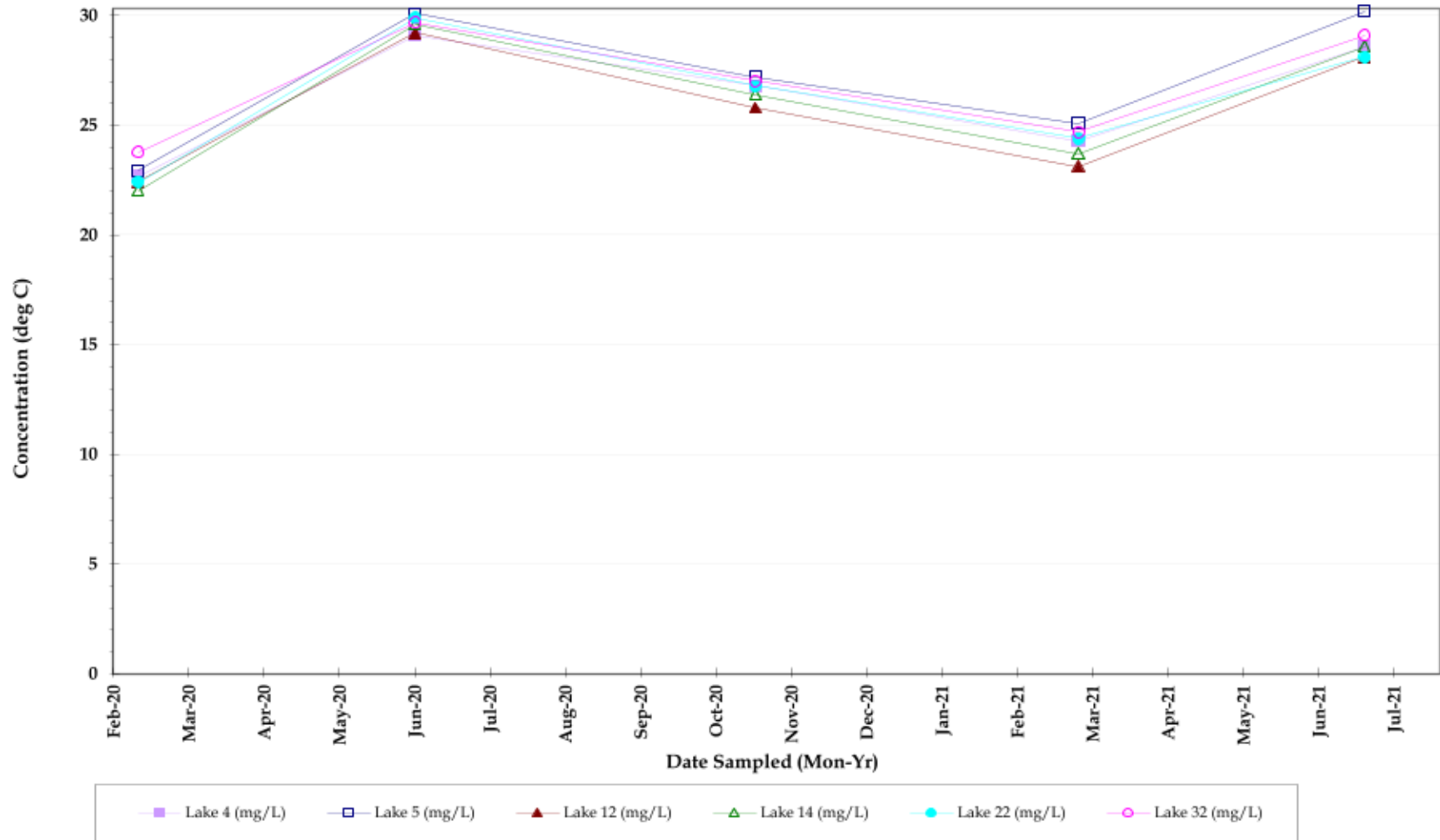
Conductivity

Treviso Bay
Water Quality Surface Water Sample results
JUNE 2021



Water Depth

Treviso Bay
 Water Quality Surface Water Sample results
 JUNE 2021



Temperature, sample

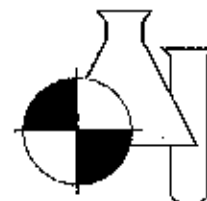


Treviso Bay
 Water Quality Surface Water Sample results
 JUNE 2021

Laboratory Analytical Report

BENCHMARK

EnviroAnalytical Inc.



NELAC Certification #T:84167

ANALYTICAL TEST REPORT

THESE RESULTS MEET NELAC STANDARDS

Submission Number : 21070073

GHD Services, Inc.
2675 Winkler Ave., Ste.180
Fort Myers, FL 33901

Project Name : TREVISO LAKES WOM
Project #: 11147356-01
Date Received : 07/01/2021
Time Received : 1531

Submission Number: 21070073 Sample Date: 06/30/2021
Sample Number: 001 Sample Time: 0945
Sample Description: Lake 4 Sample Method: Grab

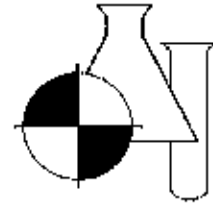
Parameter	Result	Units	MDL	PQL	Procedure	Analysis Date/Time	Analyst
AMMONIA NITROGEN	0.064	MG/L	0.002	0.032	350.1	07/12/2021 13:20	CW
TOTAL KJELDAHL NITROGEN	0.491	MG/L	0.05	0.20	351.2	07/08/2021 12:25	JS
ORTHO PHOSPHORUS AS P	0.020	MG/L	0.002	0.008	365.3	07/01/2021 18:06	KA
TOTAL PHOSPHORUS AS P	0.0221	MG/L	0.008	0.032	365.3	07/06/2021 16:23	KA
CHLOROPHYLL A	7.73	MG/M3	0.25	1.00	445.0	07/07/2021 09:25	PN
TOTAL SUSPENDED SOLIDS	1.031	MG/L	0.570	2.280	SM2540D	07/02/2021 11:32	CM/SM
BIOCHEMICAL OXYGEN DEMAND	1 U	MG/L	1	4	SM5210B	07/01/2021 16:50	LD/LD
NITRATE+NITRITE AS N	0.0201	MG/L	0.006	0.024	SYSTEAS EASY	07/07/2021 16:31	EA
TOTAL NITROGEN	0.451	MG/L	0.05	0.20	SYSTEAS+351	07/08/2021 12:25	JS/EA

Submission Number: 21070073 Sample Date: 06/30/2021
Sample Number: 002 Sample Time: 1005
Sample Description: Lake 12 Sample Method: Grab

Parameter	Result	Units	MDL	PQL	Procedure	Analysis Date/Time	Analyst
AMMONIA NITROGEN	0.006 U	MG/L	0.008	0.032	350.1	07/12/2021 13:22	CW
TOTAL KJELDAHL NITROGEN	0.570	MG/L	0.05	0.20	351.2	07/08/2021 12:28	JS
ORTHO PHOSPHORUS AS P	0.002 U	MG/L	0.002	0.008	365.3	07/01/2021 18:08	KA
TOTAL PHOSPHORUS AS P	0.008 U	MG/L	0.008	0.032	365.3	07/06/2021 15:39	KA
CHLOROPHYLL A	10.3	MG/M3	0.25	1.00	445.0	07/07/2021 09:25	PN
TOTAL SUSPENDED SOLIDS	0.670 U	MG/L	0.570	2.280	SM2540D	07/02/2021 11:32	CM/SM
BIOCHEMICAL OXYGEN DEMAND	1 U	MG/L	1	4	SM5210B	07/01/2021 16:50	LD/LD
NITRATE+NITRITE AS N	0.008 U	MG/L	0.006	0.024	SYSTEAS EASY	07/07/2021 16:32	EA
TOTAL NITROGEN	0.570	MG/L	0.05	0.20	SYSTEAS+351	07/08/2021 12:28	JS/EA

BENCHMARK

EnviroAnalytical Inc.



NELAC Certification #P84167

Submission Number: 21070073
Sample Number: 003
Sample Description: Lake 14

Sample Date: 06/30/2021
Sample Time: 1028
Sample Method: Grab

Parameter	Result	Units	MDL	PQL	Procedure	Analysis Date/Time	Analyst
AMMONIA NITROGEN	0.008 U	MG/L	0.008	0.032	350.1	07/12/2021 13:23	CW
TOTAL KJELDAHL NITROGEN	0.750	MG/L	0.05	0.20	351.2	07/08/2021 12:29	JS
ORTHO PHOSPHORUS AS P	0.002 U	MG/L	0.002	0.008	355.3	07/01/2021 18:09	KA
TOTAL PHOSPHORUS AS P	0.008 U	MG/L	0.008	0.032	355.3	07/08/2021 15:40	KA
CHLOROPHYLL A	13.0	MG/MS	0.25	1.00	445.0	07/07/2021 09:25	PN
TOTAL SUSPENDED SOLIDS	3.60	MG/L	0.570	2.260	SM2540D	07/02/2021 11:32	CM/SM
BIOCHEMICAL OXYGEN DEMAND	1.08 I	MG/L	1	4	SM5210B	07/01/2021 16:00	LD/LD
NITRATE+NITRITE AS N	0.008 U	MG/L	0.006	0.024	SYSTEAS EASY	07/07/2021 16:33	EA
TOTAL NITROGEN	0.750	MG/L	0.05	0.20	SYSTEAS+361	07/08/2021 12:29	JS/EA

Submission Number: 21070073
Sample Number: 004
Sample Description: Lake 22

Sample Date: 06/30/2021
Sample Time: 1045
Sample Method: Grab

Parameter	Result	Units	MDL	PQL	Procedure	Analysis Date/Time	Analyst
AMMONIA NITROGEN	0.005 U	MG/L	0.008	0.032	350.1	07/12/2021 13:25	CW
TOTAL KJELDAHL NITROGEN	0.378	MG/L	0.05	0.20	351.2	07/08/2021 12:30	JS
ORTHO PHOSPHORUS AS P	0.002 U	MG/L	0.002	0.008	355.3	07/01/2021 18:10	KA
TOTAL PHOSPHORUS AS P	0.008 U	MG/L	0.008	0.032	355.3	07/08/2021 15:41	KA
CHLOROPHYLL A	4.06	MG/MS	0.25	1.00	445.0	07/07/2021 09:25	PN
TOTAL SUSPENDED SOLIDS	0.570 U	MG/L	0.570	2.260	SM2540D	07/02/2021 11:32	CM/SM
BIOCHEMICAL OXYGEN DEMAND	1 U	MG/L	1	4	SM5210B	07/01/2021 16:00	LD/LD
NITRATE+NITRITE AS N	0.006 U	MG/L	0.006	0.024	SYSTEAS EASY	07/07/2021 16:37	EA
TOTAL NITROGEN	0.678	MG/L	0.05	0.20	SYSTEAS+351	07/08/2021 12:30	JS/EA

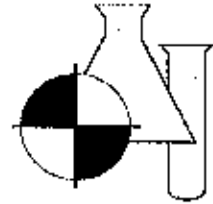
Submission Number: 21070073
Sample Number: 005
Sample Description: Lake 32

Sample Date: 06/30/2021
Sample Time: 1100
Sample Method: Grab

Parameter	Result	Units	MDL	PQL	Procedure	Analysis Date/Time	Analyst
AMMONIA NITROGEN	0.008 U	MG/L	0.006	0.032	350.1	07/12/2021 13:34	CW
TOTAL KJELDAHL NITROGEN	0.638	MG/L	0.05	0.20	351.2	07/08/2021 12:31	JS
ORTHO PHOSPHORUS AS P	0.002 U	MG/L	0.002	0.008	355.3	07/01/2021 18:12	KA
TOTAL PHOSPHORUS AS P	0.013 I	MG/L	0.006	0.032	355.3	07/08/2021 15:42	KA
CHLOROPHYLL A	11.8	MG/MS	0.25	1.00	445.0	07/07/2021 09:25	PN

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NELAC Certification #E84167

TOTAL SUSPENDED SOLIDS	3.40	MG/L	0.570	2.280	SM2540D	07/02/2021	11:32	CM/SM
BIOCHEMICAL OXYGEN DEMAND	1 U	MG/L	1	4	SM5210B	07/01/2021	18:00	LD/LD
NITRATE-NITRITE AS N	0.006 U	MG/L	0.006	0.024	SYSTEAEASY	07/07/2021	18:38	EA
TOTAL NITROGEN	0.638	MG/L	0.05	0.20	SYSTEAE+351	07/08/2021	12:31	JS/EA

Submission Number: 21070073

Sample Number: 006

Sample Description: Lake 5

Sample Date: 06/30/2021

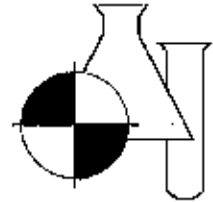
Sample Time: 1130

Sample Method: Grab

Parameter	Result	Units	MDL	PQL	Procedure	Analysis Date/Time	Analyst
AMMONIA NITROGEN	0.053	MG/L	0.008	0.032	350.1	07/12/2021 13:37	GW
TOTAL KJELDAHL NITROGEN	0.638	MG/L	0.05	0.20	351.2	07/08/2021 12:32	JS
ORTHO PHOSPHORUS AS P	0.002 U	MG/L	0.002	0.008	385.3	07/01/2021 18:13	KA
TOTAL PHOSPHORUS AS P	0.008 U	MG/L	0.008	0.032	385.3	07/08/2021 15:43	KA
CHLOROPHYLL A	8.17	MG/MS	0.25	1.00	445.0	07/07/2021 09:25	PN
TOTAL SUSPENDED SOLIDS	1.001	MG/L	0.570	2.280	SM2540D	07/02/2021 11:32	CM/SM
BIOCHEMICAL OXYGEN DEMAND	1 U	MG/L	1	4	SM5210B	07/01/2021 18:00	LD/LD
NITRATE+NITRITE AS N	0.006 U	MG/L	0.006	0.024	SYSTEAEASY	07/07/2021 18:38	EA
TOTAL NITROGEN	0.638	MG/L	0.05	0.20	SYSTEAE+351	07/08/2021 12:32	JS/EA

BENCHMARK

EnviroAnalytical Inc.



NBLAC Certification #P284167

Glenn Dixon
Glenn Dixon / Laboratory Director

07/13/2021

Date

Tglay Tanrisever - Technical Director/QC Officer

Kara Peterson - QA Officer

DATA QUALIFIERS THAT MAY APPLY:

- A = Value reported is an average of two or more determinations.
- B = Results based upon only values outside the ideal range.
- H = Value based on field kit determination. Results may not be accurate.
- I = Reported value is between the laboratory MDL and the PQL.
- J1 = Estimated value. Surrogate recovery limits exceeded.
- J2 = Estimated value. No quality control criteria exists for component.
- J3 = Estimated value. Quality control criteria for precision of analytical method.
- J4 = Estimated value. Sample matrix interference suspected.
- J5 = Estimated value. Data questionable due to improper lab or field protocols.
- K = Off-scale low. Value is known to be < the value reported.
- L = Off-scale high. Value is known to be > the value reported.
- N = Presumptive evidence of presence of material.
- O = Sampled, but analyte lost or not performed.
- Q = Sample held beyond accepted hold time.

I = Value reported is < MDL. Recorded for informational purposes only and shall not be used in statistical analysis.

U = Analyte analyzed but not detected at the value indicated.

V = Analyte detected in sample and method blank. Results for this analyte in associated samples may be biased high. Standards, duplicates and spike values are within control limits. Reported data are usable.

W = Analysis performed on an improperly preserved sample. Data may be inaccurate.

Z = Too many colories were present (TNTC). The numeric value represents the fill/vol volume.

! = Data outside from historically established concentration ranges.

? = Data rejected and should not be used. Some or all of QC data gave outside criteria and the presence or absence of the analyte cannot be determined from the data.

* = Not reported due to interference.

C = Grease - If client does not send sufficient sample quantity for spike evulsion surface water samples are supplied by the laboratory.

NOTES:

MBAS calculated as LAS; molecular weight = 370.

PQL = 4xMDL

ND = Not detected at or above the adjusted reporting limit.

QC = Accuracy standard does not meet method control limits, but does meet lab control limits that are in agreement with USEPA generated data. USEPA test systems upon request.

For questions or comments regarding these results, please contact us at (941) 723-9986.

Results relate only to the samples.

COMMENTS:

Chlorophyll A lab filters at 0.85038 on 07/01/21 at 0824.

Benchmark EA South
 100J Corporate Avenue, Suite 102
 North Port, FL 34289
 (941) 625-3137 / (800) 736-9986
 (941) 423-7336 fax
 Sample Temperature checked upon receipt at BE&A with Temperature Grab ID #7

Benchmark EA, Inc.
 1711 12th St. East
 Palmetto, FL 34221
 (941) 723-9986 / (800) 736-9986
 (941) 723-6061 - fax
 Sample Temperature checked upon receipt at BE&A with Temperature Grab ID #RAYT060570277

Client: GHD Services, Inc. (USA ENG)
 2675 Winkler Ave, Suite 180
 Ft Myers FL 33901
 Erik Isern (239) 215-3914
 Email EDD Reports to: Andrew.Wyall@ghd.com

GHD Services, Inc. (USA ENG)
 2675 Winkler Ave, Suite 180
 Ft Myers FL 33901
 Erik Isern (239) 215-3914
 Email EDD Reports to: Andrew.Wyall@ghd.com

Kit Shipped to client via UPS Standard in 1 large cooler

2020 PO# 34043122

Chain of Custody Form: Treviso Lakes WQM
 Project Number: 111473536 - 01

Profile: 840, QC Report

Station ID	Sample Type	Sample Matrix	NO ₃ -NO ₂ (mg/L) TKN (as N) NH ₄ (as N) TP (as P) TN (as N)	BOD ₅ (mg/L)	Ortho-Phos (Laboratory Filtered) (mg/L)	TSS (mg/L)	Laboratory Submission #	Profile: 840, QC Report	
								1 x 2 Pint Plastic	1 x 500mL Plastic
Lake 4	Grab	SW	Time: 10:30 AM Date/Time: 10/30/21	0945	1005	1 x 1 Quart Plastic	Chlorophyll a (445.0) Filtered @ Beas 7/1/21 0824	2	1
Lake 12	Grab	SW	Time: 10:30 AM Date/Time: 10/30/21	1025	1045	1 x 1 Quart Plastic		2	2
Lake 14	Grab	SW	Time: 10:30 AM Date/Time: 10/30/21	1100	1130	1 x 1 Quart Plastic		2	3
Lake 22	Grab	SW	Time: 10:30 AM Date/Time: 10/30/21			1 x 1 Quart Plastic		2	4
Lake 32	Grab	SW	Time: 10:30 AM Date/Time: 10/30/21			1 x 1 Quart Plastic		2	5
Lake 5	Grab	SW	Time: 10:30 AM Date/Time: 10/30/21			1 x 1 Quart Plastic		2	6

Reference:
 1. Each bottle is a 1 liter, operating sample ID, "operating" means the container is the sample ID, the container is the sample ID.
 2. The following information should be added to each bottle label after collection with operating sample ID, name of facility, and any other information.
 3. All flow or other information may be added with operating sample ID, name of facility, and any other information.
 4. The flow or other information may be added with operating sample ID, name of facility, and any other information.
 5. The flow or other information may be added with operating sample ID, name of facility, and any other information.
 6. The flow or other information may be added with operating sample ID, name of facility, and any other information.
 7. The flow or other information may be added with operating sample ID, name of facility, and any other information.

Collector: Connor Hayden
Relinquished by: Connor Hayden
Relinquished by: Connor Hayden
Relinquished by: Connor Hayden
Relinquished by: Connor Hayden

Date & Time: 10/30/21 1401
Date & Time: 10/30/21 1401
Date & Time: 10/30/21 1401
Date & Time: 10/30/21 1401

Relinquished By: Connor Hayden
Relinquished By: Connor Hayden
Relinquished By: Connor Hayden
Relinquished By: Connor Hayden

Date & Time: 10/30/21 1401
Date & Time: 10/30/21 1401
Date & Time: 10/30/21 1401
Date & Time: 10/30/21 1401

Surface Water Field Sheets

SURFACE WATER FIELD SHEET
Station Information



STATION ID:	LAKE 4
LOCATION:	CENTER OF LAKE / FORWARD OF WEIR
DATE/TIME:	6/30/21 0945
ALL TIMES ARE:	<u>ETZ</u> or CTZ (circle one)

WATERBODY TYPE: (Circle One)	<u>Small Lake (>4 and <10HA)</u> (collect samples in middle of open water)	Large Lake (>10HA) (collect samples at selected location point)
	Small Stream (collect samples in representative area)	Large River (collect samples in representative area)

Water Characteristics

TOTAL WATER DEPTH: (Average of 2 measurements)	<u>1.90</u> (feet)	Sample Depth:	<u>1.0</u> (feet)
STREAM FLOW:	(Circle One if applicable) <u>No Flow</u>	Flow within Banks	Flood Conditions
WATER LEVEL:	(Circle One) Low <u>Normal</u> High		
WATER SAMPLE COLLECTION DEVICE (Circle One)	Van Dorn <u>Direct Grab with Sample Bottle</u>	Dipper	Other _____

Field Measurements

Meter ID#

Field Measurements
Read By: (initials)

Time (24 hr.)	Surface Depth Collected (feet)	pH* (SU)	D.O.(mg/L)	D.O. (%)	Temp (°C)	Conductivity (µmhos/cm)	Turbidity (NTU)
<u>0945</u>	<u>1.0</u>	<u>7.90</u>	<u>3.82</u>	<u>49.3</u>	<u>28.4</u>	<u>755</u>	<u>2.91</u>
Time (24 hr.)	Bottom Depth Collected (feet)	pH (SU)	D.O.(mg/L)	D.O. (%)	Temp (°C)	Conductivity (µmhos/cm)	Turbidity (NTU)

*pH of preserved sample: number of drops of sulfuric acid added in field to achieve pH of less than 2:
Samples immediately placed on ice? Yes No

WEATHER CONDITIONS: (circle) raining, clear, partly cloudy, windy

PERSONNEL ON SITE: Andrew Wyatt, Connor Hayden

REMARKS: sample collected at outfall structure

SURFACE WATER FIELD SHEET
Station Information



STATION ID:	LAKE 12
LOCATION:	WEST SIDE OF LAKE (OUTFALL STRUCTURE AREA) FORWARD OF WEIR
DATE/TIME:	<u>6/30/21</u>
ALL TIMES ARE:	<u>ETZ</u> or CTZ (circle one)

WATERBODY TYPE: (Circle One)	<u>Small Lake (>4 and <10HA)</u> (collect samples in middle of open water)	Large Lake (>10HA) (collect samples at selected location point)
	Small Stream (collect samples in representative area)	Large River (collect samples in representative area)

Water Characteristics

TOTAL WATER DEPTH: (Average of 2 measurements)	<u>2.24</u> (feet)	Sample Depth:	<u>1.5</u> (feet)
STREAM FLOW: (Circle One if applicable)	No Flow	<u>Flow within Banks</u>	Flood Conditions
WATER LEVEL: (Circle One)	Low	<u>Normal</u>	High
WATER SAMPLE COLLECTION DEVICE (Circle One)	Van Dorn	<u>Direct Grab with Sample Bottle</u>	Dipper Other _____

Field Measurements		Meter ID#			Field Measurements Read By: (Initials)		
Time (24 hr.)	Surface Depth Collected (feet)	pH* (SU)	D.O.(mg./L)	D.O. (%)	Temp (°C)	Conductivity (µmhos/cm)	Turbidity (NTU)
<u>1005</u>	<u>1.5</u>	<u>8.65</u>	<u>3.19</u>	<u>40.9</u>	<u>28.1</u>	<u>817</u>	<u>1.32</u>
Time (24 hr.)	Bottom Depth Collected (feet)	pH (SU)	D.O.(mg./L)	D.O. (%)	Temp (°C)	Conductivity (µmhos/cm)	Turbidity (NTU)

*pH of preserved sample: number of drops of sulfuric acid added in field to achieve pH of less than 2:
Samples immediately placed on ice? Yes No

WEATHER CONDITIONS: (circle) raining, clear, partly cloudy, windy

PERSONNEL ON SITE: - Andrew Wyatt Connor Hayden

REMARKS: sample collected forward of weir

SURFACE WATER FIELD SHEET
Station Information



STATION ID:	LAKE 22
LOCATION:	FORWARD OF WEIR
DATE/TIME:	6/30/21 1045
ALL TIMES ARE:	<u>ETZ</u> or CTZ (circle one)

WATERBODY TYPE: (Circle One)	<u>Small Lake (>4 and <10HA)</u> (collect samples in middle of open water)	Large Lake (>10HA) (collect samples at selected location point)
	Small Stream (collect samples in representative area)	Large River (collect samples in representative area)

Water Characteristics

TOTAL WATER DEPTH: (Average of 2 measurements)	3.58	(feet)	Sample Depth:	1.5	(feet)
STREAM FLOW: (Circle One if applicable)	No Flow	<u>Flow within Banks</u>	Flood Conditions		
WATER LEVEL: (Circle One)	Low	<u>Normal</u>	High		
WATER SAMPLE COLLECTION DEVICE (Circle One)	Van Dorn	<u>Direct Grab with Sample Bottle</u>	Dipper	Other _____	

Field Measurements		Meter ID#			Field Measurements		
Time (24 hr.)	Surface Depth Collected (feet)	pH* (SU)	D.O.(mg./L)	D.O. (%)	Temp (°C)	Conductivity (µmhos/cm)	Turbidity (NTU)
1045	1.5	7.98	3.83	45.7	28.1	978	2.21
Time (24 hr.)	Bottom Depth Collected (feet)	pH (SU)	D.O.(mg./L)	D.O. (%)	Temp (°C)	Conductivity (µmhos/cm)	Turbidity (NTU)

*pH of preserved sample: number of drops of sulfuric acid added in field to achieve pH of less than 2:
Samples immediately placed on ice?

Yes No

WEATHER CONDITIONS: (circle) raining, clear, partly cloudy, windy

PERSONNEL ON SITE: Andrew Wyatt Connor Hayden

REMARKS: sample collected forward of weir

SURFACE WATER FIELD SHEET
Station Information



STATION ID:	LAKE 14
LOCATION:	WEST SIDE OF LAKE (OUTFALL STRUCTURE AREA) FORWARD OF WEIR
DATE/TIME:	6/30/21 1625
ALL TIMES ARE:	<u>ETZ</u> or CTZ (circle one)

WATERBODY TYPE: (Circle One)	<u>Small Lake (>4 and <10HA)</u> (collect samples in middle of open water)	Large Lake (>10HA) (collect samples at selected location point)
	Small Stream (collect samples in representative area)	Large River (collect samples in representative area)

Water Characteristics

TOTAL WATER DEPTH: (Average of 2 measurements)	1.83 (feet)	Sample Depth:	1.0 (feet)
STREAM FLOW: (Circle One if applicable)	<u>No Flow</u> Flow within Banks	Flood Conditions	
WATER LEVEL: (Circle One)	Low <u>Normal</u> High	Dipper Other _____	
WATER SAMPLE COLLECTION DEVICE (Circle One)	Van Dorn <u>Direct Grab with Sample Bottle</u>		

Field Measurements		Field Measurements					
		Meter ID#		Read By: (Initials)			
Time (24 hr.)	Surface Depth Collected (feet)	pH* (SU)	D.O.(mg./L)	D.O. (%)	Temp (°C)	Conductivity (µmhos/cm)	Turbidity (NTU)
1625	1.0	8.28	4.21 3.58	54.1	28.6	1223	2.60
Time (24 hr.)	Bottom Depth Collected (feet)	pH (SU)	D.O.(mg./L)	D.O. (%)	Temp (°C)	Conductivity (µmhos/cm)	Turbidity (NTU)

*pH of preserved sample: number of drops of sulfuric acid added in field to achieve pH of less than 2:
Samples immediately placed on ice? Yes No

WEATHER CONDITIONS: (circle) raining, clear, partly cloudy, windy

PERSONNEL ON SITE: Andrew Wyatt, Connor Maydon

REMARKS: sample collected forward of weir

SURFACE WATER FIELD SHEET
Station Information



STATION ID:	LAKE 32
LOCATION:	CENTER OF LAKE / FORWARD OF WEIR
DATE/TIME:	6/30/21 1100
ALL TIMES ARE:	<input checked="" type="radio"/> ETZ or <input type="radio"/> CTZ (circle one)

WATERBODY TYPE: (Circle One)	<input checked="" type="radio"/> Small Lake (>4 and <10HA) (collect samples in middle of open water)	<input type="radio"/> Large Lake (>10HA) (collect samples at selected location point)
	<input type="radio"/> Small Stream (collect samples in representative area)	<input type="radio"/> Large River (collect samples in representative area)

Water Characteristics

TOTAL WATER DEPTH: (Average of 2 measurements)	2.98 (feet)	Sample Depth:	1.5 (feet)
STREAM FLOW: (Circle One if applicable)	No Flow	<input checked="" type="radio"/> Flow within Banks	<input type="radio"/> Flood Conditions
WATER LEVEL: (Circle One)	Low	<input checked="" type="radio"/> Normal	High
WATER SAMPLE COLLECTION DEVICE (Circle One)	Van Dorn	<input checked="" type="radio"/> Direct Grab with Sample Bottle	Dipper Other _____

Field Measurements		Meter ID#		Field Measurements			
Time (24 hr.)	Surface Depth Collected (feet)	pH* (SU)	D.O.(mg./L)	D.O. (%)	Temp (°C)	Conductivity (µmhos/cm)	Turbidity (NTU)
1100	1.5	8.27	5.71	71.8	29.1	505	3.28
Time (24 hr.)	Bottom Depth Collected (feet)	pH (SU)	D.O.(mg./L)	D.O. (%)	Temp (°C)	Conductivity (µmhos/cm)	Turbidity (NTU)

*pH of preserved sample: number of drops of sulfuric acid added in field to achieve pH of less than 2:
Samples immediately placed on ice? Yes No

WEATHER CONDITIONS: (circle) raining, clear, partly cloudy, windy

PERSONNEL ON SITE: Andrew Wyatt, Connor Hayden

REMARKS: sample collected forward of weir

SURFACE WATER FIELD SHEET
Station Information



STATION ID:	LAKE 5
LOCATION:	CENTER OF WEST END OF LAKE
DATE/TIME:	6/30/21 1130
ALL TIMES ARE:	<u>ETZ</u> or CTZ (circle one)

WATERBODY TYPE: (Circle One)	Small Lake (>4 and <10HA) (collect samples in middle of open water)	Large Lake (>10HA) (collect samples at selected location point)
	Small Stream (collect samples in representative area)	Large River (collect samples in representative area)

Water Characteristics

TOTAL WATER DEPTH: (Average of 2 measurements) (Circle One if applicable)	<u>NM</u> (feet)	Sample Depth:	<u>Surface</u> (feet)
STREAM FLOW:	<u>No Flow</u>	Flow within Banks	Flood Conditions
WATER LEVEL:	(Circle One)	Low	<u>Normal</u> High
WATER SAMPLE COLLECTION DEVICE (Circle One)	Van Dorn	<u>Direct Grab with Sample Bottle</u>	Dipper Other _____

Field Measurements

Meter ID#

Field Measurements

Read By: (initials)

Time (24 hr.)	Surface Depth Collected (feet)	pH* (SU)	D.O.(mg./L)	D.O. (%)	Temp (°C)	Conductivity (µmhos/cm)	Turbidity (NTU)
<u>1130</u>	<u>Surface</u>	<u>9.26</u>	<u>4.48</u>	<u>59.4</u>	<u>30.2</u>	<u>389</u>	<u>1.94</u>
Time (24 hr.)	Bottom Depth Collected (feet)	pH (SU)	D.O.(mg./L)	D.O. (%)	Temp (°C)	Conductivity (µmhos/cm)	Turbidity (NTU)

*pH of preserved sample: number of drops of sulfuric acid added in field to achieve pH of less than 2:

Samples immediately placed on ice?

Yes No

WEATHER CONDITIONS: (circle) raining, clear, partly cloudy, windy

PERSONNEL ON SITE: Andrew Wyatt, Connor Hayden

REMARKS: sample collected from water surface near edge

Laboratory Data Compliance Memo



Memorandum

August 26, 2021

To: Mr. Bruce Bernard
Manager of Field Operations
Calvin, Giordano & Associates, Inc.
1800 Eller Drive, Suite 600
Fort Lauderdale, FL 33316

Ref. No.: 11225022

From: Sheri Finn/ro/3-NF

Tel: 716-205-1977

**Subject: Analytical Results Compliance Report
Surface Water Quality Monitoring
Treviso Bay
Naples, Florida
June 2021**

1. Compliance Review

Samples were collected in June 2021 in support of the Treviso Bay Surface Water Quality Monitoring sampling. The analytical results are summarized in Table 1. All samples were prepared and analyzed within the method required holding times. The method blank results were non-detect. All reported laboratory control sample (LCS) analyses demonstrated acceptable accuracy. Laboratory duplicate analyses were performed for some analytes. All results were acceptable, indicating good analytical precision. The matrix spike (MS) results were evaluated per the laboratory limits. The MS analyses performed were acceptable, demonstrating good analytical accuracy.

Based on this compliance review, the results in Table 1 are acceptable for use.

Table 1

**Analytical Results Summary
Surface Water Quality Monitoring
Treviso Bay, Naples, Florida
June 2021**

Sample Location/Sample ID:		Lake 4					Lake 5					Lake 12				
Sample Date:		2/17/2020	6/4/2020	10/22/2020	03/04/2021	06/30/2021	2/17/2020	6/4/2020	10/22/2020	03/04/2021	6/30/2021	2/17/2020	6/4/2020	10/22/2020	03/04/2021	6/30/2021
Field Parameters	Units															
Total Water Depth	Feet	3	2.7	2.34	1.2	1.80	7	7.5	7.50	6.2	NM	1	1.95	2.30	2	2.24
Sample Depth	Feet	1.5	1.5	1.5	0.5	1	1.5	1.5	1.5	1.5	surface	overflow	surface	overflow	1.5	1.5
Conductivity, field	umhos/cm	908	1129	514	666	755	405	630	561	284	389	959	1382	658	583	817
Dissolved oxygen (DO), field	mg/L	6.07	4.36	2.78	3.50	3.82	9.25	4.46	6.72	5.60	4.48	10.03	5.25	2.69	5.69	8.65
Dissolved oxygen (DO), field	%	70.6	56.4	34.7	41.7	49.3	107.9	59.3	83.9	67.5	59.4	116.7	69.0	33.1	66.2	40.9
pH, field	s.u.	7.27	8.4	7.79	8.04	7.9	7.61	7.78	8.61	8.71	8.26	7.54	8.31	7.74	8.63	8.65
Temperature, field	Deg C	22.68	29.1	26.8	24.3	28.6	22.95	30.1	27.2	25.1	30.2	22.43	29.2	25.8	23.1	28.1
Turbidity, field	NTU	1.02	2.33	1.84	2.70	2.91	1.36	2.45	3.54	6.43	1.94	1.75	1.46	0.58	5.48	1.32
Secchi Disk	Depth															
Wet Parameters	Units															
Ammonia-N	mg/L	0.010 I	0.008 U	0.181	0.008 U	0.084	0.008 U	0.009 I	0.030 I	0.008 U	0.053	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U
TAN criteria calculation	mg/L	1.39	0.23	NS	NS	NS	1.04	0.54	NS	NS	NS	1.15	0.26	NS	NS	NS
Total kjeldahl nitrogen (TKN)	mg/L	0.651	0.812	1.19	0.870	0.431	0.654	0.750	1.04	0.828	0.638	0.708	0.710	0.927	1.85	0.570
Total nitrogen	mg/L	0.770	0.818	1.23	0.05 U	0.451	0.654	0.750	1.04	0.828	0.638	0.708	0.710	0.927	1.86	0.570
Nitrite/Nitrate	mg/L	0.119	0.006 I	0.043	0.130	0.020 I	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.008 I	0.006 U
Ortho phosphorus (Field Filtered)	mg/L	0.039	0.043	0.026	0.008	0.020	0.024	0.053	0.026	0.007 I	0.002 U	0.012	0.034	0.005 I	0.002 I	0.002 U
Total phosphorus	mg/L	0.046	0.045	0.024 I	0.084	0.022 I	0.044	0.063	0.027 I	0.014 I	0.008 U	0.020 I	0.040	0.011 I	0.047	0.008 U
Chlorophyll	mg/m3	4.58	10.4	4.87	18.4	7.73	6.71	8.71	9.27	6.17	9.17	5.55	5.55	2.19	34.9	10.3
Total suspended solids (TSS)	mg/L	1.75 I	3.00	2.20 I	0.570 U	1.93 I	5.00	2.25 I	6.20	4.80	1.00 I	1.25 I	1.50 I	0.769 I	124	0.570 U
Biochemical oxygen demand (total BOD5)	mg/L	1 U	1.0 U	1 U	1.08 I	1 U	1.11 I	1.0 U	1.49 I	1.11 I	1 U	1 U	1.0 U	1 U	4.07	1 U

Table 1

**Analytical Results Summary
Surface Water Quality Monitoring
Treviso Bay, Naples, Florida
June 2021**

Sample Location/Sample ID:		Lake 14					Lake 22					Lake 32				
Sample Date:		2/17/2020	6/4/2020	10/22/2020	03/04/2021	6/30/2021	2/17/2020	6/4/2020	10/22/2020	03/04/2021	6/30/2021	2/17/2020	6/4/2020	10/22/2020	03/04/2021	6/30/2021
Field Parameters	Units															
Total Water Depth	Feet	2.5	2.41	2.81	2.2	1.83	3	2.27	2.74	2.6	3.58	3	3.28	3.87	2.3	2.98
Sample Depth	Feet	1.5	1.5	1.5	1.5	1	1.5	surface	overflow	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Conductivity, field	umhos/cm	14.67	2066	999	967	1223	656	1057	453	450	978	426	680	298	296	508
Dissolved oxygen (DO), field	mg/L	5.79	4.36	5.45	4.13	4.31	8.62	5.96	4.20	5.14	3.83	8.4	4.27	6.44	5.08	5.71
Dissolved oxygen (DO), field	%	66.7	57.6	67.8	48.8	54.1	99.6	52.6	54.0	61.0	45.7	99.5	56.3	80.3	61.0	71.8
pH, field	s.u.	7.71	8.33	8.44	8.55	8.28	7.73	8.28	8.27	8.76	7.98	8.15	8.15	8.16	8.49	8.27
Temperature, field	Deg C	22.04	29.6	26.4	23.7	28.6	22.42	29.9	26.8	24.4	28.1	23.8	29.7	27.0	24.7	29.1
Turbidity, field	NTU	2.07	7.06	3.44	2.83	2.60	1.17	1.06	1.52	1.38	2.21	0.47	2.75	3.31	9.56	3.28
Secchi Disk	Depth															
Wet Parameters	Units															
Ammonia-N	mg/L	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U	0.026 I	0.008 U	0.008 U	0.008 U	0.008 U	0.045	0.008 U	0.008 U
TAN criteria calculation	mg/L	0.99	0.25	NS	NS	NS	0.94	0.27	NS	NS	NS	0.49	0.33	NS	NS	NS
Total kjeldahl nitrogen (TKN)	mg/L	0.816	0.926	1.35	0.908	0.750	0.648	1.05	1.23	0.807	0.678	0.483	0.897	1.65	0.791	0.639
Total nitrogen	mg/L	0.816	0.926	1.35	0.908	0.750	0.648	1.05	1.23	0.807	0.678	0.483	0.897	1.67	0.791	0.639
Nitrite/Nitrate	mg/L	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.018 I	0.006 U	0.006 U
Ortho phosphorus (Field Filtered)	mg/L	0.007 I	0.031	0.004 I	0.002 U	0.002 U	0.005 I	0.019	0.007 I	0.002 U	0.002 U	0.018	0.035	0.008	0.002 I	0.002 U
Total phosphorus	mg/L	0.029 I	0.044	0.025 I	0.020 I	0.008 U	0.024 I	0.027 I	0.030 I	0.008 U	0.008 U	0.022 I	0.058	0.041	0.010 I	0.013 I
Chlorophyll	mg/m3	8.51	10.3	11.7	5.95	16.0	4.31	5.00	6.48	2.34	4.06	2.00	7.08	7.29	3.73	11.8
Total suspended solids (TSS)	mg/L	4.50	3.75	7.50	4.40	3.60	1.00 I	3.00	2.25 I	1.60 I	0.570 U	0.750 I	5.25	4.00	1.20 I	3.40
Biochemical oxygen demand (total BOD5)	mg/L	1.55 I	1.0 U	2.32 I	1.59 I	1.03 I	1 U	3.00	1.00	1 U	1 U	1 U	1.0 U	1.25 I	1 U	1 U

Notes:

- U - Not detected at the associated reporting limit
- I - Reported value is between method detection limit and the practical quantitation limit
- NS - Not sampled during noted event
- * - DO values at or above 100% are possible super-saturation conditions due to high water temperatures and/or high volume of algae.