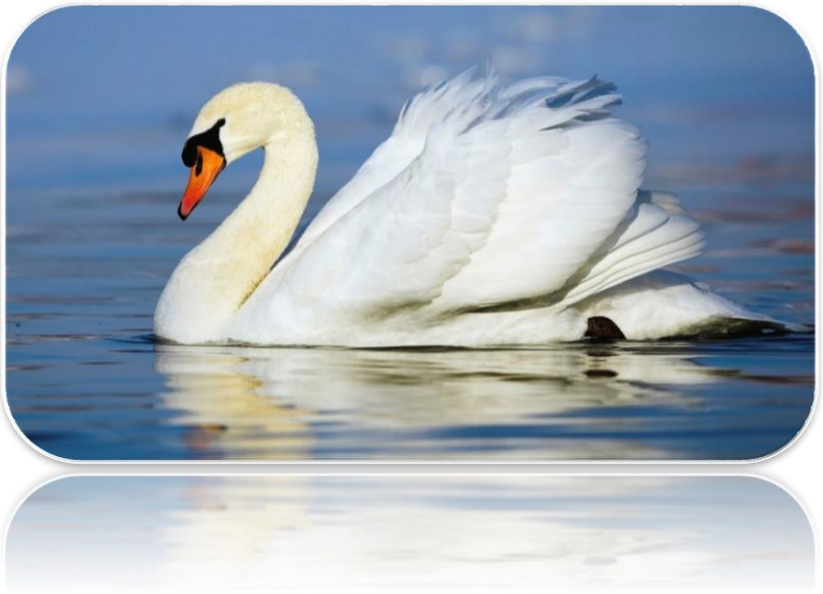
MIROMAR LAKES COMMUNITY DEVELOPMENT DISTRICT



AGENDA

MAY 12, 2022

PREPARED BY:

JPWARD & ASSOCIATES, LLC, 2301 NORTHEAST 37TH STREET, FORT LAUDERDALE, FL 33308

T: 954-658-4900 **E:** JimWard@JPWardAssociates.com

Miromar Lakes Community Development District

May 5, 2022

Board of Supervisors

Miromar Lakes Community Development District

Dear Board Members:

The regular meeting of the Board of Supervisors of the Miromar Lakes Community Development District will be held on **Thursday, May 12, 2022,** at **2:00 P.M.** in the Library at the **Beach Clubhouse, 18061 Miromar Lakes Parkway, Miromar Lakes, Florida 33913.**

The following WebEx link and telephone number are provided to join/watch the meeting remotely.
https://districts.webex.com/districts/onstage/g.php?MTID=e7af3dbd9d442f73691a59af352d5ee1f
Access Code: **2334 214 3605**, Event Password: **Jpward**
Phone: **408-418-9388** and enter the access code **2334 214 3605** to join the meeting.

Agenda

1. Call to Order & Roll Call.

2. Consideration of Minutes:
   I. April 13, 2022 – Regular Meeting.

3. Staff Reports.
   I. District Attorney.
   II. District Engineer.
      a. Stormwater Reporting Update.
   III. District Asset Manager.
      a. Operations Report May 1, 2022.
      b. Miromar Lakes Water Quality Sampling Report – February 2022.
      c. Solitude Lake Management – Fisheries Report.
   IV. District Manager
      a. Reminder: Notice of Qualified Elector Election – Seat 1, Mike Weber, Seat 2, Doug Ballinger, and Seat 3, Alan Refkin.
      b. Report on Number of Registered Voters as of April 15, 2022.
      c. Financial Statement for period ending April 30, 2022 (unaudited).

4. Supervisor's Requests and Audience Comments.

5. Adjournment.

The first order of business is the call to order & roll call.

The second order of is the consideration and approval of the April 13, 2022, Regular Meeting.

The third order of business is consideration are the staff reports by the District Attorney, District Engineer, and District Asset Manager, including the Operations Report, dated May 1, 2022, and Fisheries Report by Solitude Lake Management Report.

The District Manager shall report on: (i)Financial Statements for the period ending March 31, 2022 (unaudited); and (ii) a reminder of the upcoming qualified elector election (conducted by the Supervisor of Elections of Collier County) in November 2022, during which three (3) seats (Seat 1, Mike Weber, Seat 2, Doug Ballinger, and Seat 3, Alan Refkin) are available.

The fourth order of business is Supervisors' Requests and Audience Comments.

The balance of the agenda is standard in nature, and I look forward to seeing you at the meeting. If you have any questions and/or comments before the meeting, please do not hesitate to contact me directly at (954) 658-4900.

Sincerely yours,

Miromar Lakes Community Development District

James P Ward

James P. Ward
District Manager

Meetings for Fiscal Year 2022 are as follows:

	May 12, 2022
June 9, 2022	July 14, 2022
August 11, 2022	September 8, 2022

MINUTES OF MEETING
MIROMAR LAKES
COMMUNITY DEVELOPMENT DISTRICT

The Regular Meeting of the Board of Supervisors of Miromar Lakes Community Development District was held on Wednesday, April 13, 2022, at 4:00 p.m. at the Library in the Beach Clubhouse, 18061 Miromar Lakes Parkway, Miromar Lakes, Florida 33913.

Present and constituting a quorum:

Alan Refkin	Chair
Doug Ballinger	Assistant Secretary
Patrick Reidy	Assistant Secretary
Mary LeFevre	Assistant Secretary

Absent:

Michael Weber	Vice Chair

Also present were:

James P. Ward	District Manager
Greg Urbancic	District Attorney
Charlie Krebs	District Engineer
Bruce Bernard	Asset Manager
Tim Byal	
Andrew Gill	

Audience:

All resident's names were not included with the minutes. If a resident did not identify themselves or the audio file did not pick up the name, the name was not recorded in these minutes.

FIRST ORDER OF BUSINESS **Call to Order/Roll Call**

District Manager James P. Ward called the meeting to order at approximately 4:00 p.m. He conducted roll call; all Members of the Board were present, with the exception of Supervisor Weber, constituting a quorum.

SECOND ORDER OF BUSINESS **Notice of Advertisement of Meeting**

Notice of Advertisement of Regular Meeting.

THIRD ORDER OF BUSINESS **Consideration of Minutes**

March 10, 2022 – Regular Meeting

Mr. Ward asked if there were any additions, corrections, or deletions to these Minutes; hearing none, he called for a motion.

On MOTION made by Ms. Mary LeFevre, seconded by Mr. Doug Ballinger, and with all in favor, the March 10, 2022, Regular Meeting Minutes were approved.

FOURTH ORDER OF BUSINESS Consideration of Resolution 2022-6

Consideration of Resolution 2022-6, a resolution of the Board of Supervisors approving the Proposed Budget for Fiscal Year 2023 and Setting a Public Hearing for Thursday, June 9, 2022, at 2:00 P.M. at the Beach Clubhouse, 18061 Miromar Lakes Parkway, Miromar Lakes, Florida 33913 on the Proposed Budget

Mr. Ward explained Resolution 2022-6 began the process with respect to the 2023 Budget. He explained this approved the budget and gave the Board the opportunity to set a public hearing. He noted the public hearing would be on July 14, 2023 (not June 9), at 2:00 p.m. at the Clubhouse. He noted the budget could be changed moving through the process; however, he recommended making changes prior to the public hearing as at the public hearing the Budget would be adopted and making changes would be difficult. He explained if the budget were approved today, the Board could lower expenses or take away programs, but the budget could not go up. He reviewed budget highlights: the new bond series, debt service fund, and reduction in the assessment rates; general fund changes, overall budget increases, $50,000 dollars for fish installment, and various capital programs. He noted a change would be made to the unit counts on the unplatted remaining units; the number of units would go down by 70 units which would increase assessments by $25 or $30 dollars. He stated the reserves would remain the same, the contingency would remain the same, and $50,000 dollars would be added for snails, midge flies, and fish, etc.

Discussion ensued regarding a couple of spelling errors in the budget.

Mr. Pat Reidy asked if the Budget took inflation into account. He recommended increasing certain budget items to account for inflation. He asked about asset management needs.

Mr. Ward stated he did not necessarily account for inflation in the budget; however, he asked Bruce Bernard to provide new estimates regarding program costs which were incorporated into the budget.

Mr. Bernard noted there was only one formal bid service, for the aquatics and the wetlands, and their increase this year was 3% which was in the budget. He noted the cane toad and midge fly treatments were hourly, and this rate had not changed.

Mr. Alan Refkin asked if Mr. Urbancic or Mr. Krebs expected their respective hourly rates to remain stable.

Mr. Greg Urbancic responded if there were a change it would be moderate; however, at this point he did not expect any changes.

Mr. Charlie Krebs responded in kind.

Mr. Refkin stated Mr. Reidy had an excellent point; inflation needed to be taken into account during budget consideration.

Mr. Reidy discussed the upcoming increasing cane toad problems. He stated he was concerned service costs for cane toads and other nuisance pest relief program costs would increase.

Mr. Bernard stated the cane toad service came in three times a week and treated for cane toads; Miromar's cane toad service did the same; between the two companies the area was treated for cane toads six times a week. He stated he did not foresee an increase in cane toad service rates. He noted cane toad complaints so far this year were reduced.

Discussion ensued regarding cane toad rates; and increasing budget items and cash reserves.

Mr. Doug Ballinger asked when the electrofishing report would be ready.

Mr. Bernard responded this would be ready for the next Board Meeting.

Mr. Reidy asked as the budget could be decreased over the next few months, should an extra $50,000 dollars be added to the budget today which could be removed before the public hearing if it were deemed unnecessary. He noted it was difficult to prepare a budget 6 to 8 months before the start of the fiscal year.

Mr. Ward stated he could add $50,000 to the budget as a place holder item until next Meeting when the electrofishing report was reviewed.

Mr. Reidy indicated he liked this idea.

Mr. Refkin agreed.

Ms. Mary LeFevre asked how much an additional $50,000 dollars would increase assessments.

Discussion ensued regarding the assessments; it was noted the assessments could go up $60 dollars per unit with the reduction in units and the addition of $50,000 dollars to the budget.

Mr. Reidy asked about the cap rate.

Mr. Ward explained the cap rate was established a number of years ago; it was an assessment rate cap; if the assessment rate went over the cap rate the CDD had to send a mailed notice to the community prior to adopting the new assessment.

Mr. Reidy stated he paid $570 dollars a year to the CDD for maintenance and management which he felt was very reasonable. He stated he felt even $1,000 dollars a year was a reasonable amount. He discussed the need to increase the budget as the community aged.

Mr. Ward stated he would add $50,000 dollars and make the changes to the unit counts. He asked if there were any questions; hearing none, he called for a motion.

On MOTION made by Mr. Alan Refkin, seconded by Mr. Doug Ballinger, and with all in favor, Resolution 2022-6 was adopted as amended, and the Chair was authorized to sign.

FIFTH ORDER OF BUSINESS Staff Reports

I. District Attorney

Mr. Urbancic reported on March 18, 2022, the Department of Justice (DOJ) made a statement regarding ADA accessibility with regard to websites. He stated the DOJ provided guidelines regarding this accessibility and he recommended the CDD's website IT provider review the website to ensure these guidelines were followed. He reported many of the bills he was watching died in committee during the last legislative session. He noted one bill which potentially changed advertising requirements passed. He explained the bill created a concept of a publicly accessible website; the County would be able to create a website for governments within the County to post notices. He stated he did not know whether Lee County would create this website, but if so, it would help the CDD save advertising costs.

II. District Engineer

a) Stormwater Reporting Update

Mr. Charlie Krebs reported the Stormwater Needs Analysis was nearly complete; he would have this ready for next month's Agenda.

III. Asset Manager

a) Operations Report April 1, 2022

Mr. Bruce Bernard reported the fishery (electrofishing) report would be presented at the next meeting. He stated the first treatment for the apple snails was completed; the second (and final) treatment would be done shortly.

Ms. LeFevre asked if the CDD had now decided apple snail management fell within the purview of the CDD.

Mr. Bernard stated he believed this would be the case as the apple snails were associated with the lakes and the rip rap. He noted the snails on the dock pylons could be considered the homeowners responsibility, but it was simpler for the CDD to manage the problem globally as opposed to expecting all homeowners to each spray their respective properties.

Mr. Refkin asked at what point did the CDD take responsibility for addressing invasive species as opposed to one of the HOAs. He noted he understood the need for the CDD to manage cane toads and midge flies. He suggested setting guidelines regarding at which point the CDD became responsible for such things.

Ms. LeFevre stated it was important to determine what the CDD's responsibilities were. She indicated she understood the CDD was responsible for the waterways, shoreline, and public property not otherwise managed by the HOA.

Mr. Refkin added he understood the damage caused by the cane toads and midge flies, but he wondered what damage the snails would cause and how many snails there actually were.

Discussion ensued regarding the snails eating wetland plantings, the quantity of snails and how much damage said quantity might realistically cause.

Mr. Bernard explained the first year the cane toads were seen, not much was known about them and not very many were seen; however, the next year the number of cane toads doubled. He stated the same could happen with the snails. He stated the thought was to nip this problem in the bud before it got out of hand. He noted if the District could get the fishery right, the snail problem would be solved out of hand.

Mr. Tim Byal stated he did not believe the HOA could do the same job the CDD did as related to the lakes. He stated the CDD was better equipped to deal with these types of problems. He stated at the end of the day, the HOA took care of the landscaping, amenity, and privacy. He noted anything outside this realm was better handled by the CDD.

Discussion ensued regarding the snails, the fishery, the lakes, and the CDD's purview.

Mr. Refkin asked about the snail treatment cost.

Mr. Bernard responded the snail treatment cost was $1,000 dollars per spray; so, $2,000 dollars total. He noted the treatment would need to be repeated whenever the snails returned as the treatment was not preventative. He stated the cost could change depending upon the number of snails and snail location.

Discussion continued regarding the snails; a proper fishery solving multiple community problems; and the incoming new units and property.

Discussion ensued regarding an easement donated by the CDD years ago for a road to be built from Corkscrew to Alico; FGCU abandoning use of the access provided by the CDD but being reluctant to return the easement.

Mr. Bernard stated rip rap repair and maintenance continued. He noted one resident was transferring rip rap to the CDD and another resident was considering installing rip rap and doing the same.

IV. District Manager

a) Notice of Qualified Elector Election – Seat 1, Mike Weber, Seat 2, Doug Ballinger, and Seat 3, Alan Refkin

b) Financial Statement for period ending March 31, 2022 (unaudited)

Mr. Ward stated three seats were coming up for election: Seat 1, Mike Weber, Seat 2, Doug Ballinger, and Seat 3, Alan Refkin. He discussed the qualifying and election process.

Discussion ensued regarding past elections, qualifying, and the election process.

SIXTH ORDER OF BUSINESS **Supervisor's Requests and Audience Comments**

Mr. Ward asked if there were any Supervisor's Requests; there were none. He asked if there were any members of the audience present in person, or by audio or video, with any questions or comments; there were none.

SEVENTH ORDER OF BUSINESS **Adjournment**

Mr. Ward adjourned the meeting at approximately 4:45 p.m.

On MOTION made by Mr. Doug Ballinger, seconded by Mr. Pat Reidy, and with all in favor, the meeting was adjourned.

Miromar Lakes Community Development District

_____ _____

James P. Ward, Secretary **Alan Refkin, Chairman**

Calvin, Giordano & Associates, Inc.
EXCEPTIONAL SOLUTIONS™

Miromar Lakes CDD

Date: May 1, 2022

To: James P. Ward- District Manager

From: Bruce Bernard - Field Asset Manager

Subject: CDD Monthly Report –April 2022, Report

CGA P.N.: 13-5692

Lake Maintenance

The CDD's aquatic / lake maintenance vendor, Solitude Lake Management (Solitude), sprayed on two occasions this month in the cove area of Vivaldi and Ana Capri for apple snails. The contractor also completed the midge fly spraying at the end of April 2022.

Solitude's David Beasley will be presenting the revised fishery plan to the Board of Supervisors at the May board meeting after completion of the electrofishing of Lake 5/6 north to gather additional information on the existing fish species within the lake.

Dragonfly Pond Services completed Geo-Tube installation within the cove at Portofino and Valencia non-residential location. Contractor will be working on two golf course locations in May 2022 installing Geo-Tubes along lake bank slopes.

Both Wild Things and Scott's Animal Service have reported increases in toad larvae and cane toads present in and around the lakes. Both contractors are within the community several times each week working on a schedule of the subdivisions to check each week.

Stormwater Management

CDD stormwater vendor (MRI) will begin cleaning Phase 1 of the three-year Drainage Maintenance Program. Locations within this year's programs are Golf Course Interconnects, Porta Romano, Miromar Lakes Blvd, Montelago, Miromar Beach Club and Parking Lot, Verona Lago, Valencia, Bellavista, Siena.

1800 Eller Drive
Suite 600
Fort Lauderdale, FL 33316
954.921.7781 phone
954.921.8807 fax

www.cgasolutions.com

Calvin, Giordano & Associates, Inc.
EXCEPTIONAL SOLUTIONS™

The cost estimate for the phase 1 drainage structure cleaning was $18,000 above the stormwater structure cleaning budget this year. The cost difference was within the Verona Lago subdivision, were we need to do repairs in several catch basins due to tree roots penetrating the drainage structures and at the Beach Club House parking lot that needs the lines between the basins to vacuumed to remove excess sand and organic material within the stormwater drainage pipes. The staff has identified funds within the existing budget that will cover the overage in the stormwater structures line item. The funding will come from the following line items accounts -aeration systems, lake bank maintenance, and erosion restoration to enable this drainage work to be completed within this fiscal year.

1800 Eller Drive
Suite 600
Fort Lauderdale, FL
33316
954.921.7781 phone
954.921.8807 fax

www.cgasolutions.com

2675 Winkler Ave, STE 180
Fort Myers, Florida 33901
USA
www.ghd.com

Our ref: 11225022-04

14 April 2022

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

Miromar Lakes Water Quality Sampling Report – February 2022

Dear Mr. Bernard

GHD Services Inc. (GHD) is pleased to present the results of our water quality sampling services for Lakes 3 and 6 – Miromar Lakes.

1. Water Quality Sampling – February 2022

The February 2022 sampling event consisted of the collection of surface water samples from a total of five (5) test locations (WQ #1 through #4 and #6) from Lake 6 – Miromar Lakes, and one (1) location (WQ #5) at the outfall of Lake 3 within the Miromar Lakes Golf Club as identified on **Figure 1**. As discussed in May 2019, due to limitations of the lake depth at the weir location (i.e. WQ #3) and the potential for disturbance of sediments impacting the sample results, the sample collected at a depth of 36 inches was moved to a deeper area of the lake, at the west entrance to the east-west canal that discharges at the weir, and renamed to WQ Location #6. The February 2022 sampling event represents the eighth sampling event for the new WQ Location #6.

The sampling plan includes sample collection at the following locations and depths:

Sample Identification	Sampling Location	Sample Depth
WQ Location #1	Rip Rap in front of the Miromar Lakes Pkwy Bridge	18 inches
WQ Location #2	Mouth of Canal (west of Via Portofino Way)	18 inches
WQ Location #3A	Back of Weir (southeast of Via Navona Way)	18 inches
WQ Location #4	Beach front (east of the Miromar Lakes Pkwy & Montlelago Ct.)	18 inches
WQ Location #5	Lake 3 Outfall within the Miromar Lakes Golf Club	18 inches
WQ Location #6	Front of Weir (southeast of Via Navona Way)	36 inches

Conductivity, dissolved oxygen, pH, and temperature were measured in the field with a calibrated YSI Model 556 multi-parameter water quality meter. Turbidity and total water depth were measured. Water clarity/transparency (i.e. Secchi depth) was also observed using a Secchi disk. Surface Water Field Sheets are attached. Field data is summarized in the Table in the **Laboratory Data Compliance Memo**.

Samples are collected using direct-dip sampling methods. The 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 February 2022 sampling event were prepared and analyzed within the method required holding times. The laboratory data has been reviewed with respect to authenticity, precision, limits of detection, and accuracy of the data. The laboratory analytical results are summarized in the attached **Laboratory Data Compliance Memo.** The laboratory report is also attached.

Trend graphs have been prepared for each monitor location for laboratory analytical results and select field measurements. The trend graphs include water quality action levels for select parameters as developed and presented in the Lake Management Plan for Miromar Lakes. GHD recommends that if a single measurement exceeds an action level the District notify their lake maintenance contractor to inspect the lake(s) for evidence of potential algal blooms and treat as needed. If a subsequent measurement exceeds an action level, it is recommended the District investigate potential reasons behind the change and take appropriate action(s) as applicable based on the findings.

2. Analytical Summary

It appears that between the prior sampling event in October 2021 and the recent sampling event conducted on February 17, 2021:

- BOD5 levels remained consistent except for at WQL #1 and #3A which slightly decreased;
- Dissolved Oxygen and DO% results varied, but remained relatively constant according to historical trends;
- TKN and Total Nitrogen remained constant at all 6 sampling locations;
- Orthophosphorus and Total Phosphorous remained relatively constant at all locations;
- Total Suspended Solids and turbidity remained relatively constant at all locations;
- Chlorophyll-a results remained constant except at WQL #5 which decreased to 16.5 mg/L, a decrease back under the action level from last sampling event;
- pH at almost all locations increased, except for WQL #5, which slightly decreased;

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%. All sample locations had relatively consistent dissolved oxygen levels at the last sampling event. WQL #1 and #5 have held a slightly downward trend over the last 2 sampling events. We will monitoring future trends at this location. The dissolved oxygen fluctuates throughout the year with apparent lows during the latter part of the year (e.g. September to December months). GHD recommends the District notify their lake maintenance contractor to continue to watch for evidence of algal blooms during these time periods.

The pH at the monitoring locations generally remains consistent over time. Although the pH fluctuates, the pH typically remains within the upper and lower action levels. The pH during this month's sampling event increased at all locations, with this highest result, WQL #1, being at the upper limit of 8.5.

The concentrations of chlorophyll-a were below the action level at all sample locations this month. It appears chlorophyll-a is elevated in Lake 3 during the monitor events conducted in warmer months of the year. This month's results were consistent with historical levels.

During the February 2022 monitoring event, the concentrations of total phosphorous varied, but remained consistent with historical levels, all being below the lower action level limit.

During the February 2022 sampling event, the concentrations of orthophosphate remained mostly consistent with historical levels, all below the action level limit. The orthophosphate at all sample locations slightly decreased this month, except for WQL #1, which slightly increased.

During the February 2022 sampling event, the concentrations of orthophosphate remained mostly consistent with historical levels, all below the action level limit. The orthophosphate at all sample locations slightly decreased this month, except for WQL #1, which slightly increased.

While the total nitrogen has fluctuated in the past, it has remained below the action levels. Total nitrogen remained relatively consistent at most sample locations during the February 2022 monitoring event, except for WQL #5 and #6, which showed a slight increase. This month's results were consistent with historical levels.

While turbidity has fluctuated in the past, the observed turbidity generally has stayed well below the action level and remained consistent with historical levels this month.

Based on historical data, it appears that BOD tends to be elevated during April/May. While the BOD fluctuates, including detections above the action level, the BOD generally does not remain above its action level for more than one monitoring event. This month, BOD at all sample locations were below the action level and relatively stable.

During the months of April/May, particularly at Lake 3, the lake maintenance contractor may need to inspect the lakes more often for evidence of potential algal blooms and treat as needed.

The conductivity at the monitoring locations fluctuates throughout the year but generally remain similar to other monitoring locations with the exception of WQL #5. The WQL #5 location is at the weir of the Lake 3 on the golf course, whereas the other sample locations are from Lake 6 in the residential development area. Therefore, the variation from WQL #5 to the other locations is not unexpected. The conductivity at WQL #5 is generally higher than the conductivity at the other monitoring locations. This may be caused by high levels of recent rain diluting the isolated water.

While the total suspended solids (TSS) have fluctuated, it generally remains below the action level. The results from February 2022 were consistent with historical trends and below the action level.

3. Conclusions and Recommendations

It appears water quality conditions have improved between October 2021 and February 2022, with mostly consistent results.

Even with the pH at the upper action limit at WQL #1, parameters like total nitrogen, total phosphorous and chlorophyll-a have not risen at this location. Therefore, there do not appear to be water quality concerns at this time.

The next tri-annual sampling event is planned for August 2022.

Please call if you have questions or need additional information.

Regards

Connor Haydon
Environmental Engineer

239-292-0341
Connor.haydon@ghd.com

Lori Coolidge
Principal Geologist

813-476-9940
Lori.coolidge@ghd.com

Encl: Attachments: Laboratory Data Compliance Memo
Figure
Trend Graphs

Laboratory Analytical Reports
Surface Water Field Sheets

Laboratory Data Compliance Memo

Technical Memorandum

April 01, 2022

To	Mr. Bruce Bernard Manger of Field Operations Calvin, Giordano & Associates, Inc. 1800 Eller Drive, Suite 600 Fort Lauderdale, FL 33316	**Tel**	716.205.1977
From	Sheri Finn/ro/10-NF	**Ref. No.**	11225022
Subject	Analytical Results Compliance Report Surface Water Quality Monitoring Miromar Lakes Fort Myers, Florida February 2022		

1. Compliance Review

Samples were collected in February 2022 in support of the Miromar Lakes 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.

Regards

Sheri Finn
Analyst

Table 1

Analytical Results Summary
Surface Water Quality Monitoring
Miromar Lakes, Fort Myers, Florida
February 2020

Sample Location/Sample ID:		WQ Location #1 / WQL1										
Sample Date:		**04/27/16**	**08/03/16**	**10/31/16**	**01/31/17**	**05/04/17**	**08/02/17**	**12/06/17**	**04/26/18**	**08/22/18**	**12/11/18**	**04/16/19**
Field Parameters	**Units**											
Total Water Depth	Feet	7.66	NS	6.1	5.83	3.5	6.2	4.89	2.90	5.7	4.95	6.83
Sample Depth	Feet	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Conductivity, field	umhos/cm	408	353	387	369.3	405	413.1	348.2	407.3	354.6	312.7	387.3
Dissolved oxygen (DO), field	mg/L	8.03	5.91	7.53	8.13	7.95	5.91	6.95	6.89	7.39	8.54	6.49
Dissolved oxygen (DO), field	%	100.9*	79.3	89.4	88.5	101.6	79.6	83.0	87.6	98.9	96.0	80.9
pH, field	s.u.	8.44	8.19	7.92	8.13	7.97	8.23	8.08	8.37	8.24	8.31	8.13
Temperature, field	Deg C	27.08	30.8	24	19.5	28.0	31	24.3	27.7	30.6	21.1	26.6
Turbidity, field	NTU	2.41	3.44	3.55	4.64	8.16	5.05	3.02	2.90	5.53	4.39	3.32
Secchi Disk	Depth	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Wet Parameters	**Units**											
Ammonia-N	mg/L	U	0.026 I	U	0.035	0.008 U	0.008 U	0.026 I	0.008 U	0.022 I	0.008 U	0.008 U
TAN criteria calculation	mg/L	0.24	0.29	0.67	0.66	0.48	0.27	0.52	0.26	0.27	0.45	0.42
Total kjeldahl nitrogen (TKN)	mg/L	0.626	0.878	0.911	0.968	0.611	0.580	0.629	0.551	0.565	0.632	0.619
Total nitrogen	mg/L	0.626	0.878	0.911	0.974	0.616	0.592	0.629	0.565	0.574	0.639	0.619
Nitrite/Nitrate	mg/L	U	U	U	0.006 I	0.005 I	0.012 I	0.004 U	0.014 I	0.009 I	0.007 I	0.006 U
Ortho phosphorus (Field Filtered)	mg/L	0.074	0.071	0.030	0.012	0.027	0.038	0.026	0.014	0.017	0.014	0.024
Total phosphorus	mg/L	0.087	0.091	0.068	0.038	0.027 I	0.041	0.121	0.017 I	0.018 I	0.026 I	0.034
Chlorophyll	mg/m3	5.91	7.32	7.86	11.1	8.42	9.27	5.25	10.1	10.1	6.92	3.72
Total suspended solids (TSS)	mg/L	2.35	3.49	4.80	7.00	7.80	6.15	3.67	3.67	4.00	4.20	1.20 I
Biochemical oxygen demand (total BOD5)	mg/L	0.706 I	U	U	1.06 I	1.40 I	1.05 I	1 U	1.16 I	2.72 I	1.85 I	1.24 I
Sample Location/Sample ID:		**WQ Location #2 / WQL2**										
Sample Date:		**04/27/16**	**08/03/16**	**10/31/16**	**01/31/17**	**05/04/17**	**08/02/17**	**12/06/17**	**04/26/18**	**08/22/18**	**12/11/18**	**04/16/19**
Field Parameters	**Units**											
Total Water Depth	Feet	7.43	NS	9.2	8.56	6	6.2	8.01	6.00	10.2	8.65	8.31
Sample Depth	Feet	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Conductivity, field	umhos/cm	422	359	384	385.7	414	435.0	638.9	417.0	363.7	321.2	411.8
Dissolved oxygen (DO), field	mg/L	7.67	5.55	7.12	8.05	7.87	6.21	6.58	6.95	7.52	9.90	6.88
Dissolved oxygen (DO), field	%	97.4	74.0	84.7	87.6	101.8	82.9	77.7	88.0	100.2	110.0	85.9
pH, field	s.u.	8.37	8.07	7.68	7.97	8.21	8.11	7.89	8.31	8.03	8.06	8.25
Temperature, field	Deg C	27.62	30.4	24.1	19.5	28.7	30.5	23.7	27.5	30.4	20.5	26.7
Turbidity, field	NTU	3.97	31.71	4.38	4.66	7.15	3.12	3.20	8.22	3.75	5.76	3.37
Secchi Disk	Depth	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Wet Parameters	**Units**											
Ammonia-N	mg/L	U	0.019 I	U	0.071	0.008 U	0.008 U	0.036	0.008 U	0.008 U	0.008 U	0.027
TAN criteria calculation	mg/L	0.26	0.36	0.90	0.84	0.32	0.34	0.71	0.30	0.38	0.69	0.34
Total kjeldahl nitrogen (TKN)	mg/L	0.745	1.15	0.888	1.04	0.507	0.641	0.710	0.675	0.613	0.693	0.606
Total nitrogen	mg/L	0.745	1.15	0.900	1.04	0.514	0.645	0.710	0.690	0.618	0.698	0.606
Nitrite/Nitrate	mg/L	U	U	0.012 I	U	0.007 I	0.004 I	0.004 U	0.015 I	0.005 I	0.006 I	0.006 U
Ortho phosphorus (Field Filtered)	mg/L	0.077	0.070	0.064	0.015	0.028	0.050	0.025	0.015	0.020	0.008	0.002 U
Total phosphorus	mg/L	0.079	0.087	0.066	0.031 I	0.054	0.065	0.042	0.023 I	0.008 U	0.009 I	0.008 U
Chlorophyll	mg/m3	6.59	7.28	8.08	11.7	7.76	7.13	5.42	8.35	9.06	8.80	5.28
Total suspended solids (TSS)	mg/L	4.21	3.90	4.60	7.20	6.60	2.60	3.60	8.00	1.00 I	4.67	3.80
Biochemical oxygen demand (total BOD5)	mg/L	0.778 I	U	U	1.33 I	1.13 I	1 U	1 U	1.36 I	1.89 I	1.10 I	1.40 I

Table 1

Analytical Results Summary
Surface Water Quality Monitoring
Miromar Lakes, Fort Myers, Florida
February 2020

Sample Location/Sample ID:		WQ Location #3A / WQL3A										
Sample Date:		**04/27/16**	**08/03/16**	**10/31/16**	**01/31/17**	**05/04/17**	**08/02/17**	**12/06/17**	**04/26/18**	**08/22/18**	**12/11/18**	**04/16/19**
Field Parameters	**Units**											
Total Water Depth	Feet	3.78	3.64	3.52	2.81	1.5	4.6	3.35	3.2	3.6	5.87	2.95
Sample Depth	Feet	1.5	1.5	1.5	1.5	1.0	1.5	1.5	1.5	1.5	1.5	1.5
Conductivity, field	umhos/cm	406	329	255	375.7	430	200.4	339	418.9	365.1	323	391.9
Dissolved oxygen (DO), field	mg/L	7.31	4.78	2.93	7.40	14.02	1.38	6.49	6.16	7.33	8.44	5.82
Dissolved oxygen (DO), field	%	91.8	62.9	34.3	81.5	198	17.42	76.4	78.2	97.9	94.3	72.7
pH, field	s.u.	8.44	8.0	6.99	7.96	9.32	6.91	7.97	8.15	8.13	7.53	8.21
Temperature, field	Deg C	27.0	29.7	23.2	20.1	33.7	27.3	23.5	27.6	30.5	20.8	26.7
Turbidity, field	NTU	7.64	78.77	3.48	5.42	86.9	2.99	3.05	3.94	3.63	4.20	2.20
Secchi Disk	Depth	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Wet Parameters	**Units**											
Ammonia-N	mg/L	U	0.029 I	0.044	0.027 I	0.008 U	0.008 U	0.009 I	U	0.023 I	0.008 U	0.008 U
TAN criteria calculation	mg/L	0.25	0.42	1.54	0.82	0.04	1.22	0.65	0.38	0.32	1.29	0.37
Total kjeldahl nitrogen (TKN)	mg/L	0.581	0.949	1.11	1.06	3.73	0.642	0.634	0.645	0.621	0.949	0.598
Total nitrogen	mg/L	0.581	0.949	1.13	1.06	3.73	0.650	0.634	0.658	0.626	0.954	0.598
Nitrite/Nitrate	mg/L	U	U	0.021	U	0.008 I	0.008 I	0.004 U	0.013 I	0.005 I	0.006 I	0.006 U
Ortho phosphorus (Field Filtered)	mg/L	0.073	0.012	0.051	0.012	0.018	0.029	0.031	0.016	0.020	0.025	0.014
Total phosphorus	mg/L	0.088	0.026 I	0.052	0.033	0.090	0.039	0.048	0.024 I	0.008 U	0.019 I	0.018 I
Chlorophyll	mg/m3	5.76	8.71	10.1	10.4	249	10.1	4.83	7.85	10.6	8.15	4.60
Total suspended solids (TSS)	mg/L	7.06	6.42	5.11	7.20	95.0	3.80	4.00	3.60	6.00	4.33	2.60
Biochemical oxygen demand (total BOD5)	mg/L	U	U	U	1.11 I	10.6	1.39 I	1 U	1.12 I	1.66 I	1.19 I	2.32 I
Sample Location/Sample ID:		**WQ Location #3B / WQL3B**										
Sample Date:		**04/27/16**	**08/03/16**	**10/31/16**	**01/31/17**	**05/04/17**	**08/02/17**	**12/06/17**	**04/26/18**	**08/22/18**	**12/11/18**	**04/16/19**
Field Parameters	**Units**											
Total Water Depth	Feet	3.78	4	3.52	2.98	2	4.6	6.94	3.2	3.6	5.87	3.50
Sample Depth	Feet	3	3	3	2.5	1.5	3	3.0	NS	3	3	3
Conductivity, field	umhos/cm	405	341	369	313.1	406	384.1	338.6	NS	354.5	322.4	391.3
Dissolved oxygen (DO), field	mg/L	7.32	6.22	6.82	6.58	8.46	5.59	5.87	NS	7.39	6.32	5.7
Dissolved oxygen (DO), field	%	91.1	82.8	81.2	67.9	109.3	74.0	68.8	NS	98.8	70.6	71.2
pH, field	s.u.	8.46	8.14	7.68	7.77	8.12	8.10	8.00	NS	8.18	8.08	8.22
Temperature, field	Deg C	26.55	30.3	24.1	16.9	28.6	30.0	23.3	NS	30.6	20.8	26.7
Turbidity, field	NTU	7.98	10.03	3.15	21.38	3.93	4.15	2.84	NS	26.26	7.10	2.17
Secchi Disk	Depth	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Wet Parameters	**Units**											
Ammonia-N	mg/L	U	0.15 I	U	0.097	0.008 U	0.008 U	0.028 I	NS	0.015 I	0.008 U	0.008 U
TAN criteria calculation	mg/L	0.24	0.32	0.90	1.29	0.37	0.35	0.63	NS	0.30	0.66	0.36
Total kjeldahl nitrogen (TKN)	mg/L	0.736	0.880	1.04	2.90	0.462	0.715	0.731	NS	0.757	0.722	0.683
Total nitrogen	mg/L	0.744	0.880	1.05	2.90	0.472	0.715	0.731	NS	0.763	0.727	0.683
Nitrite/Nitrate	mg/L	0.008 I	U	0.012 I	U	0.010 I	0.004 U	0.004 U	NS	0.006 I	0.006 I	0.006 U
Ortho phosphorus (Field Filtered)	mg/L	0.088	0.064	0.029	0.012	0.029	0.226	0.272	NS	0.020	0.022	0.027
Total phosphorus	mg/L	0.092	0.098	0.031 I	0.168	0.054	1.08	0.501	NS	0.013 I	0.033	0.029 I
Chlorophyll	mg/m3	5.99	7.05	7.57	64.5	5.44	9.14	3.94	NS	10.8	7.61	5.38
Total suspended solids (TSS)	mg/L	7.11	5.78	3.80	44.7	4.20	4.80	3.20	NS	26.0	3.33	6.20
Biochemical oxygen demand (total BOD5)	mg/L	0.556 I	U	U	6.47	1 U	1.45 I	1 U	NS	2.01 I	1 U	1.16 I

Table 1

Analytical Results Summary
Surface Water Quality Monitoring
Miromar Lakes, Fort Myers, Florida
February 2020

Sample Location/Sample ID:		WQ Location #4 / WQL4										
Sample Date:		**04/27/16**	**08/03/16**	**10/31/16**	**01/31/17**	**05/04/17**	**08/02/17**	**12/06/17**	**04/26/18**	**08/22/18**	**12/11/18**	**04/16/19**
Field Parameters	**Units**											
Total Water Depth	Feet	12	7.77	14.88	7.91	5.0	10.7	7.9	6.90	11.8	10.7	14.20
Sample Depth	Feet	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Conductivity, field	umhos/cm	403	340	373	361.8	405	404.8	342.0	399.7	342	310.3	382.1
Dissolved oxygen (DO), field	mg/L	7.72	6.55	7.14	8.06	8.33	5.02	5.73	7.13	6.96	7.84	7.28
Dissolved oxygen (DO), field	%	96.4	88.3	85.6	88.3	106.6	66.8	68.2	89.2	92.9	87.8	90.2
pH, field	s.u.	8.58	8.31	7.59	8.10	7.65	8.16	8.08	8.39	8.34	7.99	7.97
Temperature, field	Deg C	26.71	31.1	24.5	19.8	28.1	30.3	24.1	26.8	30.5	20.9	26.3
Turbidity, field	NTU	1.87	2.04	4.44	3.02	3.11	1.81	2.48	3.38	3.56	4.10	2.72
Secchi Disk	Depth	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Wet Parameters	**Units**											
Ammonia-N	mg/L	U	0.023 I	U	0.012 I	0.008 U	0.008 U	0.026 I	0.008 U	0.014 I	0.008 U	0.008 U
TAN criteria calculation	mg/L	0.20	0.23	0.96	0.68	0.72	0.31	0.53	0.27	0.23	0.74	0.54
Total kjeldahl nitrogen (TKN)	mg/L	0.868	0.887	0.780	0.976	0.518	0.570	0.612	0.610	0.640	0.885	0.615
Total nitrogen	mg/L	0.868	0.887	0.808	0.976	0.524	0.570	0.612	0.623	0.645	0.885	0.615
Nitrite/Nitrate	mg/L	U	U	0.028	U	0.006 I	0.004 U	0.004 U	0.013 I	0.005 I	0.006 U	0.006 U
Ortho phosphorus (Field Filtered)	mg/L	0.094	0.017	0.024	0.017	0.030	0.044	0.027	0.019	0.017	0.022	0.026
Total phosphorus	mg/L	0.101	0.021 I	0.027 I	0.038	0.048	0.067	0.038	0.030 I	0.044	0.043	0.038
Chlorophyll	mg/m3	4.92	7.11	7.78	9.09	3.94	9.31	4.62	8.66	10.5	8.43	3.43
Total suspended solids (TSS)	mg/L	2.33	2.84	3.60	5.20	3.26	2.60	1.60 I	2.00 I	5.50	2.33	3.40
Biochemical oxygen demand (total BOD5)	mg/L	U	U	U	1.09 I	1 U	1 U	1 U	1.16 I	1.47 I	1 U	1 U

Table 1

Analytical Results Summary
Surface Water Quality Monitoring
Miromar Lakes, Fort Myers, Florida
February 2020

Sample Location/Sample ID:		WQ Location #5 / WQL5										
Sample Date:		**04/27/16**	**08/03/16**	**10/31/16**	**01/31/17**	**05/04/17**	**08/02/17**	**12/06/17**	**04/26/18**	**08/22/18**	**12/11/18**	**04/16/19**
Field Parameters	**Units**											
Total Water Depth	Feet	NS	2	2.03	1.42	2.5	4.32	2.84	S	2.7	1.10	1.50
Sample Depth	Feet	NS	1.5	1.5	0.5	1.5	1.5	1.5	S	1.5	0.5	0.75
Conductivity, field	umhos/cm	NS	411	515	462.0	464	478.4	447.9	464.1	405.1	427.2	475.8
Dissolved oxygen (DO), field	mg/L	NS	4.84	6.22	6.88	8.50	8.03	4.21	5.47	6.09	4.21	5.00
Dissolved oxygen (DO), field	%	NS	64.7	77.2	72.2	111.1	109.1	49.6	68.2	81.2	46.1	61.0
pH, field	s.u.	NS	7.83	7.77	7.65	7.77	8.10	7.58	7.61	7.80	6.38	6.44
Temperature, field	Deg C	NS	30.6	26.4	17.7	29.3	31.5	23.6	26.6	30.4	19.8	25.4
Turbidity, field	NTU	NS	2.08	3.62	3.60	5.77	4.65	1.99	4.93	3.40	4.18	4.98
Secchi Disk	Depth	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Wet Parameters	**Units**											
Ammonia-N	mg/L	NS	0.033	U	0.008 I	0.008 U	0.008 U	0.034	0.008 U	0.010 I	0.008 U	0.008 U
TAN criteria calculation	mg/L	NS	0.49	0.70	1.40	0.58	0.32	1.03	0.82	0.52	2.19	1.51
Total kjeldahl nitrogen (TKN)	mg/L	NS	0.845	0.786	0.962	0.754	0.756	0.838	1.11	0.857	0.944	0.902
Total nitrogen	mg/L	NS	0.845	0.794	0.962	0.762	0.760	0.854	1.13	0.863	0.957	0.902
Nitrite/Nitrate	mg/L	NS	U	0.008 I	U	0.008 I	0.004 I	0.016	0.016	0.006 I	0.013 I	0.006 U
Ortho phosphorus (Field Filtered)	mg/L	NS	0.022	0.042	0.017	0.027	0.019	0.022	0.016	0.015	0.019	0.023
Total phosphorus	mg/L	NS	0.065	0.042	0.036	0.035	0.067	0.046	0.027 I	0.025 I	0.024 I	0.028 I
Chlorophyll	mg/m3	NS	15.1	12.5	13.9	16.0	25.0	17.3	27.6	19.8	15.4	23.4
Total suspended solids (TSS)	mg/L	NS	4.10	4.80	5.00	8.11	11.0	0.570 U	6.20	4.00	3.00	7.60
Biochemical oxygen demand (total BOD5)	mg/L	NS	1.31 I	1.56 I	1.36 I	2.41 I	2.14 I	1.64 I	3.38 I	1.15 I	1.38 I	3.39 I

Notes:

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

Table 1

Analytical Results Summary
Surface Water Quality Monitoring
Miromar Lakes, Fort Myers, Florida
February 2020

Sample Location/Sample ID:		WQ Location #1 / WQL1 (Continued)							
Sample Date:		**10/24/2019**	**2/17/2020**	**06/03/2020**	**10/21/2020**	**03/03/2021**	**08/05/2021**	**10/26/2021**	**02/17/2022**
Field Parameters	**Units**								
Total Water Depth	Feet	7.2	4.2	3.9	6.5	5.4	6.0	6.0	6.0
Sample Depth	Feet	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Conductivity, field	umhos/cm	348.4	369	689	300	292	358	304	304
Dissolved oxygen (DO), field	mg/L	6.1	8.02	6.05	7.07	7.51	7.0	5.74	5.74
Dissolved oxygen (DO), field	%	78.1	94.5	77.0	87.1	90.6	93.1	72.3	72.3
pH, field	s.u.	8.36	8.26	8.29	8.57	8.82	8.10	8.32	8.50
Temperature, field	Deg C	28.1	23.44	29.1	26.6	25.0	29.91	27.4	27.4
Turbidity, field	NTU	3.71	1.66	3.63	2.42	1.58	1.87	1.82	1.82
Secchi Disk	Depth	4.80	4.20	3.90	6.0	5.4	6.0	NS	5.0
Wet Parameters	**Units**								
Ammonia-N	mg/L	0.017 I	0.008 U	0.008 U	0.008 U	0.008 U	0.008 I	0.008 U	0.008 U
TAN criteria calculation	mg/L	0.26	0.42	0.28	NS	NS	NS	NS	NS
Total kjeldahl nitrogen (TKN)	mg/L	0.588	0.632	0.591	0.05 U	0.480	0.474	0.531	0.430
Total nitrogen	mg/L	0.588	0.639	0.591	0.05 U	0.480	0.474	0.531	0.430
Nitrite/Nitrate	mg/L	0.006 U	0.007 I	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U	0.006 U
Ortho phosphorus (Field Filtered)	mg/L	0.026	0.028	0.051	0.0126	0.024	0.011	0.014	0.003 I
Total phosphorus	mg/L	0.063	0.035	0.053	0.011 I	0.059	0.022 I	0.030 I	0.017 I
Chlorophyll	mg/m3	7.81	3.71	3.96	5.76	3.55	7.44	7.06	3.36
Total suspended solids (TSS)	mg/L	2.20 I	3.50	3.20	2.40	2.00 I	2.80	0.667 I	2.50
Biochemical oxygen demand (total BOD5)	mg/L	1.03 I	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Sample Location/Sample ID:		**WQ Location #2 / WQL2 (Continued)**							
Sample Date:		**10/24/2019**	**2/17/2020**	**06/03/2020**	**10/21/2020**	**03/03/2021**	**08/05/2021**	**10/26/2021**	**02/17/2022**
Field Parameters	**Units**								
Total Water Depth	Feet	10.4	7.8	6.35	9.0	8.8	10.25	7.5	8.5
Sample Depth	Feet	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Conductivity, field	umhos/cm	346.4	373	701	300	303	346	305	322
Dissolved oxygen (DO), field	mg/L	6.27	8.12	5.86	4.64	7.04	7.09	8.64	8.18
Dissolved oxygen (DO), field	%	81.0	96.2	77.2	51.1	86.9	93.7	99.9	90.4
pH, field	s.u.	8.27	8.49	8.31	8.26	8.72	8.0	8.22	8.44
Temperature, field	Deg C	28.5	23.9	30.1	27.1	25.5	29.87	27.4	20.2
Turbidity, field	NTU	3.55	2.18	3.49	2.40	3.41	2.44	2.13	2.07
Secchi Disk	Depth	5.30	NS	5.5	6.5	7.0	7.0	NS	7.0
Wet Parameters	**Units**								
Ammonia-N	mg/L	0.008 U	0.008 U	0.008 U	0.009 I	0.008 U	0.017 I	0.008 U	0.008 U
TAN criteria calculation	mg/L	0.30	0.28	0.25	NS	NS	NS	NS	NS
Total kjeldahl nitrogen (TKN)	mg/L	0.605	0.403	0.556	0.500	0.450	0.469	0.542	0.538
Total nitrogen	mg/L	0.605	0.403	0.556	0.500	0.450	0.469	0.542	0.538
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
Ortho phosphorus (Field Filtered)	mg/L	0.055	0.035	0.053	0.0288	0.026	0.016	0.015	0.010
Total phosphorus	mg/L	0.073	0.069	0.062	0.012 I	0.032	0.017 I	0.036	0.020 I
Chlorophyll	mg/m3	9.11	4.34	5.11	6.13	2.04	5.95	7.37	3.72
Total suspended solids (TSS)	mg/L	2.40	3.00	2.40	2.40	2.80	2.80	2.00 I	1.75 I
Biochemical oxygen demand (total BOD5)	mg/L	1.50 I	1 U	1 U	1 U	1 U	1 U	1 U	1 U

Table 1

Analytical Results Summary
Surface Water Quality Monitoring
Miromar Lakes, Fort Myers, Florida
February 2020

Sample Location/Sample ID:		WQ Location #3A / WQL3A (Continued)							
Sample Date:		**10/24/2019**	**2/17/2020**	**06/03/2020**	**10/21/2020**	**03/03/2021**	**08/05/2021**	**10/26/2021**	**02/17/2022**
Field Parameters	**Units**								
Total Water Depth	Feet	4.5	3	1.5	4.0	3.0	3.33	3.75	2.0
Sample Depth	Feet	1.5	1.5	1	1.5	1.5	1.5	1.5	1.5
Conductivity, field	umhos/cm	373.2	381	690	293	297	363	313	321
Dissolved oxygen (DO), field	mg/L	2.05	5.77	6.49	6.41	5.62	3.15	8.43	6.70
Dissolved oxygen (DO), field	%	25.7	68.5	85.4	80.5	70.2	39.0	98.9	73.5
pH, field	s.u.	7.34	7.93	8.44	8.38	8.49	7.16	7.97	8.49
Temperature, field	Deg C	26.8	23.77	29.3	27.0	25.4	26.24	27.6	19.7
Turbidity, field	NTU	2.79	1.31	3.49	2.76	4.13	1.77	2.70	2.17
Secchi Disk	Depth	Lake Bottom	Lake Bottom	Lake Bottom	4.0	3.0	3.33	NS	2.0
Wet Parameters	**Units**								
Ammonia-N	mg/L	0.008 U	0.008 U	0.008 U	0.009 I	0.008 U	0.035	0.008 U	0.008 U
TAN criteria calculation	mg/L	1.02	0.67	0.21	NS	NS	NS	NS	NS
Total kjeldahl nitrogen (TKN)	mg/L	0.635	0.451	0.510	0.216	0.526	0.546	0.565	0.607
Total nitrogen	mg/L	0.635	0.451	0.510	0.216	0.526	0.546	0.565	0.607
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
Ortho phosphorus (Field Filtered)	mg/L	0.060	0.043	0.048	0.0199	0.030	0.017	0.012	0.009
Total phosphorus	mg/L	0.066	0.069	0.064	0.012 I	0.046	0.021 I	0.017 I	0.022 I
Chlorophyll	mg/m3	7.88	3.79	5.10	5.52	4.00	7.06	7.99	4.09
Total suspended solids (TSS)	mg/L	2.40	1.50 I	4.80	2.40	4.20	2.00 I	3	1.75 I
Biochemical oxygen demand (total BOD5)	mg/L	1.27 I	1 U	1 U	1 U	1.30 I	1.32 I	1 U	1 U
Sample Location/Sample ID:		**WQL6**	**WQL6**	**WQL6**	**WQL6**	**WQL6**	**WQL6**	**WQL6**	**WQL6**
Sample Date:		**10/24/2019**	**2/17/2020**	**06/03/2020**	**10/21/2020**	**03/03/2021**	**08/05/2021**	**10/26/2021**	**02/17/2022**
Field Parameters	**Units**								
Total Water Depth	Feet	12.5	17.6	15.5	10.5	14.4	12.3	10.5	14.0
Sample Depth	Feet	3	3	3	1.5	3	3	3.0	1.5
Conductivity, field	umhos/cm	340.8	362	688	290	295	365	305	319
Dissolved oxygen (DO), field	mg/L	5.63	8.44	6.49	6.66	7.43	6.82	8.25	8.40
Dissolved oxygen (DO), field	%	72.4	99.2	85.7	83.4	90.4	90.3	85.4	90.8
pH, field	s.u.	8.16	8.5	8.51	8.63	8.74	7.59	8.25	8.48
Temperature, field	Deg C	28.3	23.28	29.4	29.3	25.2	30.07	27.6	19.6
Turbidity, field	NTU	4.85	1.48	2.83	2.13	1.75	2.19	1.79	2.79
Secchi Disk	Depth	5.80	8.00	7.20	7.0	7.5	6.4	NS	7.0
Wet Parameters	**Units**								
Ammonia-N	mg/L	0.008 U	0.008 U	0.008 U	0.009 I	0.008 U	0.012 I	0.008 U	0.008 U
TAN criteria calculation	mg/L	0.36	0.28	0.19	NS	NS	NS	NS	NS
Total kjeldahl nitrogen (TKN)	mg/L	0.612	0.414	0.490	0.05 U	0.559	0.448	0.496	0.782
Total nitrogen	mg/L	0.612	0.414	0.490	0.05 U	0.559	0.448	0.496	0.782
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
Ortho phosphorus (Field Filtered)	mg/L	0.063	0.032	0.059	0.0155	0.026	0.002 I	0.014	0.010
Total phosphorus	mg/L	0.067	0.035	0.064	0.016 I	0.055	0.023 I	0.038	0.020 I
Chlorophyll	mg/m3	8.86	3.18	4.95	4.80	2.48	7.62	6.69	4.19
Total suspended solids (TSS)	mg/L	2.60	1.25 I	3.20	2.60	1.80 I	1.20 I	3	1.25 I
Biochemical oxygen demand (total BOD5)	mg/L	1.04 I	1 U	1 U	1.39 I	1 U	1 U	1 U	1 U

Table 1

Analytical Results Summary
Surface Water Quality Monitoring
Miromar Lakes, Fort Myers, Florida
February 2020

Sample Location/Sample ID:		WQ Location #4 / WQL4 (Continued)							
Sample Date:		**10/24/2019**	**2/17/2020**	**06/03/2020**	**10/21/2020**	**03/03/2021**	**08/05/2021**	**10/26/2021**	**02/17/2022**
Field Parameters	**Units**								
Total Water Depth	Feet	15.4	13.55	12.55	13.0	8.01	7.2	7.0	5.5
Sample Depth	Feet	1.5	1.5	1.5	1.5	1.5	1.5	1.5	NM
Conductivity, field	umhos/cm	337.0	363	682	286	291	349	302	318
Dissolved oxygen (DO), field	mg/L	6.42	8.45	6.42	1.41	7.75	7.31	6.69	8.22
Dissolved oxygen (DO), field	%	82.8	99.4	83.4	17.0	93.5	94.2	89.1	90.6
pH, field	s.u.	8.38	8.58	8.57	8.66	8.80	6.62	8.21	8.26
Temperature, field	Deg C	28.5	23.49	29.9	27.5	24.8	29.95	27.6	19.7
Turbidity, field	NTU	2.58	1.04	2.48	1.85	2.28	1.76	3.19	3.14
Secchi Disk	Depth	5.50	8.50	7.00	6.5	8.01	7.2	NS	5.5
Wet Parameters	**Units**								
Ammonia-N	mg/L	0.008 U	0.008 U	0.008 U	0.008 U	0.008 U	0.025 I	0.008 U	0.008 U
TAN criteria calculation	mg/L	0.25	0.24	0.16	NS	NS	NS	NS	NS
Total kjeldahl nitrogen (TKN)	mg/L	0.126 I	0.371	0.633	0.05 U	0.538	0.469	0.555	0.430
Total nitrogen	mg/L	0.126	0.371	0.633	0.05 U	0.538	0.469	0.555	0.446
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	0.016 I
Ortho phosphorus (Field Filtered)	mg/L	0.065	0.037	0.042	0.0180	0.021	0.012	0.016	0.010
Total phosphorus	mg/L	0.070	0.064	0.064	0.014 I	0.043	0.032	0.043	0.020 I
Chlorophyll	mg/m3	7.38	2.75	3.78	5.05	1.74	5.39	7.27	3.82
Total suspended solids (TSS)	mg/L	3.20	1.25 I	3.40	1.80 I	0.570 U	3.60	2.00 I	1.25 I
Biochemical oxygen demand (total BOD5)	mg/L	1.07 I	1 U	1 U	1.51 I	1 U	1 U	1 U	1 U

Table 1

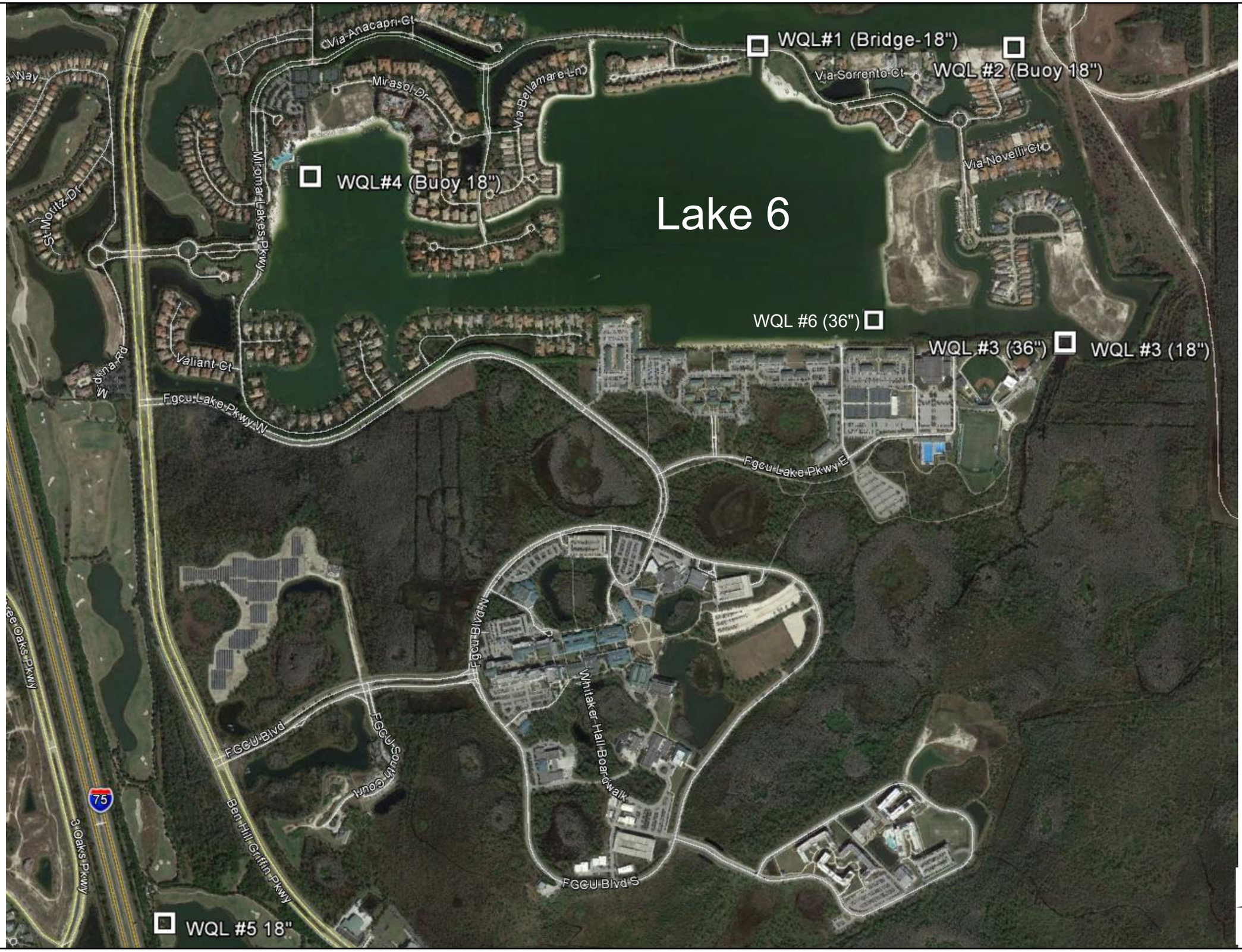
Analytical Results Summary
Surface Water Quality Monitoring
Miromar Lakes, Fort Myers, Florida
February 2020

Sample Location/Sample ID:		WQ Location #5 / WQL5 (Continued)							
Sample Date:		**10/24/2019**	**2/17/2020**	**06/03/2020**	**10/21/2020**	**03/03/2021**	**08/05/2021**	**10/26/2021**	**02/17/2022**
Field Parameters	**Units**								
Total Water Depth	Feet	1.98	1.72	<1	2.0	2.5	NM	4.0	2.0
Sample Depth	Feet	1.0	1	<1	1.5	1.5	1.5	1.5	0.5
Conductivity, field	umhos/cm	465.0	480	802	373	409	82.9	423	438
Dissolved oxygen (DO), field	mg/L	3.20	7.6	5.18	7.65	3.05	6.07	4.69	8.40
Dissolved oxygen (DO), field	%	41.3	89.3	69.0	96.5	37.5	80.6	60.1	53.4
pH, field	s.u.	7.99	8.35	8.28	8.18	8.04	8.12	8.01	8.15
Temperature, field	Deg C	28.4	23.42	30.3	27.4	25.3	30.19	27.9	20.6
Turbidity, field	NTU	4.71	2.45	5.74	2.96	2.27	4.05	17.12	2.10
Secchi Disk	Depth	Lake Bottom	Lake Bottom	Lake Bottom	NS	NS	NS	NS	NS
Wet Parameters	**Units**								
Ammonia-N	mg/L	0.008 U	0.008 U	0.008 U	0.008 U	0.023 I	0.008 U	0.008 U	0.008 U
TAN criteria calculation	mg/L	0.46	0.36	0.26	NS	NS	NS	NS	NS
Total kjeldahl nitrogen (TKN)	mg/L	0.807	0.688	1.08	0.137 I	0.755	0.720	0.668	0.925
Total nitrogen	mg/L	0.807	0.688	1.08	0.137	0.755	0.720	0.668	0.925
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
Ortho phosphorus (Field Filtered)	mg/L	0.050	0.038	0.055	0.075	0.029	0.014	0.008	0.010
Total phosphorus	mg/L	0.081	0.049	0.102	0.084	0.067	0.035	0.027 I	0.034
Chlorophyll	mg/m3	15.7	12.6	30.4	22.7	4.93	22.9	16.5	5.08
Total suspended solids (TSS)	mg/L	2.40	3.25	9.00	4.20	3.00	5.40	2.33	1.50 I
Biochemical oxygen demand (total BOD5)	mg/L	1.54 I	1.32 I	3.01 I	1.73 I	1 U	1.55 I	1 U	1.32 I

Notes:

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

Figure



SITE:

Water Quality Sampling Report – February 2020
Lakes 3 and 6 – Miromar Lakes
Fort Myers, Lee County, Florida

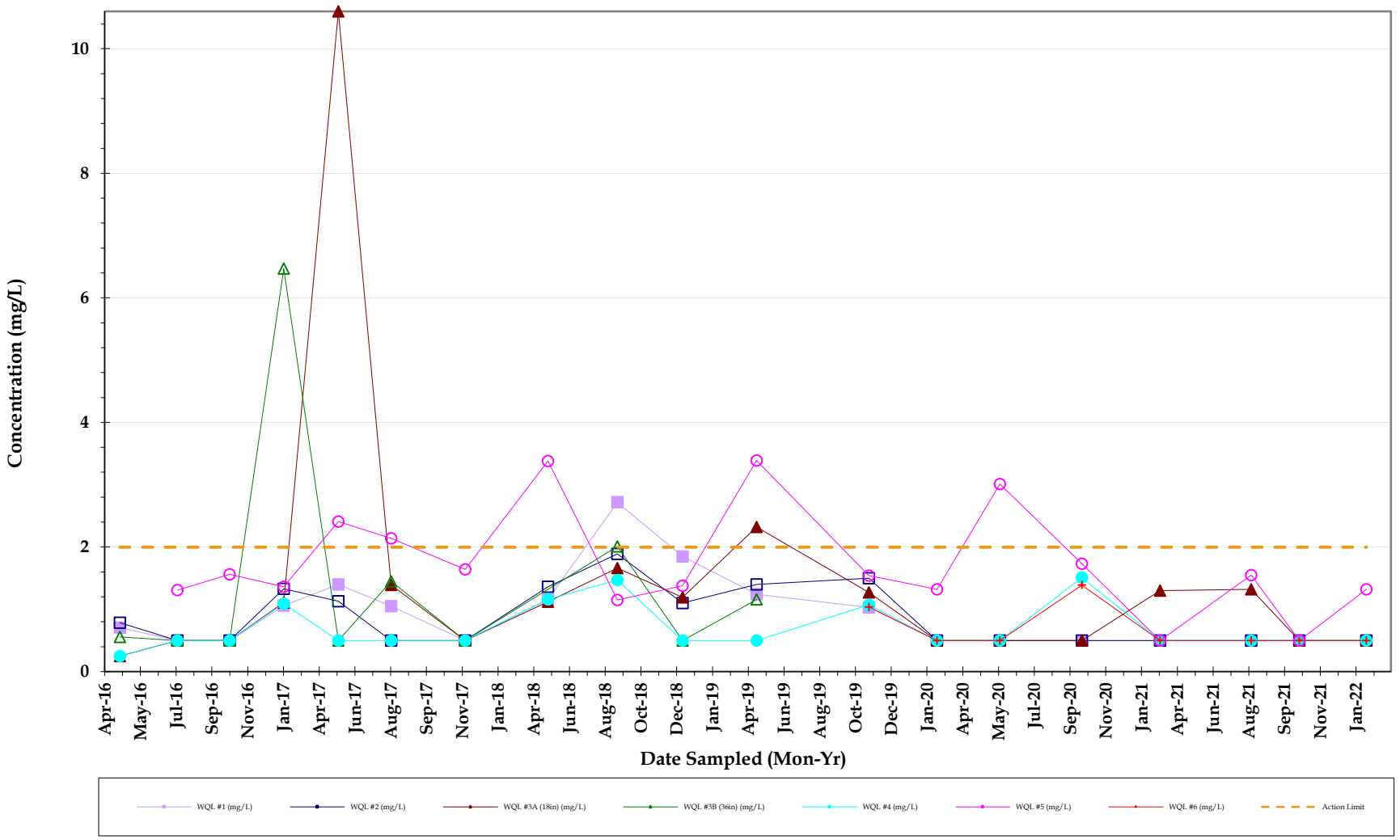
DESIGNED: JR	DRAWN: JR	PROJECT #: 11147356	DATE: Feb 2022
		CHECKED:	CAD FILE:

SHEET TITLE:

Location Map

FIGURE: 1

Trend Graphs

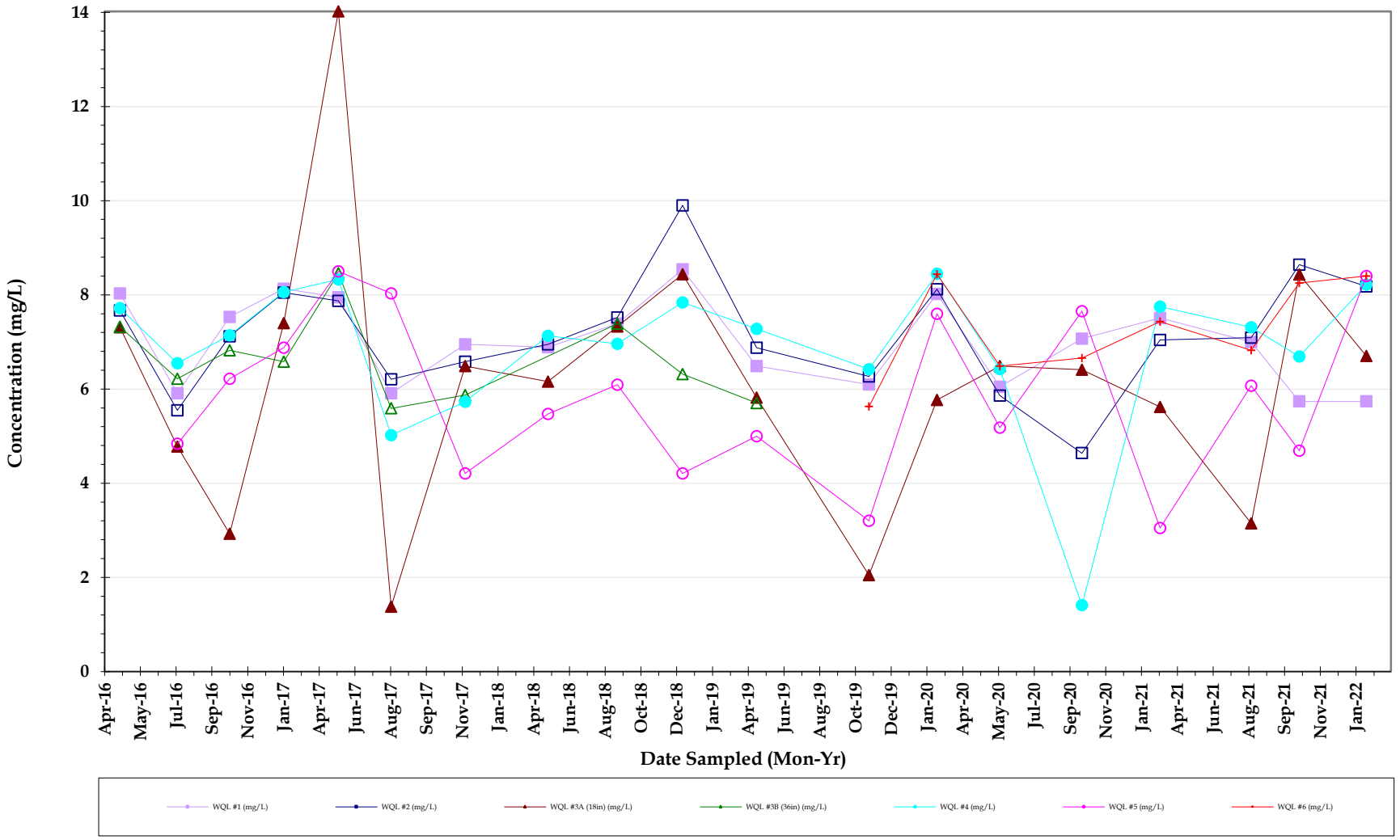


Biochemical Oxygen Demand

Miromar Lakes

Water Quality Surface Water Sample results

FEBRUARY 2022

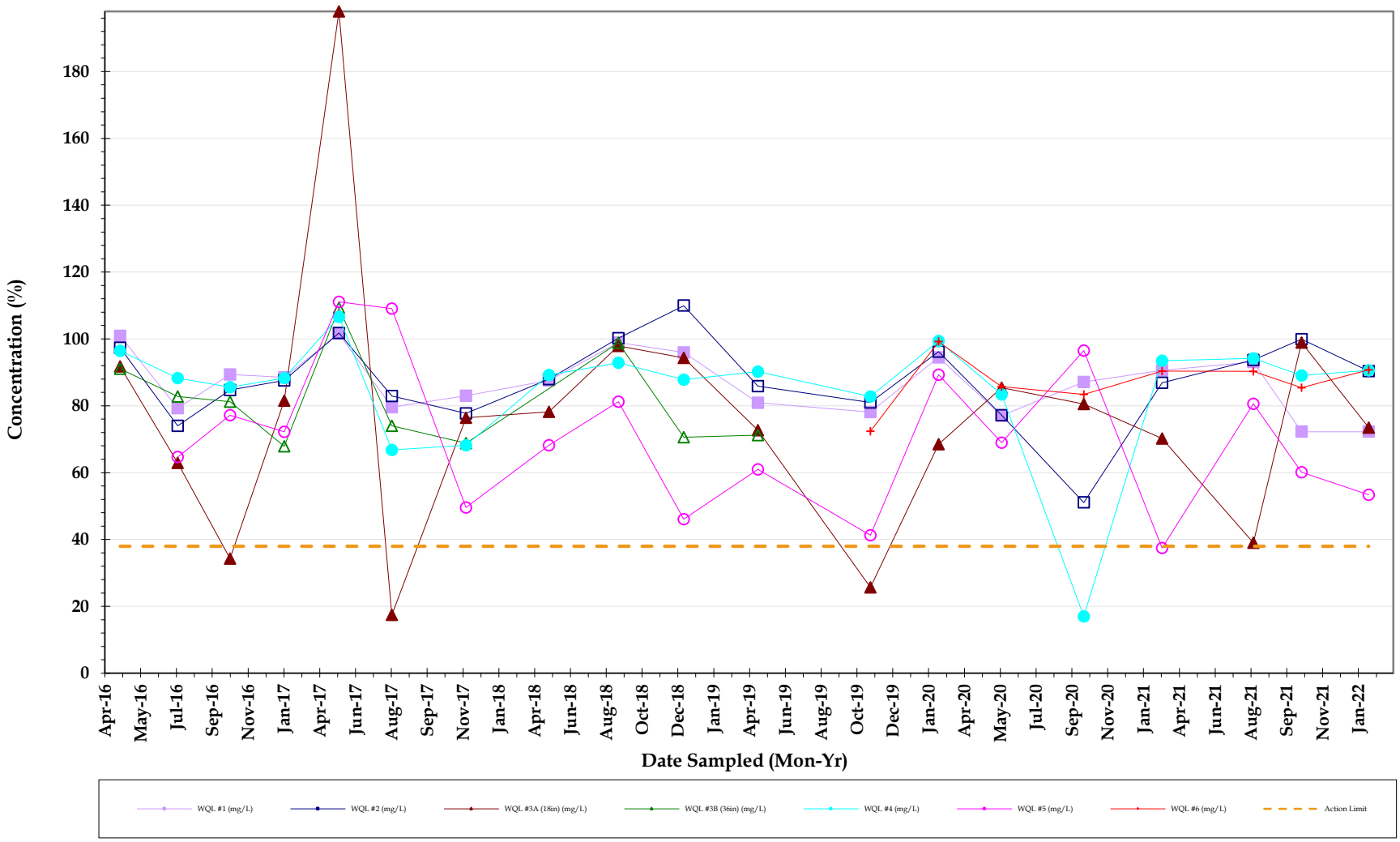


Dissolved Oxygen (mg/L)

Miromar Lakes

Water Quality Surface Water Sample results

FEBRUARY 2022

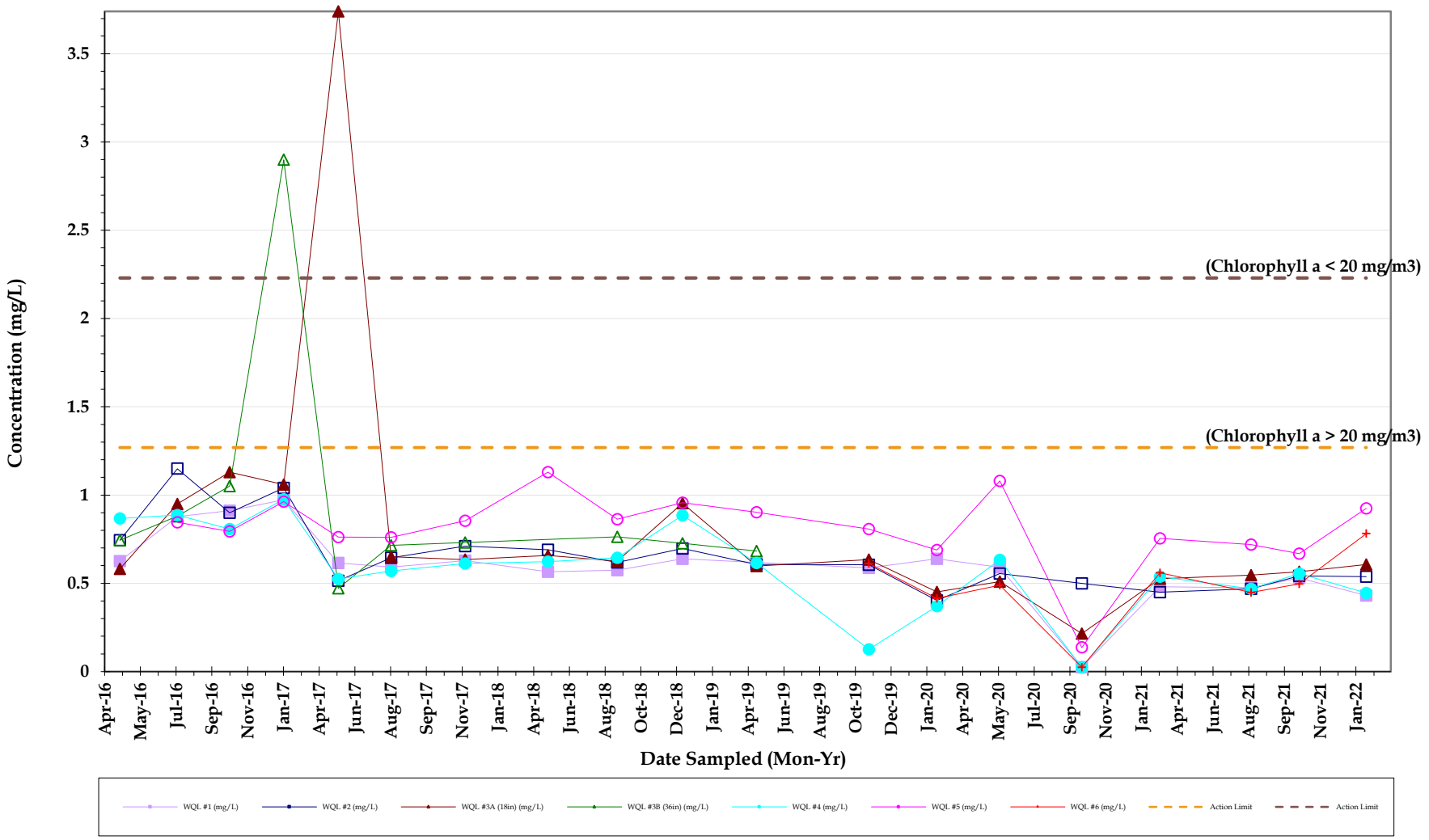


Dissolved Oxygen (%)

Miromar Lakes

Water Quality Surface Water Sample results

FEBRUARY 2022

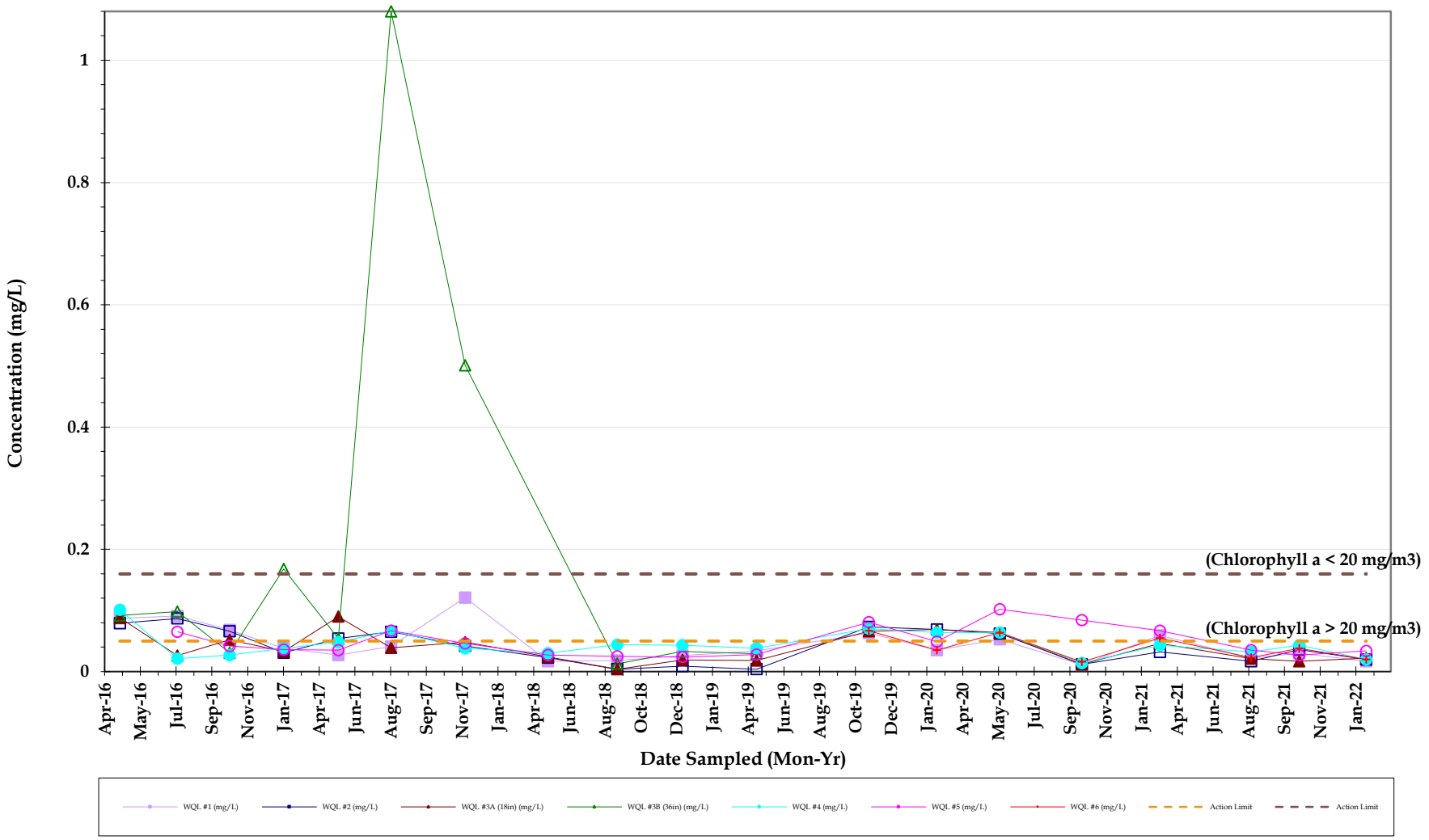


Total Nitrogen

Miromar Lakes

Water Quality Surface Water Sample results

FEBRUARY 2022

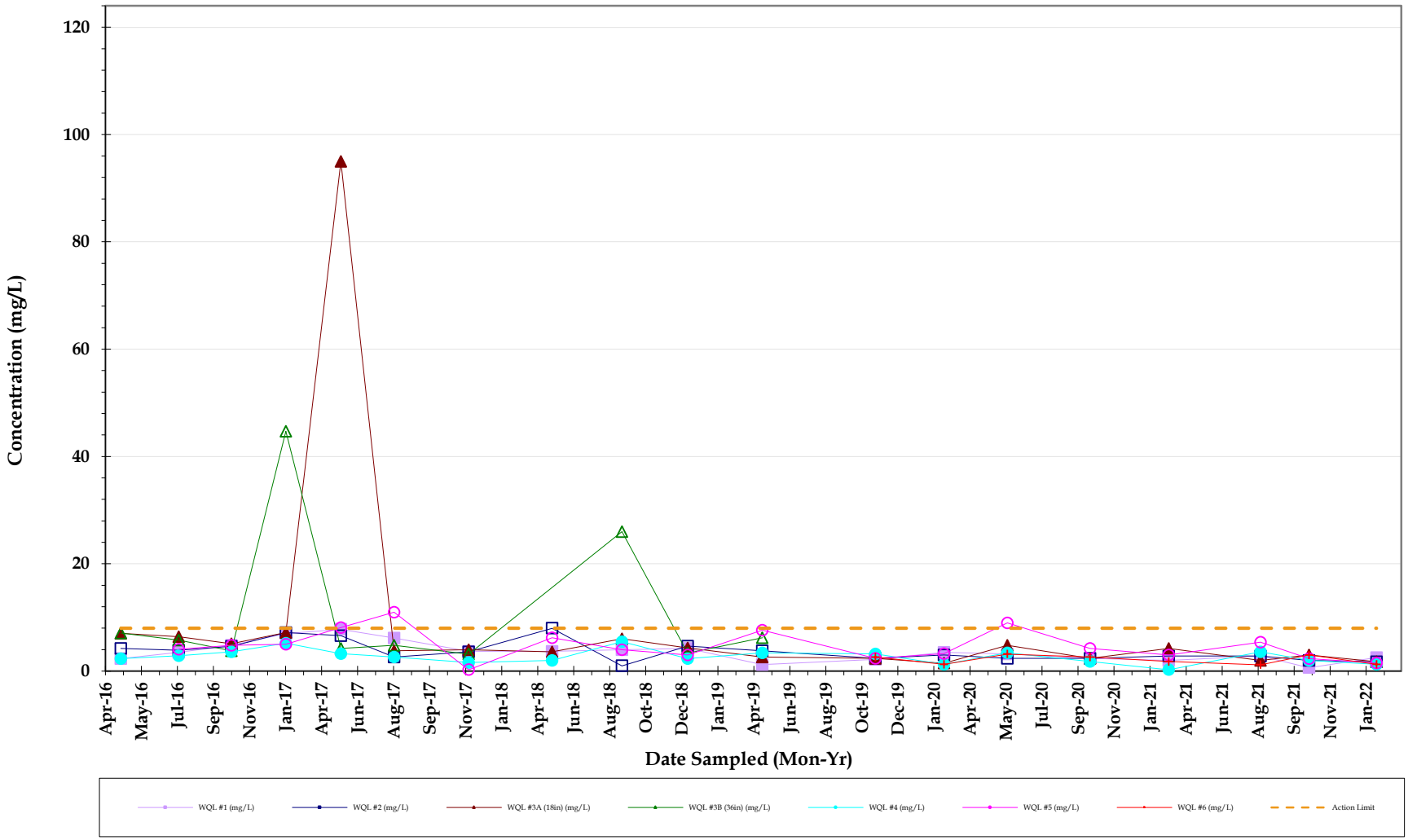


Total Phosphorus

Miromar Lakes

Water Quality Surface Water Sample results

FEBRUARY 2022

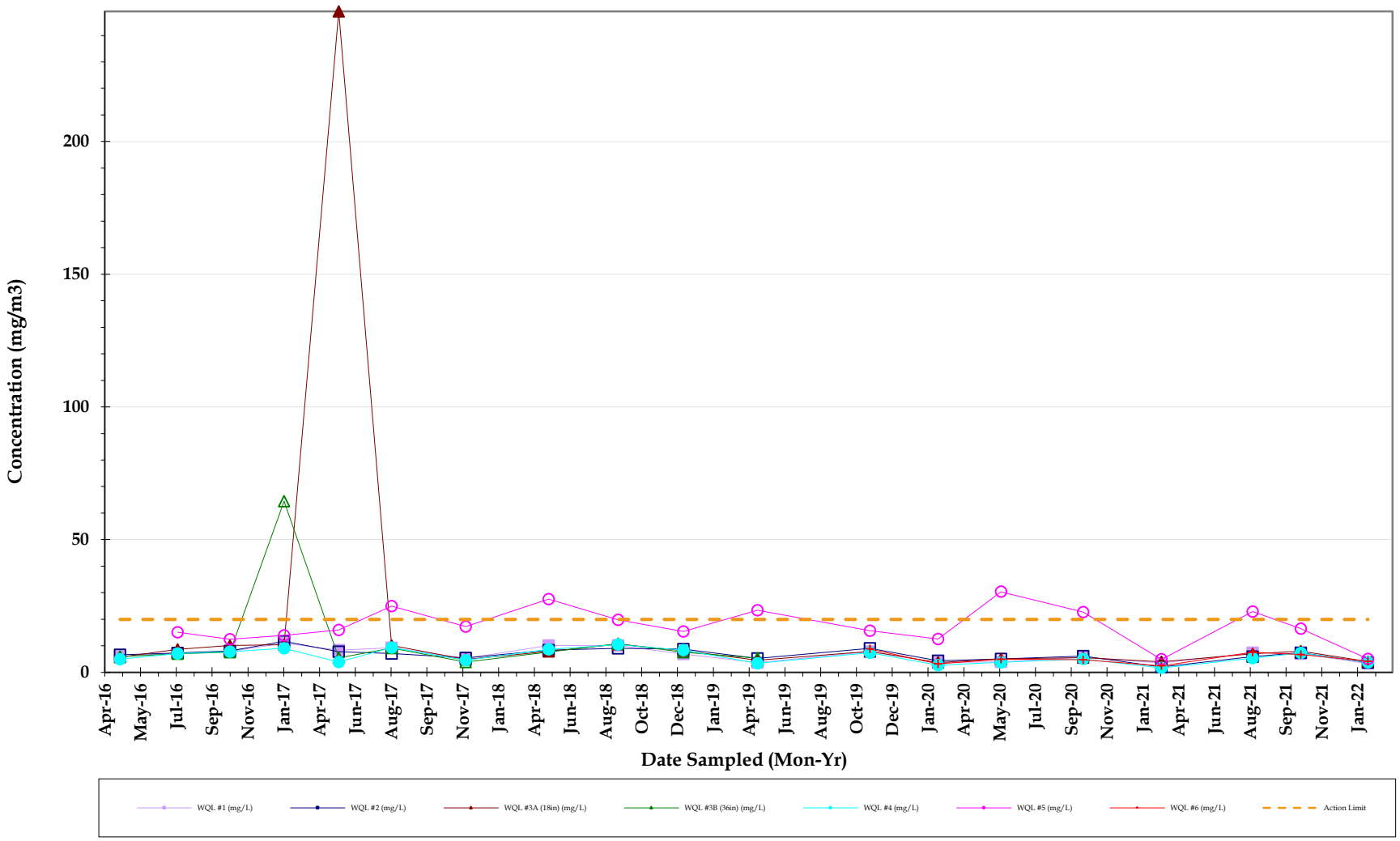


Total Suspended Solids

Miromar Lakes

Water Quality Surface Water Sample results

FEBRUARY 2022

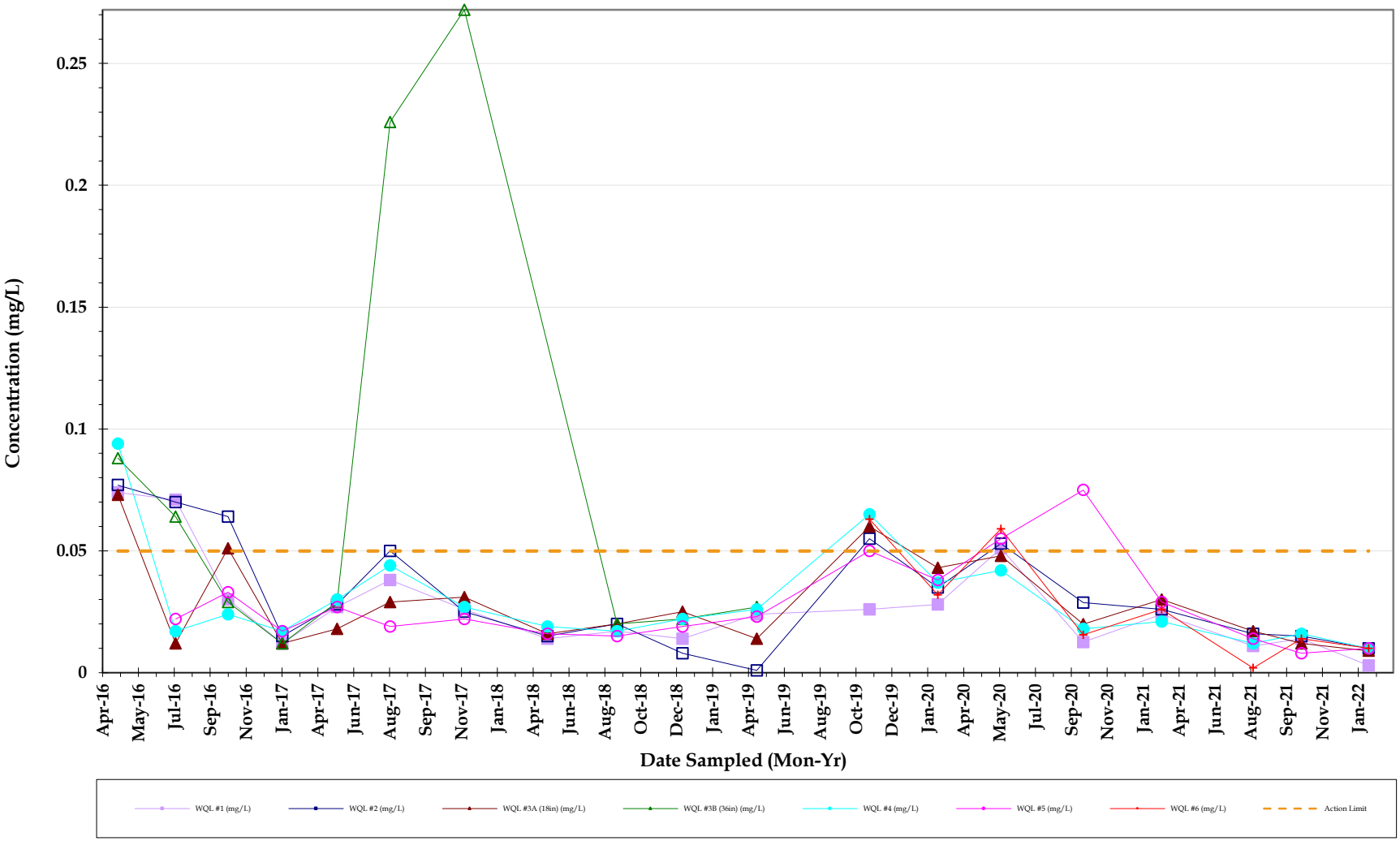


Chlorophyll *a*

Miromar Lakes

Water Quality Surface Water Sample results

FEBRUARY 2022

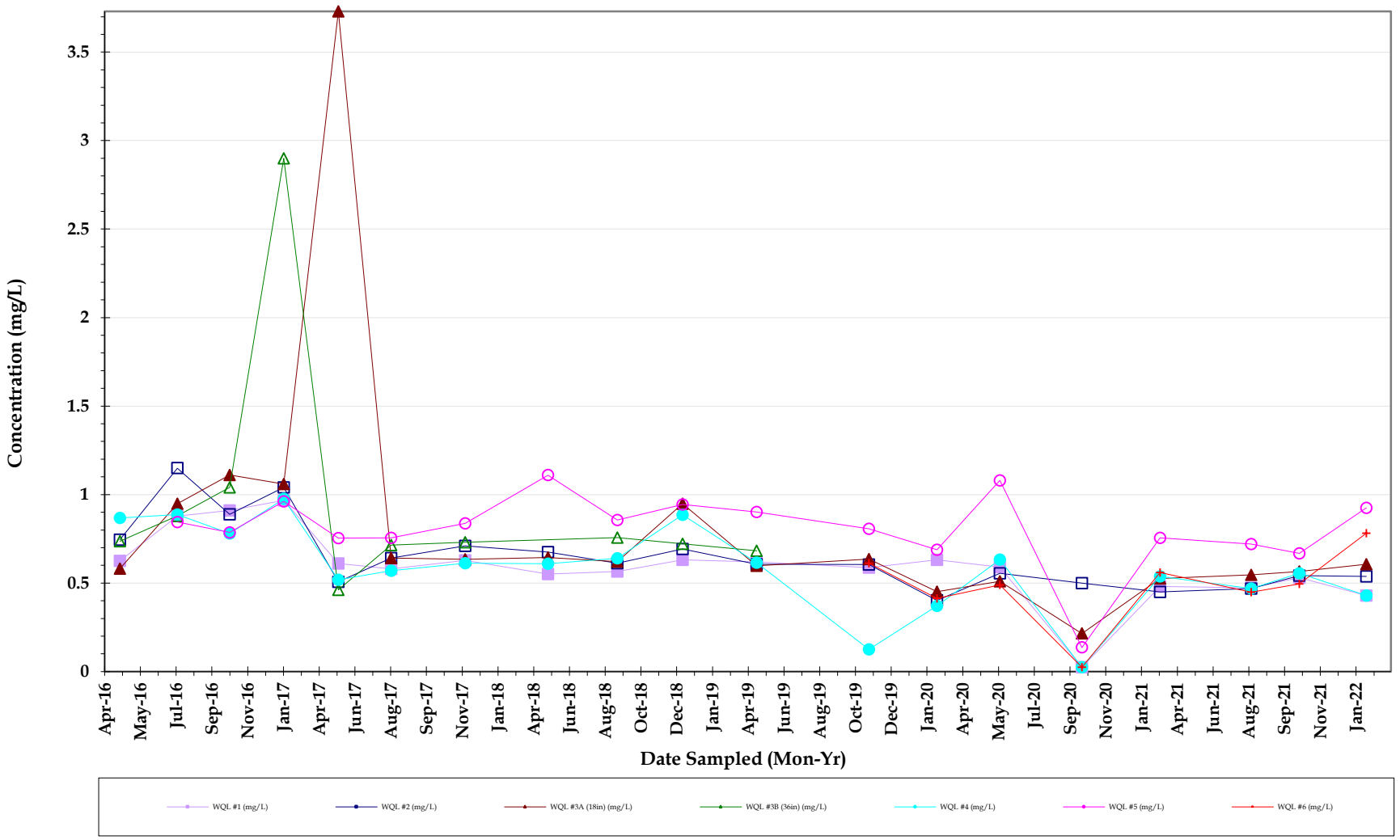


Orthophosphate

Miromar Lakes

Water Quality Surface Water Sample results

FEBRUARY 2022

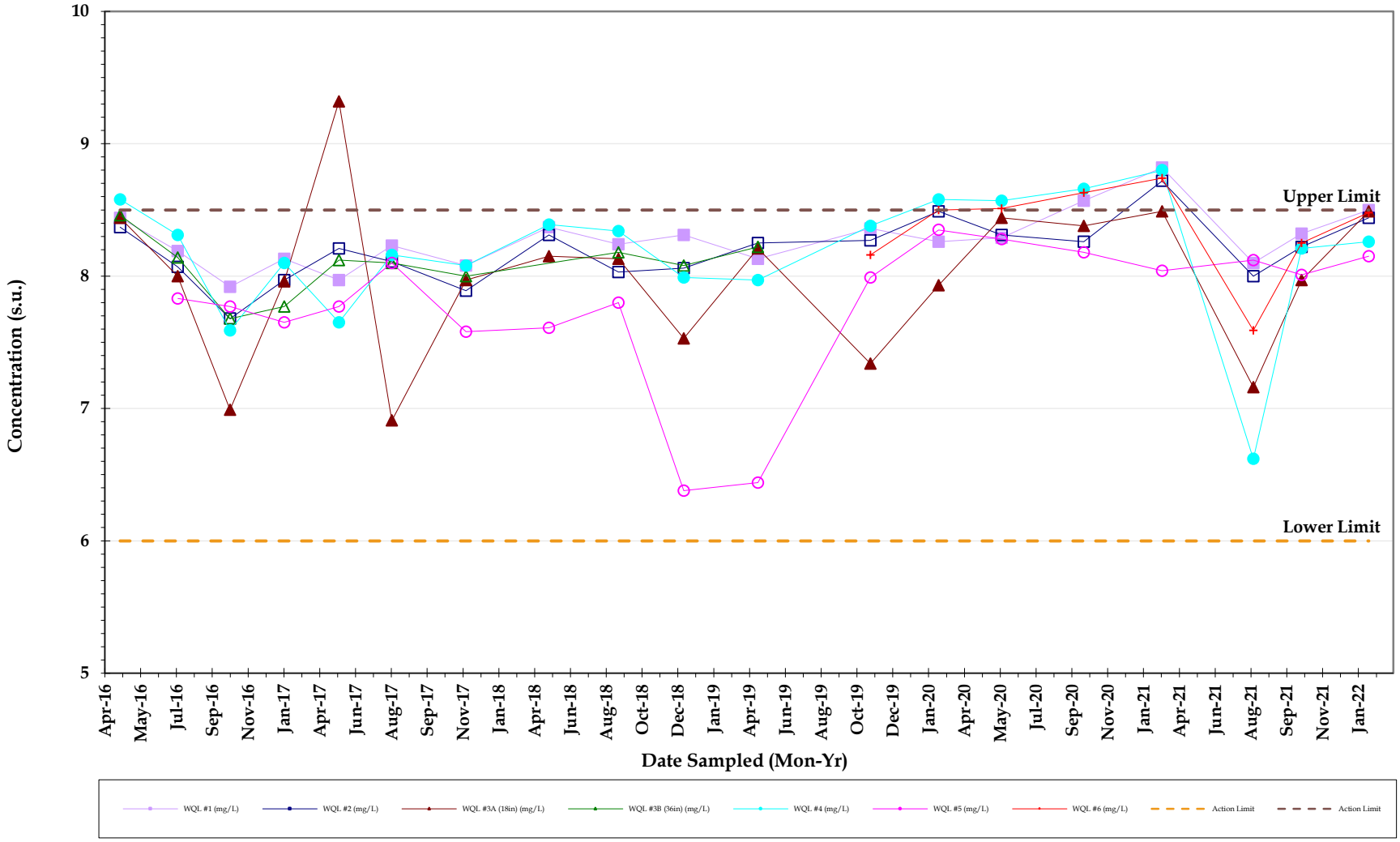


Total kjeldahl nitrogen (TKN)

Miromar Lakes

Water Quality Surface Water Sample results

FEBRUARY 2022

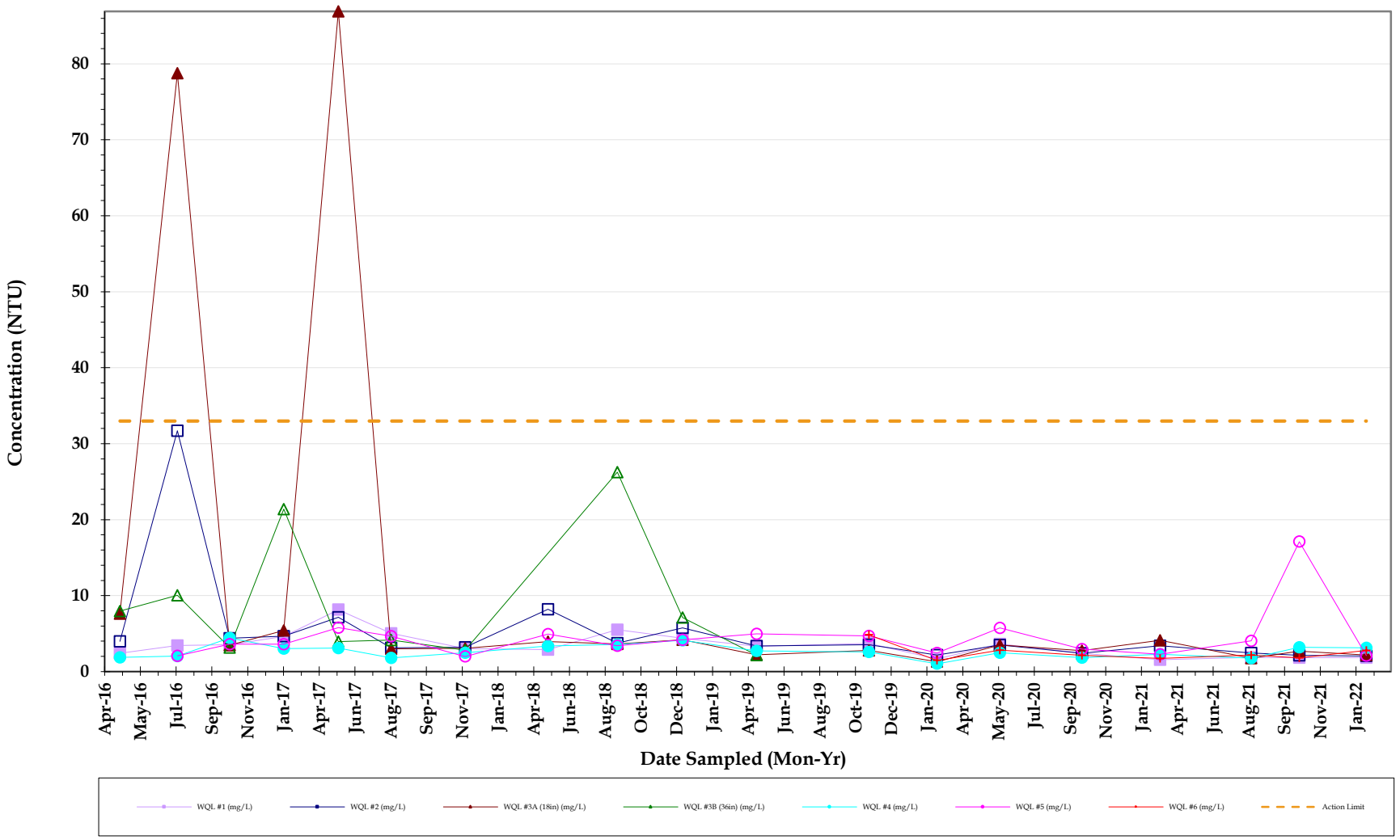


pH, Field

Miromar Lakes

Water Quality Surface Water Sample results

FEBRUARY 2022

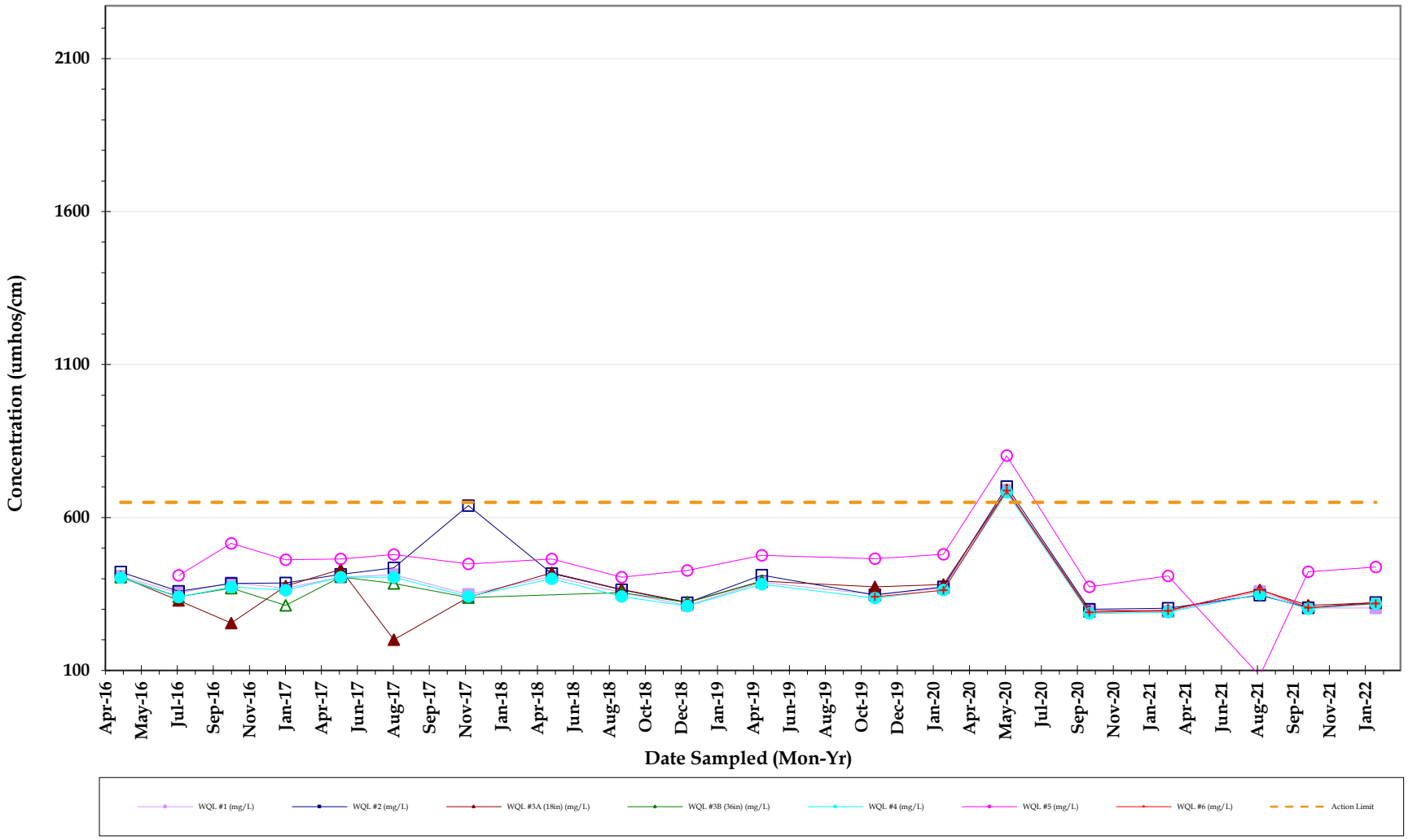


Turbidity

Miromar Lakes

Water Quality Surface Water Sample results

FEBRUARY 2022

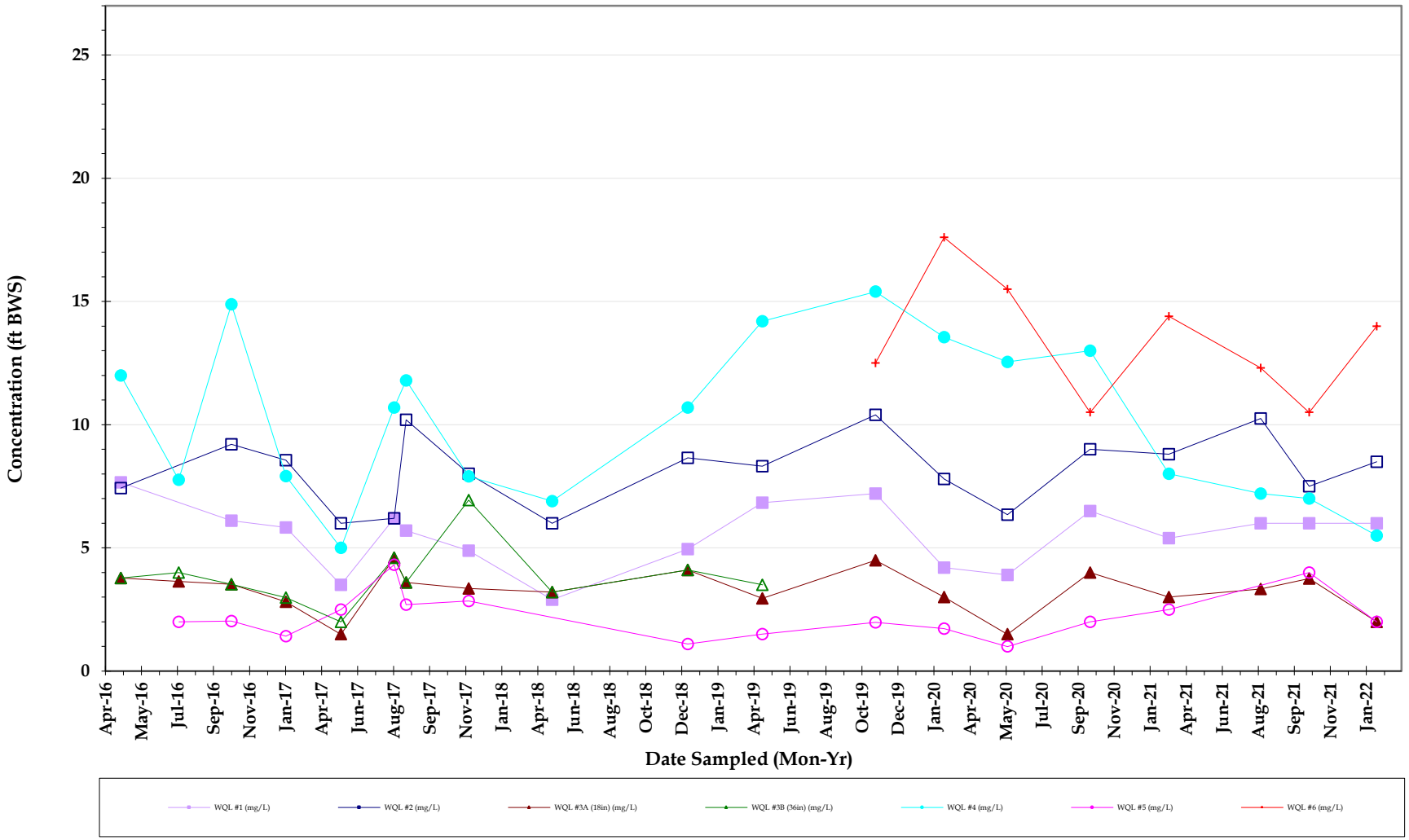


Conductivity

Miromar Lakes

Water Quality Surface Water Sample results

FEBRUARY 2022

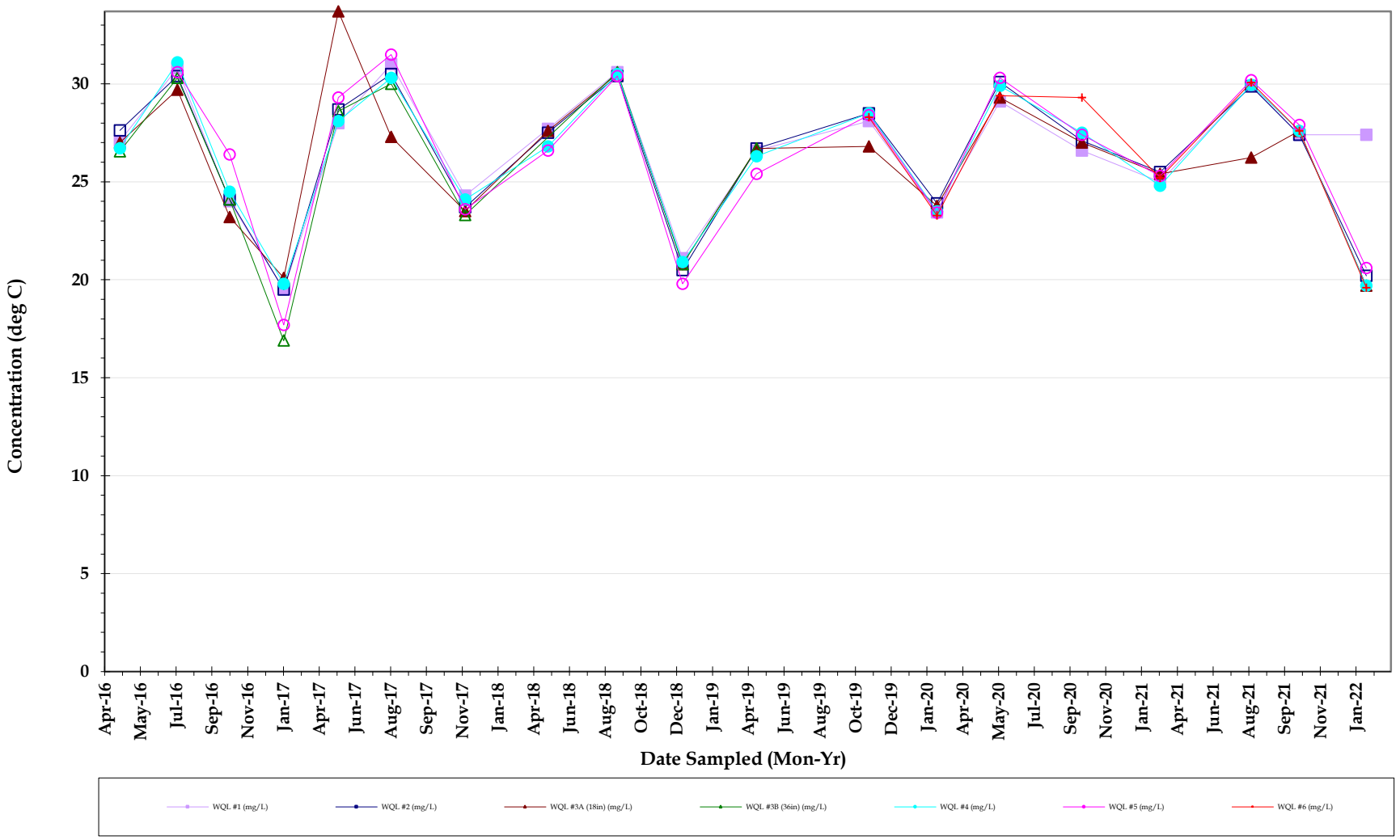


Water Depth

Miromar Lakes

Water Quality Surface Water Sample results

FEBRUARY 2022



Temperature, sample

Miromar Lakes

Water Quality Surface Water Sample results

FEBRUARY 2022

Laboratory Analytical Report

BENCHMARK
EnviroAnalytical Inc.

NELAC Certification #E84167

ANALYTICAL TEST REPORT
THESE RESULTS MEET NELAC STANDARDS

Submission Number : 22021158

G H D Services, Inc.
2675 Winkler Ave., Ste.180
Fort Myers, FL 33901

Project Name : MIROMAR LAKES WQM QTLY
Project #: 11225022-00
Date Received : 02/18/2022
Time Received : 1527

Submission Number: 22021158
Sample Number: 001
Sample Description: WQL #1

Sample Date: 02/17/2022
Sample Time: 0945
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	02/28/2022 11:35	CW
TOTAL KJELDAHL NITROGEN	0.430	MG/L	0.05	0.20	351.2	02/23/2022 11:18	HR
ORTHO PHOSPHORUS AS P	0.003 I	MG/L	0.002	0.008	365.3	02/18/2022 16:57	KA
TOTAL PHOSPHORUS AS P	0.017 I	MG/L	0.008	0.032	365.3	02/28/2022 10:43	KA
CHLOROPHYLL A	3.36	MG/M3	0.25	1.00	445.0	02/22/2022 11:11	PP
TOTAL SUSPENDED SOLIDS	2.50	MG/L	0.570	2.280	SM2540D	02/21/2022 13:18	TG/MN
BIOCHEMICAL OXYGEN DEMAND	1 U	MG/L	1	4	SM5210B	02/18/2022 16:00	LD/LD
NITRATE+NITRITE AS N	0.006 U	MG/L	0.006	0.024	SYSTEA EASY	02/25/2022 13:51	CW/PP
TOTAL NITROGEN	0.430	MG/L	0.05	0.20	SYSTEA+351	02/25/2022 13:51	HR/CW/PP

Submission Number: 22021158
Sample Number: 002
Sample Description: WQL #2

Sample Date: 02/17/2022
Sample Time: 0930
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	02/28/2022 11:39	CW
TOTAL KJELDAHL NITROGEN	0.538	MG/L	0.05	0.20	351.2	02/24/2022 10:55	HR
ORTHO PHOSPHORUS AS P	0.010	MG/L	0.002	0.008	365.3	02/18/2022 17:02	KA
TOTAL PHOSPHORUS AS P	0.020 I	MG/L	0.008	0.032	365.3	02/28/2022 10:44	KA
CHLOROPHYLL A	3.72	MG/M3	0.25	1.00	445.0	02/22/2022 11:11	PP
TOTAL SUSPENDED SOLIDS	1.75 I	MG/L	0.570	2.280	SM2540D	02/21/2022 13:18	TG/MN
BIOCHEMICAL OXYGEN DEMAND	1 U	MG/L	1	4	SM5210B	02/18/2022 16:00	LD/LD
NITRATE+NITRITE AS N	0.006 U	MG/L	0.006	0.024	SYSTEA EASY	02/25/2022 13:51	CW/PP
TOTAL NITROGEN	0.538	MG/L	0.05	0.20	SYSTEA+351	02/25/2022 13:51	HR/CW/PP

1711 12th Street East * Palmetto, FL 34221 * Phone (941) 723-9986 * Fax (941) 723-6061

Submission Number: 22021158
Sample Number: 003
Sample Description: WQL #3A
Sample Date: 02/17/2022
Sample Time: 0920
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	02/28/2022 11:41	CW
TOTAL KJELDAHL NITROGEN	0.607	MG/L	0.05	0.20	351.2	02/24/2022 10:56	HR
ORTHO PHOSPHORUS AS P	0.009	MG/L	0.002	0.008	365.3	02/18/2022 17:03	KA
TOTAL PHOSPHORUS AS P	0.022 I	MG/L	0.008	0.032	365.3	02/28/2022 10:45	KA
CHLOROPHYLL A	4.09	MG/M3	0.25	1.00	445.0	02/22/2022 11:11	PP
TOTAL SUSPENDED SOLIDS	1.75 I	MG/L	0.570	2.280	SM2540D	02/21/2022 13:18	TG/MN
BIOCHEMICAL OXYGEN DEMAND	1 U	MG/L	1	4	SM5210B	02/18/2022 16:00	LD/LD
NITRATE+NITRITE AS N	0.006 U	MG/L	0.006	0.024	SYSTEA EASY	02/25/2022 13:52	CW/PP
TOTAL NITROGEN	0.607	MG/L	0.05	0.20	SYSTEA+351	02/25/2022 13:52	HR/CW/PP

Submission Number: 22021158
Sample Number: 004
Sample Description: WQL #4
Sample Date: 02/17/2022
Sample Time: 0845
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	02/28/2022 11:43	CW
TOTAL KJELDAHL NITROGEN	0.430	MG/L	0.05	0.20	351.2	02/25/2022 10:11	HR
ORTHO PHOSPHORUS AS P	0.010	MG/L	0.002	0.008	365.3	02/18/2022 17:04	KA
TOTAL PHOSPHORUS AS P	0.020 I	MG/L	0.008	0.032	365.3	02/28/2022 10:46	KA
CHLOROPHYLL A	3.82	MG/M3	0.25	1.00	445.0	02/22/2022 11:11	PP
TOTAL SUSPENDED SOLIDS	1.25 I	MG/L	0.570	2.280	SM2540D	02/21/2022 13:18	TG/MN
BIOCHEMICAL OXYGEN DEMAND	1 U	MG/L	1	4	SM5210B	02/18/2022 16:00	LD/LD
NITRATE+NITRITE AS N	0.016 I	MG/L	0.006	0.024	SYSTEA EASY	02/25/2022 13:53	CW/PP
TOTAL NITROGEN	0.446	MG/L	0.05	0.20	SYSTEA+351	02/25/2022 13:53	HR/CW/PP

Submission Number: 22021158
Sample Number: 005
Sample Description: WQL #5
Sample Date: 02/17/2022
Sample Time: 1045
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	02/28/2022 11:45	CW
TOTAL KJELDAHL NITROGEN	0.925	MG/L	0.05	0.20	351.2	02/24/2022 11:00	HR
ORTHO PHOSPHORUS AS P	0.010	MG/L	0.002	0.008	365.3	02/18/2022 17:06	KA
TOTAL PHOSPHORUS AS P	0.034	MG/L	0.008	0.032	365.3	02/28/2022 10:47	KA
CHLOROPHYLL A	5.08	MG/M3	0.25	1.00	445.0	02/22/2022 11:11	PP

TOTAL SUSPENDED SOLIDS	1.50 I	MG/L	0.570	2.280	SM2540D	02/21/2022 13:18	TG/MN
BIOCHEMICAL OXYGEN DEMAND	1.32 I	MG/L	1	4	SM5210B	02/18/2022 16:00	LD/LD
NITRATE+NITRITE AS N	0.006 U	MG/L	0.006	0.024	SYSTEA EASY	02/25/2022 13:54	CW/PP
TOTAL NITROGEN	0.925	MG/L	0.05	0.20	SYSTEA+351	02/25/2022 13:54	HR/CW/PP

Submission Number: 22021158
Sample Number: 006
Sample Description: WQL #6

Sample Date: 02/17/2022
Sample Time: 0905
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	02/28/2022 11:47	CW
TOTAL KJELDAHL NITROGEN	0.782	MG/L	0.05	0.20	351.2	02/24/2022 11:01	HR
ORTHO PHOSPHORUS AS P	0.010	MG/L	0.002	0.008	365.3	02/18/2022 17:07	KA
TOTAL PHOSPHORUS AS P	0.020 I	MG/L	0.008	0.032	365.3	02/28/2022 10:48	KA
CHLOROPHYLL A	4.19	MG/M3	0.25	1.00	445.0	02/22/2022 11:11	PP
TOTAL SUSPENDED SOLIDS	1.25 I	MG/L	0.570	2.280	SM2540D	02/21/2022 13:18	TG/MN
BIOCHEMICAL OXYGEN DEMAND	1 U	MG/L	1	4	SM5210B	02/18/2022 16:00	LD/LD
NITRATE+NITRITE AS N	0.006 U	MG/L	0.006	0.024	SYSTEA EASY	02/25/2022 13:54	CW/PP
TOTAL NITROGEN	0.782	MG/L	0.05	0.20	SYSTEA+351	02/25/2022 13:54	HR/CW/PP

Dale D. Dixon / Laboratory Director

03/01/2022
Date

Tülay 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 colony counts 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 or accuracy not met.
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 analysis lost or not performed.
Q = Sample held beyond accepted hold time.
T = Value reported is < MDL. Reported 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. Standard, Duplicate and Spike values are within control limits. Reported data are usable.
Y = Analysis performed on an improperly preserved sample. Data may be inaccurate.
Z = Too many colonies were present (TNTC). The numeric value represents the filtration volume.
! = Data deviate from historically established concentration ranges.
? = Data rejected and should not be used. Some or all of QC data were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
* = Not reported due to interference.
Oil & Grease - If client does not send sufficient sample quantity for spike evaluation surface water samples are supplied by the laboratory.

NOTES:

MBAS calculated as LAS; molecular weight = 340.
PQL = 4xMDL.
ND = Not detected at or above the adjusted reporting limit.
G1 = Accuracy standard does not meet method control limits, but does meet lab control limits that are in agreement with USEPA generated data. USEPA letter available upon request.
G2 = Accuracy standard exceeds acceptable control limits. Duplicate and spike values are within control limits. Reported data are usable.

COMMENTS:

Chlorophyll A lab filtered at E85086 on 02/18/22 at 0834.

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

Results relate only to the samples.

Benchmark EA South
1001 Corporate Avenue, Suite 102
North Port, FL 34289
(941) 625-3137 / (800) 736-9986
(941) 423-7336 fax
Sample Temperature checked upon receipt at BEAS with Temperature Gun 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 BEA with Temperature Gun ID #258

Client: **GHD Services, Inc.** (HSA ENG)
2675 Winkler Ave. Suite 180
Ft. Myers Fl 33901
Erik Isern (239) 215-3914 Shannon Tucker 239-210-8653
Email EDD Reports to: Andrew Wyatt (Andrew.Wyatt@ghd.com)
2020 PO# 34043123

Kit Shipped to client via UPS Standard in 1 large cooler

Chain of Custody Form: Miromar Lakes WQM

Project Number: 11225022- 00

Profile: 840, QC Report

Laboratory Submission #: 2202158

Station ID	Sample Type[1]	Sample Matrix[2]	Parameters. Preservative[4]. Container Type[3] / Total # of Containers = 4					Laboratory Submission #
			Unique bottle ID 1A	Unique bottle ID 1B	Unique bottle ID 1C	Unique bottle ID 1D	Unique bottle ID 1E	
			NO_3-NO_2 (353.2) TKN (351.2) NH_3 (350.1) TP (365.3) T-N (Calc.)	BOD5 (SM5210B)	Ortho-Phos (Lab Filtered) (365.3)	TSS (SM2540D) -	Chlorophyll a (445.0) Filtered @ BEAS 2/18/22 0834	
			1.1mL 1:4 H_2SO_4 pH<2 ☑ Lot # 21-21	Plain	Plain	Plain	Plain	
			1 x ½ Pint Plastic	1 x 1 Quart Plastic	1 x ½ Pint Plastic	1 x 1 Quart Plastic	1 x 500mL Opaque Plastic	
WQ Location #1	Grab	SW	Date/Time: 2/17/22 0945					1
WQ Location #2	Grab	SW	Date/Time: 0930					2
WQ Location #3A	Grab	SW	Date/Time: 0920					3
WQ Location #4	Grab	SW	Date/Time: 0845					4
WQ Location #5	Grab	SW	Date/Time: 1045					5
WQ Location #6	Grab	SW	Date/Time: 0905					6

Notes:
1. "Sample Type" is used to indicate whether the sample was a grab (G) or whether it was a composite (C).
2. "Sample Matrix" is used to indicate whether the sample is being discharged to drinking water (DW), groundwater (GW), surface water (SW), fresh surface water (FSW), saline surface water (SSW), soil, sediment (SDMNT), or sludge (SLDG).
3. "Container Type" is used to indicate whether the container is plastic (P) or glass (G).
4. **Sample must be refrigerated or stored in wet ice after collection. The temperature during storage should be less than or equal to 6°C (42.8°F).**
5. Under "Preservative," list any preservatives that were added to the sample container. Lot Number of preservative used is specific to the bottles included in the kit. NaThio, H_2SO_4 and HNO_3 do not have expiration dates per the manufacturer. Micro bottles are pre-preserved at manufacturing stage. 40mL vials are pre-preserved at manufacturing stage.
6. 2 Quart plastic bottles are not certified.

Instructions:
1. Each bottle has a label identifying sample ID. premeasured preservative contained in the bottle, sample type, client ID, and parameters for analysis.
2. The following information should be added to each bottle label after collection with permanent black ink: date and time of collection, sampler's name or initials, and any field number or ID.
3. All bottles not containing preservative may be rinsed with appropriate sample prior to collection.
4. The client is responsible for documentation of the sampling event. Please note special sampling events on the sample custody form.
5. Sample kit has been created by BEA using new, certified bottles unless otherwise noted.

Laboratory Sample Acceptability:
pH <2 : ☑ BEA Temperature: 1.9°C
BEAS Temp: 3.8°C

	Relinquished By & Affiliation: (Print & Sign)	Date:	Time:	Received By & Affiliation: (Print & Sign)	Date:	Time:
1	W. McKinney GHD	2.17.22	12:45	Melinda Merchant Melinda Merchant - BEAS	2/17/22	1253
2	Melinda Merchant Melinda Merchant - BEAS	2/18/22	11:37	Benchmark MacHall	2/18/22	11:37
3	Benchmark MacHall MacHall	2/18/22	1527	Nathan Hadsell BEA	2-18-22	1527
4						
5						

BENCHMARK

EnviroAnalytical, Inc.

NELAC CERTIFICATION #E84167

QC REPORT

Submission Number: 22021158

Project Name: MIROMAR LAKES WQM QTLY

SUBMISSION	METHOD	ANALYTE	LAB SAMPLE	ANALYSIS DATE	QC FLAG	QC VALUE	SAMPLE RESULT	DUPLICATE RESULT	LR %RSD	SPK RESULT	STD-SPK RECOVERY
22021158 001	350.1	AMMONIA NITROGEN	611840	02/28/2022 11:35	LR		-0.076	-0.080	3.25		
22021282 010	350.1	AMMONIA NITROGEN	612038	02/28/2022 12:29	LR		-0.073	-0.070	2.95		
	350.1	AMMONIA NITROGEN		02/28/2022 11:23	MB	0.00	0.000				
	350.1	AMMONIA NITROGEN		02/28/2022 11:25	MB	0.00	0.000				
	350.1	AMMONIA NITROGEN		02/28/2022 11:55	MB	0.00	0.000				
	350.1	AMMONIA NITROGEN		02/28/2022 12:21	MB	0.00	0.000				
	350.1	AMMONIA NITROGEN		02/28/2022 12:49	MB	0.00	0.000				
	350.1	AMMONIA NITROGEN		02/28/2022 13:11	MB	0.00	0.000				
22021203 002	350.1	AMMONIA NITROGEN	611927	02/28/2022 15:31	SPK	1.00	3.680			3.720	104.0
22021282 009	350.1	AMMONIA NITROGEN	612037	02/28/2022 12:25	SPK	1.00	1.000			1.130	113.0
22021559 001	350.1	AMMONIA NITROGEN	612501	02/28/2022 11:31	SPK	1.00	1.010			1.170	116.0
22021559 002	350.1	AMMONIA NITROGEN	612502	02/28/2022 11:59	SPK	1.00	1.030			1.180	115.0
	350.1	AMMONIA NITROGEN		02/28/2022 11:27	STD	1.00	0.925				92.5
	350.1	AMMONIA NITROGEN		02/28/2022 11:57	STD	1.00	0.959				95.9
	350.1	AMMONIA NITROGEN		02/28/2022 12:23	STD	1.00	0.962				96.2
	350.1	AMMONIA NITROGEN		02/28/2022 12:51	STD	1.00	0.920				92.0
	350.1	AMMONIA NITROGEN		02/28/2022 13:12	STD	1.00	0.946				94.6
	351.2	TOTAL KJELDAHL NITROGEN		02/23/2022 10:35	LCS	2.00	2.020				101.0
	351.2	TOTAL KJELDAHL NITROGEN		02/23/2022 10:55	LCS	2.00	1.960				98.0
	351.2	TOTAL KJELDAHL NITROGEN		02/23/2022 11:14	LCS	2.00	2.020				101.0
	351.2	TOTAL KJELDAHL NITROGEN		02/23/2022 11:31	LCS	2.00	2.010				101.0
	351.2	TOTAL KJELDAHL NITROGEN		02/24/2022 10:22	LCS	2.00	2.150				108.0
	351.2	TOTAL KJELDAHL NITROGEN		02/24/2022 10:42	LCS	2.00	2.120				106.0

QC FLAGS: MB or BLK = METHOD BLANK LR = LAB REPLICATE MSD = MATRIX SPIKE DUPLICATE STD or LCS = STANDARD SPK or MS = MATRIX SPIKE

SUBMISSION	METHOD	ANALYTE	LAB SAMPLE	ANALYSIS DATE	QC FLAG	QC VALUE	SAMPLE RESULT	DUPLICATE RESULT	LR %RSD	SPK RESULT	STD-SPK RECOVERY
	351.2	TOTAL KJELDAHL NITROGEN		02/24/2022 11:04	LCS	2.00	2.170				109.0
	351.2	TOTAL KJELDAHL NITROGEN		02/24/2022 11:24	LCS	2.00	2.050				103.0
	351.2	TOTAL KJELDAHL NITROGEN		02/25/2022 10:19	LCS	2.00	1.800				90.0
	351.2	TOTAL KJELDAHL NITROGEN		02/25/2022 10:38	LCS	2.00	1.830				91.5
	351.2	TOTAL KJELDAHL NITROGEN		02/25/2022 10:56	LCS	2.00	1.890				94.5
	351.2	TOTAL KJELDAHL NITROGEN		02/25/2022 11:18	LCS	2.00	1.840				92.0
	351.2	TOTAL KJELDAHL NITROGEN		02/25/2022 15:13	LCS	2.00	1.990				99.5
	351.2	TOTAL KJELDAHL NITROGEN		02/25/2022 15:30	LCS	2.00	1.970				98.5
	351.2	TOTAL KJELDAHL NITROGEN		02/25/2022 15:48	LCS	2.00	2.080				104.0
	351.2	TOTAL KJELDAHL NITROGEN		02/25/2022 16:07	LCS	2.00	2.090				105.0
22021128 001	351.2	TOTAL KJELDAHL NITROGEN	611735	02/23/2022 10:25	LR		172.000	176.000	1.63		
22021128 002	351.2	TOTAL KJELDAHL NITROGEN	611736	02/23/2022 11:02	LR		117.000	111.000	3.72		
22021270 001	351.2	TOTAL KJELDAHL NITROGEN	612012	02/24/2022 10:54	LR		132.000	133.000	0.53		
22021311 001	351.2	TOTAL KJELDAHL NITROGEN	612081	02/24/2022 10:11	LR		75.700	77.700	1.84		
22021356 009	351.2	TOTAL KJELDAHL NITROGEN	612148	02/25/2022 10:10	LR		0.784	0.741	3.99		
22021356 010	351.2	TOTAL KJELDAHL NITROGEN	612149	02/25/2022 10:46	LR		0.617	0.692	8.10		
22021413 001	351.2	TOTAL KJELDAHL NITROGEN	612226	02/25/2022 15:37	LR		54.200	54.200	0.00		
22021447 001	351.2	TOTAL KJELDAHL NITROGEN	612308	02/25/2022 15:02	LR		1.490	1.460	1.44		
	351.2	TOTAL KJELDAHL NITROGEN		02/23/2022 10:20	MB	0.00	0.000				
	351.2	TOTAL KJELDAHL NITROGEN		02/23/2022 10:34	MB	0.00	0.000				
	351.2	TOTAL KJELDAHL NITROGEN		02/23/2022 10:54	MB	0.00	0.000				
	351.2	TOTAL KJELDAHL NITROGEN		02/23/2022 11:12	MB	0.00	0.000				
	351.2	TOTAL KJELDAHL NITROGEN		02/23/2022 11:30	MB	0.00	0.000				
	351.2	TOTAL KJELDAHL NITROGEN		02/24/2022 10:06	MB	0.00	0.000				
	351.2	TOTAL KJELDAHL NITROGEN		02/24/2022 10:20	MB	0.00	0.000				
	351.2	TOTAL KJELDAHL NITROGEN		02/24/2022 10:41	MB	0.00	0.000				
	351.2	TOTAL KJELDAHL NITROGEN		02/24/2022 11:03	MB	0.00	0.000				
	351.2	TOTAL KJELDAHL NITROGEN		02/24/2022 11:23	MB	0.00	0.000				
	351.2	TOTAL KJELDAHL NITROGEN		02/25/2022 10:05	MB	0.00	0.000				
	351.2	TOTAL KJELDAHL NITROGEN		02/25/2022 10:18	MB	0.00	0.000				
	351.2	TOTAL KJELDAHL NITROGEN		02/25/2022 10:37	MB	0.00	0.000				
	351.2	TOTAL KJELDAHL NITROGEN		02/25/2022 10:55	MB	0.00	0.000				
	351.2	TOTAL KJELDAHL NITROGEN		02/25/2022 11:17	MB	0.00	0.000				

QC FLAGS: MB or BLK = METHOD BLANK LR = LAB REPLICATE MSD = MATRIX SPIKE DUPLICATE STD or LCS = STANDARD SPK or MS = MATRIX SPIKE

SUBMISSION	METHOD	ANALYTE	LAB SAMPLE	ANALYSIS DATE	QC FLAG	QC VALUE	SAMPLE RESULT	DUPLICATE RESULT	LR %RSD	SPK RESULT	STD-SPK RECOVERY
	351.2	TOTAL KJELDAHL NITROGEN		02/25/2022 14:53	MB	0.00	0.000				
	351.2	TOTAL KJELDAHL NITROGEN		02/25/2022 15:12	MB	0.00	0.000				
	351.2	TOTAL KJELDAHL NITROGEN		02/25/2022 15:29	MB	0.00	0.000				
	351.2	TOTAL KJELDAHL NITROGEN		02/25/2022 15:46	MB	0.00	0.000				
	351.2	TOTAL KJELDAHL NITROGEN		02/25/2022 16:06	MB	0.00	0.000				
	351.2	TOTAL KJELDAHL NITROGEN		02/23/2022 10:13	PQL	0.25	0.204				81.6
	351.2	TOTAL KJELDAHL NITROGEN		02/24/2022 10:03	PQL	0.25	0.223				89.2
	351.2	TOTAL KJELDAHL NITROGEN		02/25/2022 09:59	PQL	0.25	0.210				84.0
	351.2	TOTAL KJELDAHL NITROGEN		02/25/2022 14:50	PQL	0.25	0.225				90.0
	351.2	TOTAL KJELDAHL NITROGEN		02/23/2022 10:07	QCS	2.50	2.400				96.0
	351.2	TOTAL KJELDAHL NITROGEN		02/24/2022 09:56	QCS	2.50	2.700				108.0
	351.2	TOTAL KJELDAHL NITROGEN		02/25/2022 09:52	QCS	2.50	2.410				96.4
	351.2	TOTAL KJELDAHL NITROGEN		02/25/2022 14:43	QCS	2.50	2.700				108.0
22021084 003	351.2	TOTAL KJELDAHL NITROGEN	611644	02/23/2022 10:59	SPK	2.00	2.680			2.710	102.0
22021156 001	351.2	TOTAL KJELDAHL NITROGEN	611834	02/24/2022 10:09	SPK	2.00	2.990			3.030	102.0
22021158 001	351.2	TOTAL KJELDAHL NITROGEN	611840	02/23/2022 11:18	SPK	2.00	2.430			2.520	105.0
22021211 001	351.2	TOTAL KJELDAHL NITROGEN	611946	02/23/2022 10:22	SPK	2.00	3.550			3.510	98.0
22021211 002	351.2	TOTAL KJELDAHL NITROGEN	611947	02/23/2022 10:40	SPK	2.00	3.370			3.430	103.0
22021223 002	351.2	TOTAL KJELDAHL NITROGEN	611961	02/24/2022 10:27	SPK	2.00	3.140			3.220	104.0
22021278 001	351.2	TOTAL KJELDAHL NITROGEN	612024	02/24/2022 11:09	SPK	2.00	5.370			5.450	104.0
22021311 002	351.2	TOTAL KJELDAHL NITROGEN	612082	02/24/2022 10:52	SPK	2.00	4.360			4.220	93.0
22021325 001	351.2	TOTAL KJELDAHL NITROGEN	612100	02/25/2022 15:35	SPK	2.00	3.370			3.340	98.5
22021325 002	351.2	TOTAL KJELDAHL NITROGEN	612101	02/25/2022 15:53	SPK	2.00	3.610			3.430	91.0
22021355 002	351.2	TOTAL KJELDAHL NITROGEN	612138	02/25/2022 10:24	SPK	2.00	2.990			3.030	102.0
22021356 008	351.2	TOTAL KJELDAHL NITROGEN	612147	02/25/2022 11:04	SPK	2.00	2.590			2.450	92.8
22021416 001	351.2	TOTAL KJELDAHL NITROGEN	612232	02/25/2022 14:55	SPK	2.00	3.430			3.400	98.5
22021416 002	351.2	TOTAL KJELDAHL NITROGEN	612233	02/25/2022 15:17	SPK	2.00	3.570			3.480	95.5
22021420 001	351.2	TOTAL KJELDAHL NITROGEN	612237	02/25/2022 10:44	SPK	2.00	3.250			3.090	92.0
22021446 002	351.2	TOTAL KJELDAHL NITROGEN	612306	02/25/2022 10:08	SPK	2.00	2.830			2.860	102.0
22021118 001	365.3	ORTHO PHOSPHORUS AS P	611705	02/18/2022 14:33	LR		0.001	0.001	0.00		
22021158 001	365.3	ORTHO PHOSPHORUS AS P	611840	02/18/2022 16:57	LR		0.004	0.004	7.64		
22021172 009	365.3	ORTHO PHOSPHORUS AS P	611887	02/18/2022 17:31	LR		0.008	0.007	7.35		
	365.3	ORTHO PHOSPHORUS AS P		02/18/2022 15:33	MB	0.00	0.000				

QC FLAGS: MB or BLK = METHOD BLANK LR = LAB REPLICATE MSD = MATRIX SPIKE DUPLICATE STD or LCS = STANDARD SPK or MS = MATRIX SPIKE

SUBMISSION	METHOD	ANALYTE	LAB SAMPLE	ANALYSIS DATE	QC FLAG	QC VALUE	SAMPLE RESULT	DUPLICATE RESULT	LR %RSD	SPK RESULT	STD-SPK RECOVERY
	365.3	ORTHO PHOSPHORUS AS P		02/18/2022 15:34	MB	0.00	0.000				
	365.3	ORTHO PHOSPHORUS AS P		02/18/2022 15:39	MB	0.00	0.000				
	365.3	ORTHO PHOSPHORUS AS P		02/18/2022 15:43	MB	0.00	0.000				
	365.3	ORTHO PHOSPHORUS AS P		02/18/2022 16:51	MB	0.00	0.000				
	365.3	ORTHO PHOSPHORUS AS P		02/18/2022 16:52	MB	0.00	0.000				
	365.3	ORTHO PHOSPHORUS AS P		02/18/2022 17:12	MB	0.00	0.000				
	365.3	ORTHO PHOSPHORUS AS P		02/18/2022 17:29	MB	0.00	0.000				
	365.3	ORTHO PHOSPHORUS AS P		02/18/2022 17:36	MB	0.00	0.000				
	365.3	ORTHO PHOSPHORUS AS P		02/18/2022 14:31	PQL	0.01	0.010				98.0
	365.3	ORTHO PHOSPHORUS AS P		02/18/2022 16:55	PQL	0.01	0.009				95.0
22021118 002	365.3	ORTHO PHOSPHORUS AS P	611706	02/18/2022 15:37	SPK	0.20	0.198			0.172	87.1
22021131 001	365.3	ORTHO PHOSPHORUS AS P	611739	02/18/2022 16:59	SPK	0.20	0.264			0.291	114.0
22021172 010	365.3	ORTHO PHOSPHORUS AS P	611888	02/18/2022 17:33	SPK	0.20	0.209			0.239	115.0
	365.3	ORTHO PHOSPHORUS AS P		02/18/2022 15:35	STD	0.20	0.166				83.2
	365.3	ORTHO PHOSPHORUS AS P		02/18/2022 14:50	STD	0.20	0.187				93.7
	365.3	ORTHO PHOSPHORUS AS P		02/18/2022 15:01	STD	0.20	0.193				96.5
	365.3	ORTHO PHOSPHORUS AS P		02/18/2022 16:53	STD	0.20	0.175				87.6
	365.3	ORTHO PHOSPHORUS AS P		02/18/2022 17:14	STD	0.20	0.185				92.5
	365.3	ORTHO PHOSPHORUS AS P		02/18/2022 17:30	STD	0.20	0.186				93.1
22021081 001	365.3	TOTAL PHOSPHORUS AS P	611632	02/28/2022 10:27	LR		0.024	0.024	2.36		
22021270 001	365.3	TOTAL PHOSPHORUS AS P	612012	02/28/2022 09:57	LR		14.900	14.400	2.32		
22021413 001	365.3	TOTAL PHOSPHORUS AS P	612226	02/28/2022 14:53	LR		6.680	6.480	2.17		
22021413 001	365.3	TOTAL PHOSPHORUS AS P	612226	02/28/2022 14:53	LR		6.680	6.480	2.17		
22021447 001	365.3	TOTAL PHOSPHORUS AS P	612308	02/28/2022 14:17	LR		4.720	4.670	0.72		
22021447 001	365.3	TOTAL PHOSPHORUS AS P	612308	02/28/2022 14:17	LR		4.720	4.670	0.72		
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 09:31	MB	0.00	0.000				
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 09:32	MB	0.00	0.000				
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 09:45	MB	0.00	0.000				
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 09:55	MB	0.00	0.000				
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 10:09	MB	0.00	0.000				
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 10:14	MB	0.00	0.000				
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 13:49	MB	0.00	0.000				
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 13:50	MB	0.00	0.000				

QC FLAGS: MB or BLK = METHOD BLANK LR = LAB REPLICATE MSD = MATRIX SPIKE DUPLICATE STD or LCS = STANDARD SPK or MS = MATRIX SPIKE

SUBMISSION	METHOD	ANALYTE	LAB SAMPLE	ANALYSIS DATE	QC FLAG	QC VALUE	SAMPLE RESULT	DUPLICATE RESULT	LR %RSD	SPK RESULT	STD-SPK RECOVERY
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 14:04	MB	0.00	0.000				
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 14:15	MB	0.00	0.000				
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 14:29	MB	0.00	0.000				
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 14:40	MB	0.00	0.000				
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 13:49	MB	0.00	0.000				
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 13:50	MB	0.00	0.000				
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 14:04	MB	0.00	0.000				
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 14:15	MB	0.00	0.000				
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 14:29	MB	0.00	0.000				
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 14:40	MB	0.00	0.000				
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 09:34	PQL	0.02	0.022				111.0
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 13:51	PQL	0.02	0.019				95.0
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 13:51	PQL	0.02	0.019				95.0
22021156 001	365.3	TOTAL PHOSPHORUS AS P	611834	02/28/2022 09:59	SPK	0.20	1.980			2.000	112.0
22021325 002	365.3	TOTAL PHOSPHORUS AS P	612101	02/28/2022 13:54	SPK	0.20	0.285			0.292	103.0
22021325 002	365.3	TOTAL PHOSPHORUS AS P	612101	02/28/2022 13:54	SPK	0.20	0.285			0.292	103.0
22021416 002	365.3	TOTAL PHOSPHORUS AS P	612233	02/28/2022 15:06	SPK	0.20	0.382			0.435	126.0
22021416 002	365.3	TOTAL PHOSPHORUS AS P	612233	02/28/2022 15:06	SPK	0.20	0.382			0.435	126.0
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 09:33	STD	0.20	0.219				109.0
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 09:45	STD	0.20	0.219				110.0
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 09:56	STD	0.20	0.223				111.0
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 10:10	STD	0.20	0.223				112.0
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 10:15	STD	0.20	0.224				112.0
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 13:51	STD	0.20	0.220				110.0
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 14:05	STD	0.20	0.225				113.0
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 14:16	STD	0.20	0.222				111.0
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 14:30	STD	0.20	0.225				112.0
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 14:41	STD	0.20	0.225				112.0
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 13:51	STD	0.20	0.220				110.0
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 14:05	STD	0.20	0.225				113.0
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 14:16	STD	0.20	0.222				111.0
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 14:30	STD	0.20	0.225				112.0
	365.3	TOTAL PHOSPHORUS AS P		02/28/2022 14:41	STD	0.20	0.225				112.0

QC FLAGS: MB or BLK = METHOD BLANK LR = LAB REPLICATE MSD = MATRIX SPIKE DUPLICATE STD or LCS = STANDARD SPK or MS = MATRIX SPIKE

SUBMISSION	METHOD	ANALYTE	LAB SAMPLE	ANALYSIS DATE	QC FLAG	QC VALUE	SAMPLE RESULT	DUPLICATE RESULT	LR %RSD	SPK RESULT	STD-SPK RECOVERY
22021081 006	445.0	CHLOROPHYLL A	611637	02/22/2022 11:11	LR		14.191	14.990	3.89		
22021163 01B	445.0	CHLOROPHYLL A	611856	02/22/2022 11:11	LR		9.317	9.060	1.98		
	445.0	CHLOROPHYLL A, CORRECTED		02/22/2022 11:11	STD	42.93	40.891				95.3
22021124 001	SM2540D	TOTAL SUSPENDED SOLIDS	611727	02/21/2022 13:18	LR		710.000	735.000	2.45		
22021124 002	SM2540D	TOTAL SUSPENDED SOLIDS	611728	02/21/2022 13:18	LR		685.000	710.000	2.53		
22021128 001	SM2540D	TOTAL SUSPENDED SOLIDS	611735	02/21/2022 13:18	LR		90.000	92.000	1.55		
22021128 002	SM2540D	TOTAL SUSPENDED SOLIDS	611736	02/21/2022 13:18	LR		33.750	36.250	5.05		
22021137 001	SM2540D	TOTAL SUSPENDED SOLIDS	611776	02/21/2022 13:18	LR		245.000	225.000	6.02		
22021150 001	SM2540D	TOTAL SUSPENDED SOLIDS	611820	02/21/2022 13:18	LR		275.000	280.000	1.27		
	SM2540D	TOTAL SUSPENDED SOLIDS		02/21/2022 13:18	MB	0.00	0.000				
	SM2540D	TOTAL SUSPENDED SOLIDS		02/21/2022 13:18	MB	0.00	0.000				
	SM2540D	TOTAL SUSPENDED SOLIDS		02/21/2022 13:18	MB	0.00	0.000				
	SM2540D	TOTAL SUSPENDED SOLIDS		02/21/2022 13:18	MB	0.00	0.000				
	SM2540D	TOTAL SUSPENDED SOLIDS		02/21/2022 13:18	MB	0.00	0.000				
	SM2540D	TOTAL SUSPENDED SOLIDS		02/21/2022 13:18	STD	951.00	912.000				95.9
	SM2540D	TOTAL SUSPENDED SOLIDS		02/21/2022 13:18	STD	951.00	852.000				89.6
	SM2540D	TOTAL SUSPENDED SOLIDS		02/21/2022 13:18	STD	951.00	920.000				96.7
	SM2540D	TOTAL SUSPENDED SOLIDS		02/21/2022 13:18	STD	951.00	916.000				96.3
	SM2540D	TOTAL SUSPENDED SOLIDS		02/21/2022 13:18	STD	951.00	932.000				98.0
22021141 001	SM5210B	BIOCHEMICAL OXYGEN DEMAND	611793	02/18/2022 14:04	LR		1110.000	1110.000	0.00		
22021161 003	SM5210B	BIOCHEMICAL OXYGEN DEMAND	611850	02/18/2022 14:04	LR		1.010	0.976	2.42		
	SM5210B	BIOCHEMICAL OXYGEN DEMAND		02/18/2022 14:04	MB	0.00	0.120				
	SM5210B	BIOCHEMICAL OXYGEN DEMAND		02/18/2022 14:04	STD	198.00	223.800				113.0
	SM5210B	BIOCHEMICAL OXYGEN DEMAND		02/18/2022 14:04	STD	198.00	217.800				110.0
	SM5210B	BIOCHEMICAL OXYGEN DEMAND		02/18/2022 14:04	STD	198.00	205.800				103.9
	SM5210B	BIOCHEMICAL OXYGEN DEMAND		02/18/2022 14:04	STD	198.00	198.300				100.2
	SM5210B	BIOCHEMICAL OXYGEN DEMAND		02/18/2022 14:04	STD	198.00	169.800				85.8
	SM5210B	BIOCHEMICAL OXYGEN DEMAND		02/18/2022 14:04	STD	198.00	179.800				90.8
22020498 001	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 10:38	LR		0.000	0.000	0.00		
22020578 002	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 10:49	LR		0.000	0.000	0.00		
22020910 007	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 10:59	LR		0.000	0.000	0.00		
22021074 006	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 11:09	LR		0.000	0.000	0.00		
22021424 002	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 13:57	LR		0.000	0.000	0.00		

QC FLAGS: MB or BLK = METHOD BLANK LR = LAB REPLICATE MSD = MATRIX SPIKE DUPLICATE STD or LCS = STANDARD SPK or MS = MATRIX SPIKE

SUBMISSION	METHOD	ANALYTE	LAB SAMPLE	ANALYSIS DATE	QC FLAG	QC VALUE	SAMPLE RESULT	DUPLICATE RESULT	LR %RSD	SPK RESULT	STD-SPK RECOVERY
22021446 002	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 13:37	LR		0.000	0.000	0.00		
22021459 002	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 14:22	LR		0.000	0.000	0.00		
22021513 001	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 14:21	LR		0.000	0.000	0.00		
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 10:35	MB	0.00	0.000				
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 10:35	MB	0.00	0.000				
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 10:47	MB	0.00	0.000				
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 10:58	MB	0.00	0.000				
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 11:08	MB	0.00	0.000				
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 11:15	MB	0.00	0.000				
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 13:23	MB	0.00	0.000				
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 13:23	MB	0.00	0.000				
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 13:35	MB	0.00	0.000				
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 13:46	MB	0.00	0.000				
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 13:56	MB	0.00	0.000				
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 14:03	MB	0.00	0.000				
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 11:21	PQL	0.01	0.012				120.0
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 13:25	PQL	0.01	0.010				101.0
22020498 001	SYSTEA EAS	NITRATE+NITRITE AS N	610744	02/25/2022 10:38	SPK	2.00	2.010			1.830	91.0
22020578 002	SYSTEA EAS	NITRATE+NITRITE AS N	610884	02/25/2022 10:49	SPK	2.00	1.970			1.800	91.5
22020910 007	SYSTEA EAS	NITRATE+NITRITE AS N	611337	02/25/2022 10:59	SPK	2.00	1.910			1.780	93.4
22021074 006	SYSTEA EAS	NITRATE+NITRITE AS N	611619	02/25/2022 11:09	SPK	2.00	1.920			1.820	94.9
22021446 002	SYSTEA EAS	NITRATE+NITRITE AS N	612306	02/25/2022 13:37	SPK	2.00	4.020			3.600	78.8
22021459 002	SYSTEA EAS	NITRATE+NITRITE AS N	612346	02/25/2022 14:22	SPK	2.00	8.620			8.350	86.9
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 10:36	STD	0.25	0.230				92.2
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 10:38	STD	0.25	0.236				94.4
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 10:48	STD	0.25	0.227				91.0
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 10:58	STD	0.25	0.229				91.5
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 11:22	STD	0.25	0.251				100.0
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 11:16	STD	0.25	0.247				98.7
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 13:24	STD	0.25	0.199				79.4
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 13:26	STD	0.25	0.201				80.5
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 13:36	STD	0.25	0.199				79.6
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 13:46	STD	0.25	0.207				82.7

QC FLAGS: MB or BLK = METHOD BLANK LR = LAB REPLICATE MSD = MATRIX SPIKE DUPLICATE STD or LCS = STANDARD SPK or MS = MATRIX SPIKE

SUBMISSION	METHOD	ANALYTE	LAB SAMPLE	ANALYSIS DATE	QC FLAG	QC VALUE	SAMPLE RESULT	DUPLICATE RESULT	LR %RSD	SPK RESULT	STD-SPK RECOVERY
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 13:57	STD	0.25	0.199				79.6
	SYSTEA EAS	NITRATE+NITRITE AS N		02/25/2022 14:04	STD	0.25	0.204				81.6

NOTES:

QC FLAGS: MB or BLK = METHOD BLANK LR = LAB REPLICATE MSD = MATRIX SPIKE DUPLICATE STD or LCS = STANDARD SPK or MS = MATRIX SPIKE

Surface Water Field Sheets

SURFACE WATER FIELD SHEET
Station Information

STATION ID:	**WQ Location #1**
LOCATION:	Miromar Lakes Parkway Bridge – North Side Rip Rap
DATE/TIME:	2/17/22 0945
ALL TIMES ARE:	(ETZ) 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: 5.0 (feet) (Average of 2 measurements)
Sample Depth: 1.5 (feet)

STREAM FLOW: (Circle One if applicable) No Flow (Flow within Banks) Flood Conditions
WATER LEVEL: (Circle One) Low (Normal) High
WATER SAMPLE COLLECTION DEVICE (Circle One) Van Dorn (Direct Grab with Sample Bottle) 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)
0945	1.5	8.50	8.40	91.8	19.6	32.4	2.39
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: NA
Samples immediately placed on ice? (Yes) No

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

PERSONNEL ON SITE: AW, BM

REMARKS: Secchi disk: 5.0 ft

SURFACE WATER FIELD SHEET
Station Information

STATION ID: **WQ Location #2**

LOCATION: Mouth of Canal – Northeast of Via Portofino Way

DATE/TIME: 2/17/22 0930

ALL TIMES ARE: (EDT) or CDT (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: 8.5 (feet) (Average of 2 measurements)
Sample Depth: 1.5 (feet)

STREAM FLOW: (Circle One if applicable) No Flow (Flow within Banks) Flood Conditions

WATER LEVEL: (Circle One) Low (Normal) High

WATER SAMPLE COLLECTION DEVICE (Circle One) Van Dorn (Direct Grab with Sample Bottle) 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)
0930	1.5	8.44	8.18	90.4	20.2	322	2.07
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: NA

Samples immediately placed on ice? (Yes) No

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

PERSONNEL ON SITE: AW, BM

REMARKS: Secchi disk: 7.0 ft

SURFACE WATER FIELD SHEET
Station Information

STATION ID: **WQ Location #3A**

LOCATION: Outlet Weir – South of Via Salerno Way @ **Depth of 18-inches**

DATE/TIME: 2/17/22 0920

ALL TIMES ARE: (ETZ) 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: 2.0 (feet) (Average of 2 measurements)

Sample Depth: 1.5 (feet)

STREAM FLOW: (Circle One if applicable) No Flow | (Flow within Banks) | Flood Conditions

WATER LEVEL: (Circle One) Low | (Normal) | High

WATER SAMPLE COLLECTION DEVICE (Circle One) Van Dorn | (Direct Grab with Sample Bottle) | 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)
0920	1.5	8.49	6.70	73.5	19.7	321	2.17
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: NA

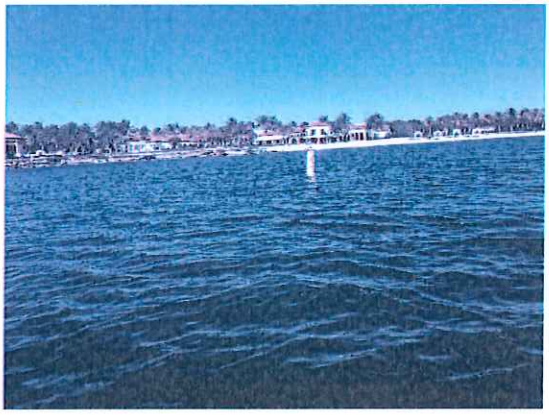
Samples immediately placed on ice? (Yes) No

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

PERSONNEL ON SITE: AW, BM

REMARKS: Secchi disk: 2.0 ft

SURFACE WATER FIELD SHEET
Station Information



STATION ID: **WQ Location #4**

LOCATION: South End of Beach – East of Miromar Lakes Pkwy - Buoy

DATE/TIME: 2/17/22 0845

ALL TIMES ARE: (EST) 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: 5.5 (feet) (Average of 2 measurements) Sample Depth: _____ (feet)

STREAM FLOW: (Circle One if applicable) No Flow | (Flow within Banks) | Flood Conditions

WATER LEVEL: (Circle One) Low | (Normal) | High

WATER SAMPLE COLLECTION DEVICE (Circle One) Van Dorn | (Direct Grab with Sample Bottle) | 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)
0845	1.5	8.26	8.22	80.6	18.7	318	3.14
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: NA

Samples immediately placed on ice? (Yes) No

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

PERSONNEL ON SITE: AW, BM

REMARKS: Secchi disk: 5.5 ft

SURFACE WATER FIELD SHEET
Station Information

STATION ID: **WQ Location #5**

LOCATION: Lake #30 Outfall

DATE/TIME: 2/17/22 1045

ALL TIMES ARE: (ETZ) 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: 2.0 (feet) (Average of 2 measurements) Sample Depth: 0.5 (feet)

STREAM FLOW: (Circle One if applicable) (No Flow) Flow within Banks Flood Conditions

WATER LEVEL: (Circle One) (Low) Normal High

WATER SAMPLE COLLECTION DEVICE (Circle One) Van Dorn (Direct Grab with Sample Bottle) 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)
1045	0.5	8.15	4.80	53.4	20.6	438	2.10
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: NA

Samples immediately placed on ice? (Yes) No

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

PERSONNEL ON SITE: AW, BM

REMARKS:

SURFACE WATER FIELD SHEET
Station Information

STATION ID: **WQ Location #6**

LOCATION: West end of channel. SE corner of south lake @ **Depth of 36-inches**

DATE/TIME: 2/17/22 0905

ALL TIMES ARE: (ETZ) 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: 14.0 (feet) (Average of 2 measurements)

Sample Depth: 1.5 (feet)

STREAM FLOW: (Circle One if applicable) No Flow (Flow within Banks) Flood Conditions

WATER LEVEL: (Circle One) Low (Normal) High

WATER SAMPLE COLLECTION DEVICE (Circle One): (Van Dorn) Direct Grab with Sample Bottle 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)
0905	1.5	8.48	8.40	90.8	19.6	319	2.79
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: NA

Samples immediately placed on ice? (Yes) No

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

PERSONNEL ON SITE: AW, BM

REMARKS: Secchi disk: 7.0 ft

Electrofishing Study Results & Fishery Analysis

PROPERTY NAME: Miromar Lakes CDD (North Lake 5/6)
SUBMITTED TO: Bruce Bernard
SAMPLING DATE: 3/21/2022
Report DATE 5/2/2022
SUBMITTED BY: David Beasley, Peyton Woods and Alex Johnson

The electrofishing report is designed to provide an in-depth representation and analysis of the current state of the fishery. The results allow our biologists to make educated and precise decisions on any improvements that may be needed to meet your goals. The findings and their significance are followed by a discussion including management recommendations.

Goals

Establish and maintain a healthy fishery with good water visibility as well as minimal midge populations.

Methods (Approach)

A Midwest Lake Electrofishing System was used to collect all fish that were observed. Information was gathered on all fish collected during two sampling events. Length, weight, and abundance data were recorded and logged into a database. Relative weights were calculated for Largemouth Bass and Redear Sunfish. During sampling, all fish over three inches were collected to determine species relative abundance and size classes to evaluate the health of the fishery.

Relative Weights

Relative Weight (Wr) is the ratio of the actual weight of a fish to what a healthy fish of the same length should weigh, called standard weight. Fish with high relative weights are fat while those with low relative weights are thin. Comparing Wr is a preferred method of biologists to understand how a fishery is responding to management practices. Proper attention to Wr in relation to the time of year is important when drawing conclusions regarding a fishery. Relative weights of bass below 90 could be an indication of a lack of food resources or difficulty obtaining prey. A relative weight of 100 would indicate a bass of "normal weight" relative to its length and would be desired for a balanced fishery. Those desiring a trophy bass fishery should aim to maintain relative weights of 110 and above.

$$Wr = \frac{\text{Actual Weight of Captured Fish}}{\text{Standard Weight of Fish at Same Length}} \times 100$$

Relative Weight Reference

Wr	Condition of Fish
90	Healthy
100	Quality
110	Trophy

Results & Discussion

Relative Abundance

- We collected nine species of fish: Bluegill (10), Largemouth Bass (70), Redear Sunfish (24), Blue Tilapia (8), Florida Gar (12), Threadfin Shad (2), Pleco/armored catfish (2), Bowfin (1), and Mayan Cichlid (2).
- We removed all stunted Largemouth Bass, Florida Gar, Bowfin, Tilapia, and Vermiculated Sailfin Catfish. All Bluegill, Redear Sunfish, and Threadfin Shad were released. See the appendix at the end of this document for all fish descriptions.
- The survey was conducted at night due to the lake's clear water.
- Catch rates were impacted by water clarity and a lack of cover.
- The predator to prey ratio is 'poor' with more predator fish collected than prey.
- Very few minnow species such as Golden Shiner or Threadfin Shad were observed during sampling.
- Based on the goals of the fishery, young-of-the-year Bluegill counts were 'rare' and adult numbers were 'absent'.

- The Catch per Unit Effort (CPUE) for Largemouth Bass over 8 inches was 67 fish/ hour, for Bluegill it was 15.6 fish/hour, and for Redear Sunfish it was 37.4 fish per hour. The CPUE for all bass was 109.5 fish/hour.

Size Structure

- Largemouth Bass ranged in size from 4.5 to 15.0 inches and averaged 9.4. We collected 52 stock-size Largemouth Bass (over 8 inches) and their length distribution is indicative of a small stunted population of fish with no bass greater than 14 inches collected (Figure 1).
- Only ten Bluegill were collected during sampling, and the Bluegill ranged in size from 2.8 to 5.4 inches with an average of 3.6. Based on the collected fish, the population is small in both size and quantity. (Figure 2).
- Redear Sunfish ranged in size from 3.1 to 11.0 inches, and averaged 8.2 inches. The population consists mainly of adult fish, although multiple size classes of fish were present.
- Florida Gar ranged in size from 16 to 20 inches.

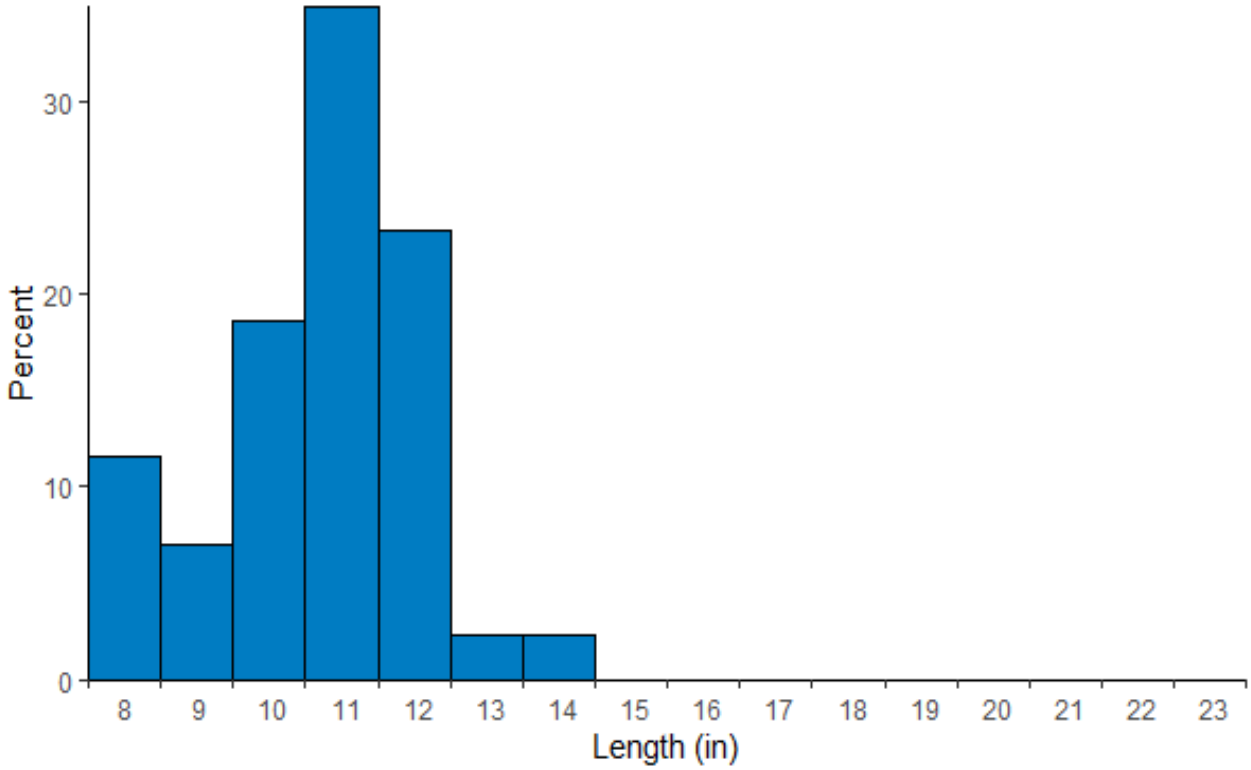


Figure 1 – Largemouth Bass size distribution.

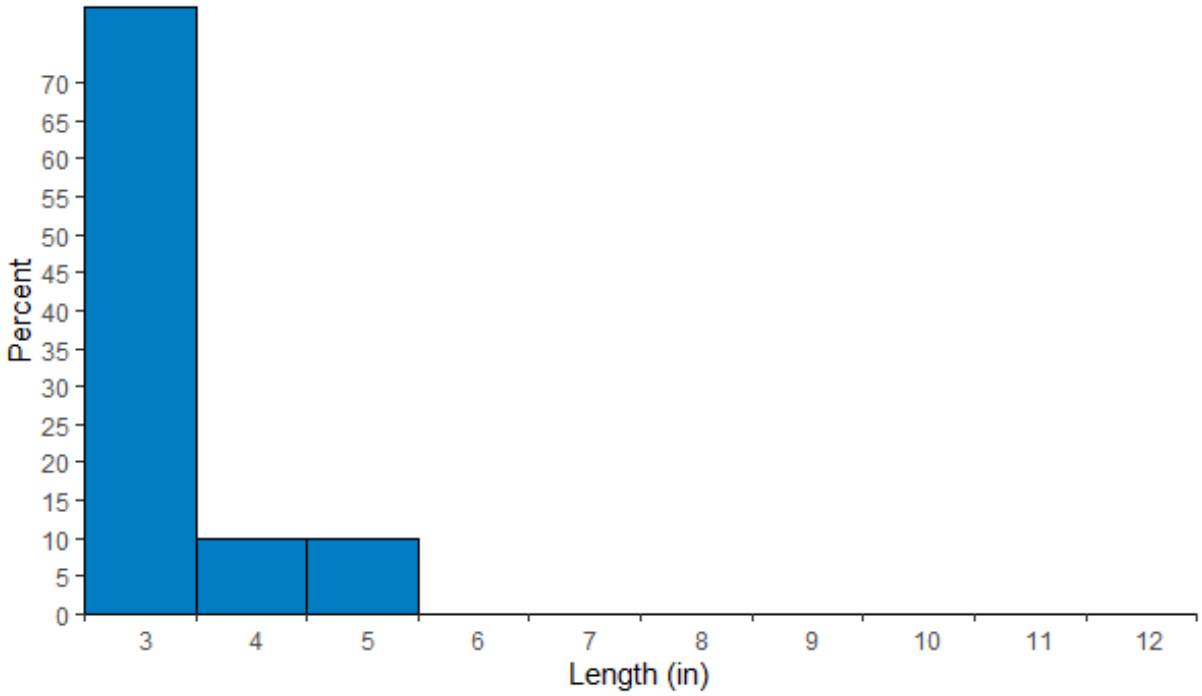


Figure 2 – Bluegill size distribution.

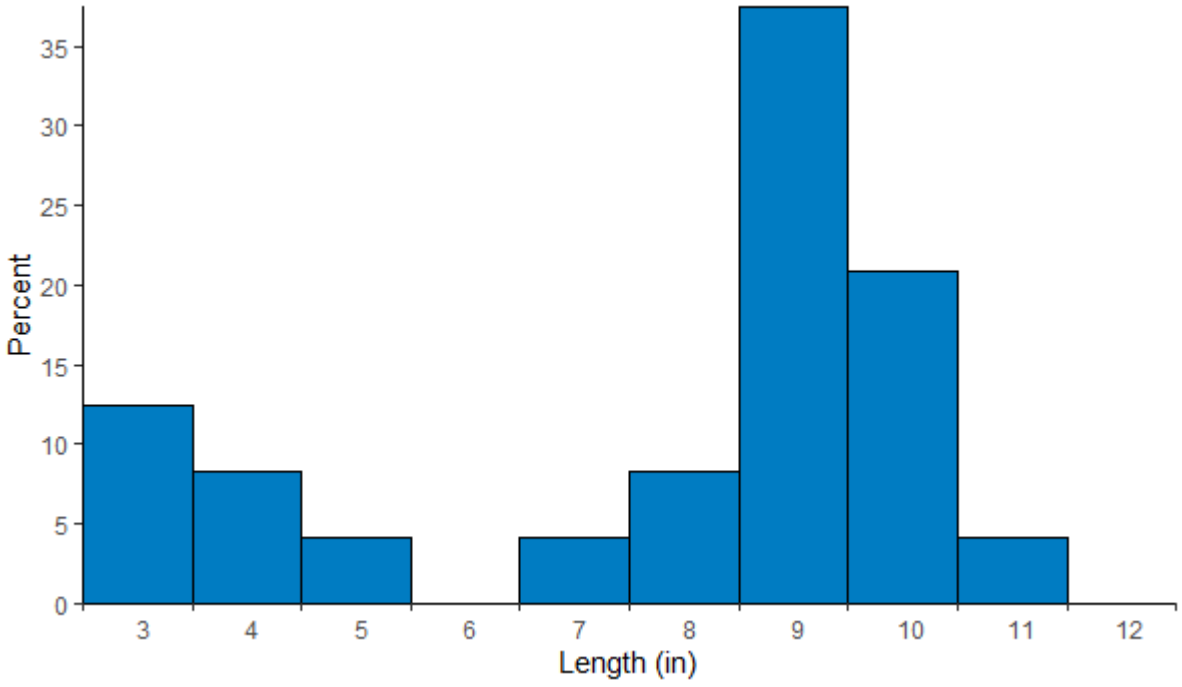


Figure 3- Redear Sunfish size distribution.

Relative Weight

Relative weights (Wr) of Largemouth Bass were 'poor' based on the goals set for the fishery. Wr ranges from 61.8 – 113.8 and averaged 81.2 (Figure 4). Figure 4 provides a visual of the undersized Largemouth Bass present in the lake, with a lack of bass weighing greater than one pound. There is a steep decreasing trend present between relative weight and length of Largemouth Bass (Figure 5). As length increases, the relative weight decreases, suggesting that suitable forage is absent for larger bass.

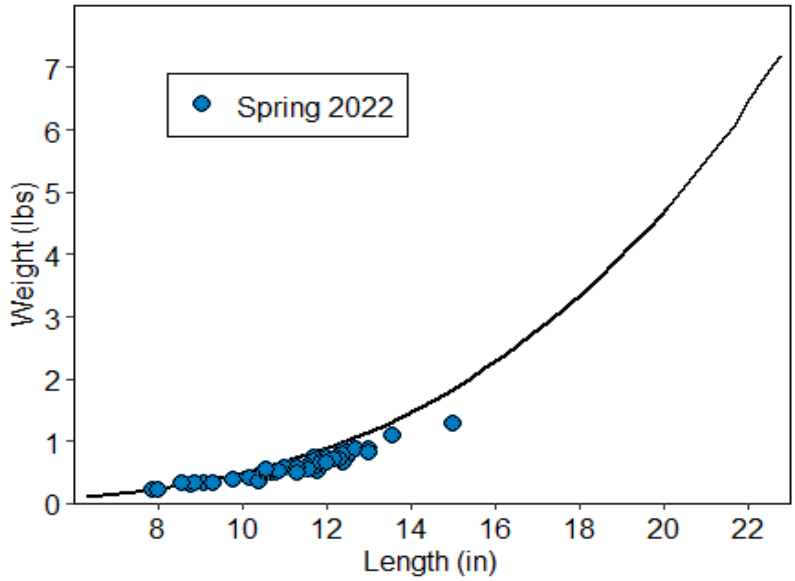


Figure 4 – Largemouth Bass relative weights. The black line represents the relative weight of 100.

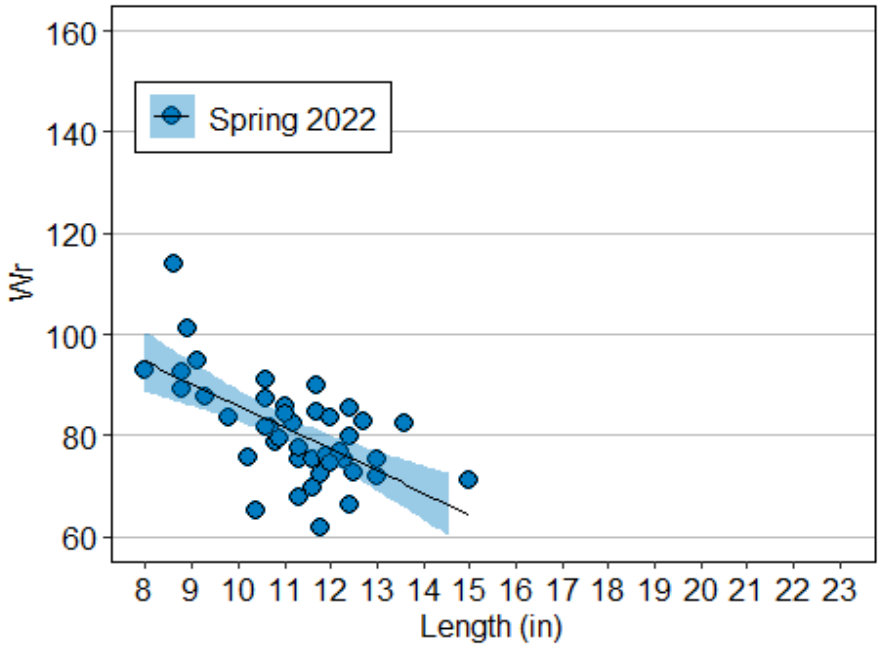


Figure 5 - Largemouth Bass relative weights versus length.

Only one of the ten Bluegill collected was large enough to measure its relative weight. As a result no graph was created. There were 24 Redear Sunfish collected during the survey and 19 were large enough to measure for relative weights. The relative weights for the Redear Sunfish ranged from 70.6-118.8, with an average of 103.1 (Figure 6).

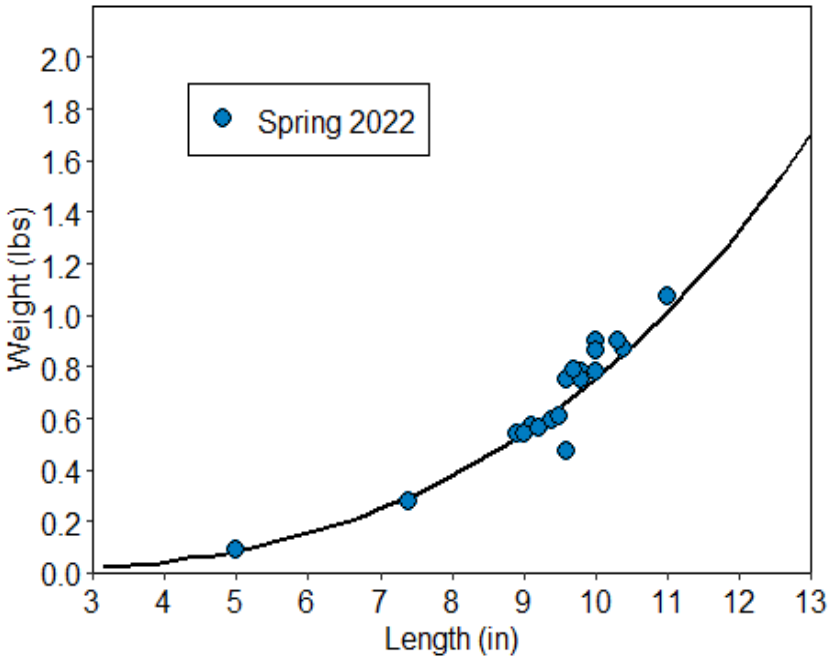


Figure 6 - Redear Sunfish relative weight.

Fish Habitat

Shoreline rip-rap as well as minor amounts of submerged aquatic vegetation are present, but are not providing adequate refuge for forage fish. Following years of minimal vegetation growth throughout the lake as a result of Grass Carp consuming it, aquatic vegetation is starting to reestablish itself in areas throughout the lake. This is likely a result of a diminishing Grass Carp population.

Dense cover required by forage fish needs to be improved through the addition of beneficial aquatic vegetation and artificial structures. The lakes bottom substrate is composed mainly of sandy material, and is an excellent fish spawning material. The overall fish habitat is rated as 'poor'.

Fishery Assessment

The predator fish population is overcrowded relative to the current population of forage fish. Bluegill are an important forage fish species within the food chain and their population is low. A healthy population of Bluegill and Redear Sunfish play's a key role in the process of controlling aquatic insects, including midge larvae.

Fisheries managers compute relative weight to assess fish condition, and our results indicate that Largemouth Bass relative weights are well below optimal. This data is supported by the lack of small and intermediate sized forage fish (Bluegill, Redear Sunfish, Threadfin Shad, Tilapia). Largemouth Bass will remain undersized and underweight until the forage base improves. During this time as the bass are overpopulated relative to the forage base, it will be difficult to establish a thriving population of forage fish.

Although the current population of small and intermediate size forage fish are being suppressed by predator fish, observations as well as data indicate that the forage population is in poor shape due to insufficient cover as well as a lack of available food. To improve the population of forage fish the availability of cover as well as a reliable food source must be improved.

Conclusions & Recommendations

The forage base will need to be supported through improving the fish habitat, improving their food source as well as reducing the number of predator fish. A dense population of phytoplankton and zooplankton would solve the forage bases food source issues, but it would conflict with the goal of good water clarity. Based on the goals, the best approach to improving the food source for forage fish, as well as improving the amount of cover for forage fish will be to promote the growth of aquatic vegetation species throughout the lake. To do this successfully while minimizing the risk of vegetation growing on the beach areas and in front of waterfront homes, it would be best to install aquatic vegetation species that can coexist with a moderate population of Grass Carp (i.e. carp do not eat them). If done correctly the lake can have 5-10 percent coverage or greater of aquatic vegetation while still utilizing Grass Carp to cost effectively suppress many species of vegetation throughout the lake where plants are undesired. Determining the actual areas where vegetation will be installed/tolerated will require further discussion.

A strategy of this nature is an ideal approach to striking a balance between all goals while also helping to limit the future budget/effort required to control aquatic vegetation using herbicides.

A summary of our recommendations:

Habitat

- Add artificial manmade cover to protect smaller fish.
- Promote the growth of fragrant White Water Lily's in water depths up to 10 feet deep, as well as emergent vegetation species (Pickerelweed, Duck Potato, Soft Rush) along the shoreline in water depths less than three feet deep. Based on initial observations, there are over 30,000 linear feet of areas that vegetation will likely be tolerated by the communities. It is likely that a portion of the vegetation will need to be protected using exclosures. These exclosures would be constructed of 3-4 foot tall black pvc coated galvanized steel fence material. Exclosures would be installed during the seasonally low water levels in the spring and would most likely stay in place for 18 months.

Fish Stocking

- Stock adult Bluegill and Redear Sunfish greater than 5.5 inches to establish a population of adult forage fish.

Management

- Harvest intermediate size Largemouth Bass as well as Gar via electrofishing and angling to improve the existing population of forage fish as well as reduce predation on any forage fish being stocked.
- Control submersed aquatic vegetation using Grass Carp once species such as Pickerelweed, Duck Potato, Soft Rush and White Water Lily's have been successfully established.

Thank you,
SOLitude Lake Management
Fisheries Biologists
David Beasley, Peyton Woods and Alex Johnson

Projected Budget

Year	Details - North Lake 5/6	Cost	Notes
1	Vegetation test areas (without fencing)	$23,500	Test areas to see if vegetation can be installed successfully without using fenced exclosures. 3,000 Lily Pads, 2,000 Pickerelweed, 1,000 Duck Potato, 1,000 Soft Rush. Lilys will be potted as needed in areas.
1	Vegetation test areas (without fencing)	$48,300	This assumes the initial test areas work and exclosures are not needed. 5,000 Lily Pads, 10,000 Pickerelweed, 2,500 Duck Potato, 2,500 Soft Rush. Lilys will be potted as needed in areas. If exclosures are needed, the cost would be $13.26 per liner foot. The budget to install these exclosures would be pulled from this vegetation installation budget (i.e. less plants would be installed this year).
2	Vegetation Installation (including fencing if needed)	$24,300	3,000 Lily Pads, 4,000 Pickerelweed, 1,250 Duck Potato, 1,250 Soft Rush. Lilys will be potted as needed in areas. If exclosures are needed, the cost would be $13.92 per liner foot. The budget to install these exclosures would be pulled from this vegetation installation budget (i.e. less plants would be installed this year).
2	Vegetation Installation (including fencing if needed)	$50,600	5,000 Lily Pads, 10,000 Pickerelweed, 2,500 Duck Potato, 2,500 Soft Rush. Lilys will be potted as needed in areas. If exclosures are needed, the cost would be $13.92 per liner foot. The budget to install these exclosures would be pulled from this vegetation installation budget (i.e. less plants would be installed this year).
3	Install artificial fish cover in select locations throughout the lake	$65,300	Artificial MossBack fish cover. 20 Safe Haven Kits, 20 Root Wad Kits, 20 Trophy Tree Kits, 40 Trophy Trees at minimum
3	Stock Grass Carp	$8,200	500 fish 10-12 inches long. The number of carp stocked will depend on the amount of undesired submersed aquatic vegetation present. This assumes the desired vegetation species have established and are maturing.
4	Vegetation Installation (including fencing if needed)	$21,200	5,000 Lily Pads. Lilys will be potted as needed in areas. If exclosures are needed, the cost would be $14.62 per liner foot. The budget to install these exclosures would be pulled from this vegetation installation budget (i.e. less plants would be installed this year).
4	Install artificial fish cover in select locations throughout the lake	$42,200	Artificial MossBack fish cover. 10 Safe Haven Kits, 10 Root Wad Kits, 10 Trophy Tree Kits, 50 Trophy Trees at minimum
4	Stock Grass Carp	$8,650	500 fish 10-12 inches long. The number of carp stocked will depend on the amount of undesired submersed aquatic vegetation present. This assumes the desired vegetation species have established and are maturing.

5	Harvest gar and bass and any undesired species over multiple electrofishing events	$30,500	Improve the forage fish population by electrofishing to reduce the number of predator fish, tag female bass to better understand their population. 5 full days on site.
5	Stock Bluegill/Redear Sunfish	$59,600	3,250 pounds, greater than 5.5 inches long. This price is assuming 5% annual inflation. The actual price will depend on fair market value at the time of the sale. Spacing the stocking out further will be required if the relative weights of the previously stocked Bluegill are lower than desired.
6	Harvest gar and bass and any undesired species over multiple electrofishing events	$32,000	Improve the forage fish population by electrofishing to reduce the number of predator fish, tag female bass to better understand their population. 5 full days on site.
6	Stock Bluegill/Redear Sunfish	$62,600	3,250 pounds, greater than 5.5 inches long. This price is assuming 5% annual inflation. The actual price will depend on fair market value at the time of the sale. Spacing the stocking out further will be required if the relative weights of the previously stocked Bluegill are lower than desired.
6	Stock Grass Carp	$9,550	500 fish 10-12 inches long. The number of carp stocked will depend on the amount of undesired submersed aquatic vegetation present. This assumes the desired vegetation species have established and are maturing.
7	Harvest gar and bass and any undesired species over multiple electrofishing events	$33,600	Improve the forage fish population by electrofishing to reduce the number of predator fish, tag female bass to better understand their population. 5 full days on site.
7	Stock Bluegill/Redear Sunfish	$65,700	3,250 pounds, greater than 5.5 inches long. This price is assuming 5% annual inflation. The actual price will depend on fair market value at the time of the sale. Spacing the stocking out further will be required if the relative weights of the previously stocked Bluegill are lower than desired.
7	Stock Grass Carp	$9,550	500 fish 10-12 inches long. The number of carp stocked will depend on the amount of undesired submersed aquatic vegetation present. This assumes the desired vegetation species have established and are maturing.
8	Stock Grass Carp	$21,000	1,000 fish 10-12 inches long. The number of carp stocked will depend on the amount of undesired submersed aquatic vegetation present. This assumes the desired vegetation species have established and are maturing.

8	Harvest gar and bass and any undesired species over multiple electrofishing events	$35,300	Improve the forage fish population by electrofishing to reduce the number of predator fish, tag female bass to better understand their population.
	Projected Budget		
	2023	$71,800	
	2024	$74,900	
	2025	$73,500	
	2026	$72,050	
	2027	$90,100	
	2028	$104,150	
	2029	$108,850	
	2030	$56,300	
	Total	**$651,650**	

Artificial Fish Cover Recommendations

The units below are recommended based on the large amount of surface area they provide for periphyton to grow on. Due to the lack of plankton in the water, all fish cover installed should maximize periphyton growth as well as protect smaller fish.

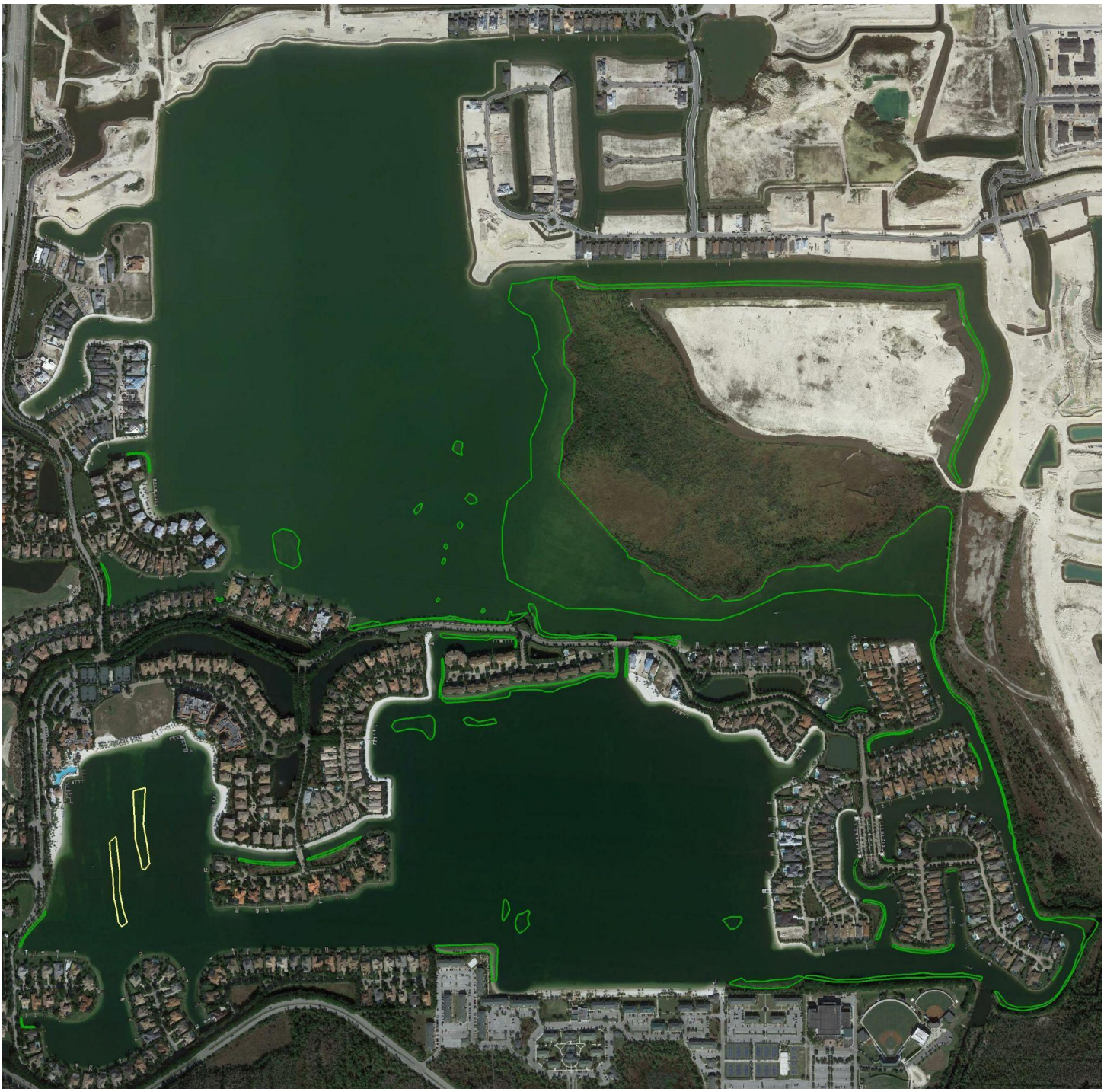
MossBack Safe Haven Kit
(3) 40-inch Trophy Tree Trunks
43 inches tall including base
(54) 46" Limbs

MossBack Trophy Tree Kit
(3) 40-inch Trophy Tree Trunks
43 inches tall including base
(27) 46" Limbs

MossBack Trophy Tree
40-inch Trophy Tree Trunk
(9) 46 inch Limbs

MossBack Root Wad Kit
(3) 20-inch Trophy Tree Trunks
23 inches tall including base
(9) 46 inch Limbs

Draft Map of Vegetation Installation Areas
(primarily areas without homes or beaches)



Appendix: Fish Pictures and Life History

Largemouth Bass
Micropterus salmoides

Management Notes: Largemouth Bass are the most popular warm water sport fish in North America. However, more fish in a pond does not mean more big bass. They have a tendency to become overpopulated and often require active harvest or removal of intermediate sized fish to prevent size classes from becoming stunted. Under trophy management Largemouth Bass can exceed 12 pounds.

Habitat and Biology: Largemouth Bass occupy almost all aquatic habitats. They thrive in lakes, ponds, and reservoirs where they are more tolerant of turbidity and slack water current and are found in the weedy parts of the body of water. Spawning occurs in spring, when water temperatures reach the mid- 60's and takes place in deeper water than other sunfishes, usually1 to 4 feet. Males build and defend a nest. After spawning, the female leaves the nest although she, or another female, may return to spawn later. The eggs hatch in 3 to 4 days. Females produce 2000 to 7000 eggs per pound of body weight. Until they are 2 inches long, largemouth fry feed on plankton, insects and other invertebrates. Adult Largemouth Bass prey upon Bluegill and Redear Sunfish in stocked ponds and upon shad, minnows, smaller sunfishes, crayfishes, and amphibians in natural habitats. Average life span is from 10 to 12 years, although growth rates are extremely variable depending on the water body.

Characteristics: The back of the fish is olive green to brown, and the greenish sides are marked with a broad black band composed of somewhat oval blotches connected by shorter blotches. The belly is white, and between it and the lateral stripe are several rows of scales with darkened centers, giving the fish a striped appearance. The dorsal, caudal, and pectoral fins are varying shades of green and the pelvic and anal fins are clear to white. They typically grow 12 to 30 inches in length.

Bluegill
Lepomis macrochirus

Management Notes: Bluegill are the number one food source for Largemouth Bass. A healthy population with abundant small individuals is critical for ponds being managed as successful Largemouth Bass fisheries. They readily accept pelletized feed, which makes it very straightforward to grow large Bluegill for angling and lots of small fish to feed bass. Bluegill are not only stocked in ponds and lakes as the primary food source for Largemouth Bass, but are also a fun and easy sportfish for kids to catch. In addition to their catchability, they also help bring balance to the ecosystem by feeding on insect larvae, including mosquito larvae.

Habitat and Biology: Bluegill are warm water species that are well suited for the habitat found in ponds and lakes. Bluegill are colony nesters and begin spawning when the water temperatures reach 60°F. They have a protracted spawning season lasting from April to September. The long spawning season of Bluegill gives them tremendous reproductive potential. Bluegill nest in colonies and prefer sites with firm substrates such as gravel within water 1 to 3 feet deep with little to no vegetation or debris. They typically reach maturity at age 1 or 2. Bluegill feed during the day and most actively in the morning and afternoon. They eat a wide variety of organisms including significant amounts of plant material and insect larvae. Young Bluegill feed on plankton while larger individuals eat insects and other fish. They feed throughout the water column. Bluegill live for 5 to 6 years and grow 6 to 10 inches in length.

Identification Characteristics: The mouth on a Bluegill is small with the upper jaw not extending to the front of the eye. The flexible ear flap is always black and is small in juveniles while longer in adults. Juveniles and non-breeding adults are light olive to gray on the back and sides with several evenly spaced, darker vertical bands. The venter varies from pale yellow to white. All but small individuals have a distinct black spot toward the rear of the soft dorsal fin. Breeding males darken, with the black and sides becoming purple.

Redear Sunfish (Shellcracker)
Lepomis microlophus

Management Notes: Due to their preferred diet of snails and clams, Redear Sunfish play a vital role in reducing fish parasites such as black and yellow grub in a pond, which require a mollusk host to complete their life cycle. Redear are usually stocked into small ponds and lakes with Bluegill and Largemouth Bass. They grow quite well in these environments, and because of their diet, do not compete with Bluegill. Their reproduction is limited, however, and a supplemental stocking is recommended every few years to support their population.

Habitat and Ecology: This species occurs in moderate to large streams, rivers, reservoirs, lakes, swamps, and other standing-water habitats. Spawning occurs during May, June and July when water temperatures reach 70°F. They prefer water three to four feet deep, and a firm, shelly bottom, often near a dropoff. Nesting sites are often near aquatic vegetation such as water lilies, cattails, lizard's tail, and maidencane. Breeding behavior is similar to other sunfish, with the males doing the nest building and guarding the young. A female may lay between 15,000 to 30,000 eggs during a spawn. Redear Sunfish have extensive molar surfaces on the pharyngeal arches and associated musculature that enables the fish to crack mollusk shells, hence the local name of shellcracker. Individuals live for six years and grow 8 - 11 inches in length.

Characteristics: The back of this species is light green to brown with scattered dark spots. The sides are light gray to silver. Lower surfaces of the head and venter are light yellow to white. Sides of the head are mottled with brown to dark orange spots. The dorsal fin is light gray while the anal fin is light yellow to white. The pectoral fin is long and pointed, its end reaching past the nostril when bent forward. The common name of this species is derived from the characteristic red or orange spot at the rear of the opercular flap.

Golden Shiner
Notemigonus crysoleucas

Management Notes: Golden Shiners are a great supplemental forage fish for Largemouth Bass ponds. They reproduce several times a season, and routine stocking helps reduce the predation pressure on the Bluegill population. Golden Shiners compete with young Bluegill for food and are therefore best stocked in the fall.

Habitat and Biology: The Golden Shiner is a slow-water fish that thrives in ponds. It usually occurs where there is abundant vegetation and clear water and commonly avoids silty areas. Spawning occurs several times from April to July when water temperatures exceed 68° F. Females lay adhesive eggs in shallow water over vegetation, including filamentous algae and rooted aquatic plants. The eggs are usually broadcast with no nesting or parental care but some Golden Shiners have been reported to spawn over the nests of both Bluegills and Largemouth Bass. Growth is typically rapid and maturity is usually reached at age 2, although fast growing fish may spawn during their second summer. Zooplankton forms a large part of their diet. They are also known to feed on algae, insect larvae, and the eggs of other fish species.

Characteristics: The body of the Golden Shiner is deeply and laterally compressed, with a lateral line that curves toward the venter on the anterior part of the body. The venter has a sharp, fleshly keel extending from between the pelvic fins to the sickle-shaped anal fin. The head is small, with a small, upturned mouth. The back is light greenish olive to light orange; the sides are silvery, the venter white. They grow 2 to 9 inches in length.

Threadfin Shad
Dorosoma petenense

Management Notes: The Threadfin Shad is a favorite food for many game fishes including Largemouth Bass, Hybrid Striped Bass, Smallmouth Bass, and catfish. It is a warm water fish that requires annual spring stocking. This fish is widely introduced throughout the U.S. as a forage fish for game fish.

Habitat and Biology: This pelagic, plankton-feeding species occurs in large, often single-size schools and with Gizzard Shad. The greatest numbers occur in rivers, reservoirs, and large streams, where they can be seen rippling the surface at dawn and dusk. Spawning typically occurs from dawn to sunrise, when water temperatures reach 70°F. The eggs adhere to submerged and floating objects. Females lay from 2,000 to 24,000 eggs. The young and adults feed on a variety of planktonic organisms and organic debris. This fish is very sensitive to changes in temperature and dissolved oxygen, and die offs are frequent in fall and late summer especially when water temperature reaches 42 °F. Threadfin Shad sometimes grow larger than their prey when this happens they tend to take up a large number of the biomass and a method of reduction is required. Life expectancy seldom exceeds 2 to 3 years and they grow 5 to 7 inches in length.

Characteristics: Like the Gizzard Shad, the Threadfin Shad has an elongated posterior dorsal ray, but its mouth is terminal and the lower margin of its upper jaw is not notched. The back is bluish gray with a persistent black or purple shoulder spot. The venter is silver to creamy white. The caudal fin is distinctly yellow (hence the local name "yellowtails). Other fins may be light yellow, dusky, or clear.

Blue Tilapia
Oreochromis aureus

Management Notes: Due to their rapid reproduction, Blue Tilapia can be stocked as a supplemental food source in ponds managed for Largemouth Bass. They can also be placed in ponds for algae control where legal. They are a warm water fish and will die each fall when water cools to about 50° F. Whether stocked for algae control or as a food source, it is important to remember they are not native to the United States and should never be moved from pond to pond. Tilapia should only be stocked by professional biologists who possess a permit and are certified by each state.

Habitat and Biology: Tilapia are tropical fish species that resemble our native sunfish and can control certain aquatic vegetation. Blue Tilapia commonly stocked in the United States are native to the Middle East and northern Africa. They feed on algae (both planktonic and filamentous) and detritus and do not readily consume submerged vascular plants. Because Blue Tilapia are tropical fish, they cannot survive normal winter water temperatures in most of the U.S. In the mid-Atlantic, annual restocking is generally necessary unless a warm water supply (such as thermal spring or power plant cooling reservoir) is available as a refuge where the fish can overwinter. Tilapia are stocked in the spring and reproduce often, providing a steady supply of food for predators. They have demonstrated control of algae in ponds in approximately one month. They are an excellent food fish and can be eaten if caught. The high rate of reproduction, coupled with high fry survival and fast growth, make Blue Tilapia an excellent supplemental forage for largemouth bass.

Characteristics: Blue Tilapia are large cichlids resembling a two-pound Bluegill with rounded fins when fully grown. They are bluish-gray in color with a white underside. They average about 8 inches but can reach up to 20 inches and 8 pounds.

Florida Gar
Lepisosteus platyrhincus

Management Notes: Although native to Florida, gars may be undesirable in a system being actively managed for Largemouth Bass as they compete for the same forage fish.

Characteristics: Florida Gar have irregular round, black spots on the top of the head and over the entire body including the anal fin. It has a shorter, broad snout with a single row of irregularly spaced sharp teeth on the upper and lower jaws. No bony scales are on the throat. Their color is olive-brown on the back and upper sides, with a white to yellow belly. The young may have dark stripes on the back and sides.

Habitat and Biology: The Florida Gar is found throughout peninsular Florida and north into Georgia. It can often be found in medium to large lowland streams such as the Ochlockonee River, lakes and canals with sandy or muddy bottoms and ample vegetation. They inhabit shallow to medium-depth waters and prefer to ambush prey rather than chase them down. Adult gar feed primarily on fish, though they are known to eat crayfish and shrimp as well. They are capable of surviving in poorly oxygenated water due to their ability to gulp air at the surface utilizing their specialized gas bladder. Spawning occurs in late winter and early spring in shallow weedy areas.

Bowfin
Amia calva

Characteristics: The Bowfin has been given other vernacular names such as grindle, grinnel, mudfish, and dogfish. The Bowfin is a long, cylindrical fish with a prominent backbone that flexes upward into a rounded tail. Body color is mottled olive green to light brown on the back, grading to light green to cream on the venter. It has a prominent black spot, which is surrounded by a yellow or orange ring and located near the base of the caudal fin on young Bowfins and adult males. The adult Bowfin's large mouth possesses many sharp, canine teeth.

Habitat and Biology: Bowfins prefer quiet, clear, backwater areas, lingering along the margins of aquatic vegetation, in undercut banks, and around branches and other submerged structures. Bowfins are spring spawners, nesting from May to early June when temperatures are 60° to 66°F. The nests are usually in quiet bays or inlets with abundant water plants and shelter such as stumps or fallen logs. The male Bowfin exhibits extensive parental care. The male clears an area in the mud for the female to lay eggs in, and then fertilizes them. He hovers nearby and aggressively protects the eggs and the fry after they emerge. Hatching typically occurs after 8 to 10 days. Small Bowfin typically form dense schools and remain in or near aquatic vegetation until they reach 4 to 5 inches. Bowfins are able to breathe air, using their swim bladder as a primitive lung, and can be seen coming to the surface and gulping air even in well oxygenated water. This air-breathing ability allows them to utilize shoreline habitats that are not accessible to other predator fish. The Bowfin is an indiscriminate predator that readily preys on a broad variety of arthropod and vertebrate prey, from insects and crawfish to other fish and frogs. They can live 30 years or more and reach lengths from 15 to 24 inches.

Vermiculated Sailfin Catfish
Pterygoplichthys disjunctivus

Characteristics: Vermiculated Sailfin Catfish have worm-like markings all along their body, and have 9-14 dorsal fin rays. They a benthic forager, using its suctorial mouth to attach to surfaces and to consume detritus and algae. They were most likely introduced through fish farm escapes or releases, although aquarium releases cannot be ruled out.

Habitat and Biology: Sailfin Catfish live in nearly any type of slow moving streams, canals, ponds, and lakes; and are normally most abundant along the shore and in shallower waters. They are known to create spawning burrows along shorelines, sometimes undermining canal banks and lake shorelines. Little is known about the vermiculated sailfin's specific habitat preferences. Male and females start maturing when they reach 13 and 11 inches long respectively. Male members of the genus Pterygoplichthys dig out banks to create burrows in which an attracted female will lay her eggs. Females will lay about 2,000 eggs in shoreline burrows, holes, or crevices generally between April and September. The nests are guarded by the female until the eggs hatch. In large numbers, this burrowing behavior by *Pterygoplichthys* contributes to problems with siltation and can potentially destabilize the banks, leading to an increased rate of erosion.

They primarily feed on detritus, algae, sand, small freshwater bivalves, water fleas, and decaying matter. They are most active around dusk, when they root around the bottom sediments looking for worms and insect larvae. They have a sucker-like mouth that is used to scrape algae from stones and other surfaces with their spoon shaped teeth.

Mayan Cichlid

Cichlasoma urophthalmus

Characteristics: Adult and juvenile *C. urophthalmus* have a yellow to olive-brown body, with five to seven distinct vertical bars and a prominent dark ocellus ringed by blue at the base of the caudal fin. Their body color varies greatly in intensity; sometimes with bright red on the chin, throat, and breast. Adult *C. urophthalmus* have a slightly protrusible mouth with three rows of unicuspid teeth in both the upper and lower jaws. The first row of teeth is more pronounced than the other two, and includes teeth differentiated as canines (two or three on each side). The pharyngeal bone is occupied by flattened, crushing-type teeth in the center, surrounded by smaller, fine teeth. The flat, short gill rakers generally range in number from 9 to 11.

Habitat and Characteristics: Mayan Cichlids are very adaptable and live well in a wide variety of habitats including canals, rivers, lakes and marshes. They can tolerate a wide range of salinities. Nest building primarily occurs in April, followed by peak spawning in May and June. Mayan cichlids are biparental substrate spawners, and produce adhesive eggs. When the young hatch, they will immediately swim toward the bottom, where they attach with adhesive head glands. The young begin free-swimming after about five to six days, but continue to be guarded by the parents for days thereafter. They will generally only spawn once per year. Mayan Cichlids are generalist predators, consuming grass shrimp, small fish, snails, and insects along with some incidental detritus and vegetative matter.

J.P. WARD AND ASSOCIATES, LLC.

2301 N.E. 37th ST
FORT LAUDERDALE FL 33308

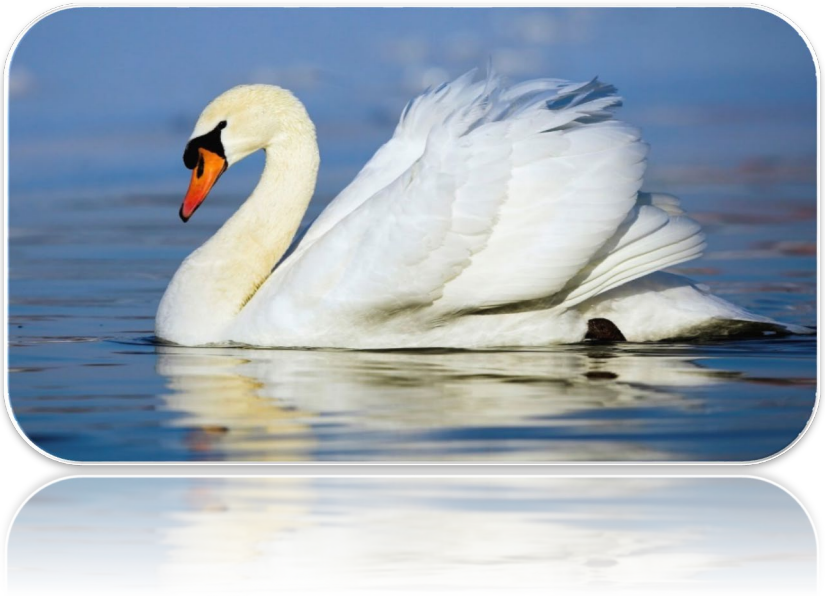
Lee County – Community Development Districts **04/15/2022**
FLORIDA

NAME OF COMMUNITY DEVELOPMENT DISTRICT	NUMBER OF REGISTERED VOTERS AS OF 04/15/2022
Miromar Lakes	1,296
Palermo	54
Esplanade Lake Club	372
Timber Creek Southwest	326

Tammy Lipa – Voice: 239-533-6329
Email: tlipa@lee.vote

Send to: James P. Ward jimward@jpwardassociates.com Phone: 954-658-4900
Cc: Cori Dissinger coridissinger@jpwardassociates.com Phone: 407-913-3545

MIROMAR LAKES COMMUNITY DEVELOPMENT DISTRICT



FINANCIAL STATEMENTS - APRIL 2022

FISCAL YEAR 2022

PREPARED BY:

JPWARD & ASSOCIATES, LLC, 2301 NORTHEAST 37TH STREET, FORT LAUDERDALE, FL 33308

T: 954-658-4900 **E:** JimWard@JPWardAssociates.com

Miromar Lakes Community Development District

Table of Contents

Miromar Lakes Community Development District
Balance Sheet
for the Period Ending April 30, 2022

	Governmental Funds					Account Groups		Totals (Memorandum Only)
		Debt Service Funds			Capital Projects Fund			
	General Fund	Series 2012	Series 2015	Series 2022	Series 2022	General Long Term Debt	General Fixed Assets	
Assets								
Cash and Investments								
General Fund - Invested Cash	$ 898,187	$ -	$ -	$ -	$ -	$ -	$ -	$ 898,187
Debt Service Fund								
Interest Account	-	-	227,625	112,837	-	-	-	340,462
Sinking Account	-	-	460,000	-	-	-	-	460,000
Reserve Account	-	-	457,834	-	-	-	-	457,834
Revenue	-	-	464,171	8	-	-	-	464,179
Prepayment Account	-	-	6,436	-	-	-	-	6,436
Escrow Fund Account				7,869,684				7,869,684
Construction								-
Cost of Issuance					2,684			2,684
Due from Other Funds								
General Fund	-	-	23,633	40,185	-	-	-	63,818
Debt Service Fund(s)			-	-	-	-	-	-
Market Valuation Adjustments	-					-	-	-
Accrued Interest Receivable	-	-	-	-	-	-	-	-
Assessments Receivable	-	-	-	-	-	-	-	-
Accounts Receivable	-	-	-	-	-	-	-	-
Amount Available in Debt Service Funds	-	-	-	-	-	9,662,413	-	9,662,413
Amount to be Provided by Debt Service Funds	-	-	-	-	-	6,927,587	-	6,927,587
Investment in General Fixed Assets (net of depreciation)	-	-	-	-	-	-	36,514,917	36,514,917
Total Assets	**$ 898,187**	**$ -**	**$ 1,639,699**	**$ 8,022,714**	**$ 2,684**	**$ 16,590,000**	**$ 36,514,917**	**$ 63,668,201**

Miromar Lakes Community Development District
Balance Sheet
for the Period Ending April 30, 2022

	Governmental Funds					Account Groups		Totals (Memorandum Only)
		Debt Service Funds			Capital Projects Fund			
	General Fund	Series 2012	Series 2015	Series 2022	Series 2022	General Long Term Debt	General Fixed Assets	
Liabilities								
Accounts Payable & Payroll Liabilities	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Due to Other Funds								-
General Fund		-	-	-	-	-	-	-
Debt Service Fund(s)	63,818	-	-	-	-	-	-	63,818
Other Developer	-	-						-
Bonds Payable	-							-
Current Portion - Series 2012	-	-	-	-	-	525,000	-	525,000
Current Portion - Series 2015	-	-	-	-	-	460,000	-	460,000
Current Portion - Series 2022						0		
Long Term - Series 2012						0		
Long Term - Series 2015	-	-	-	-	-	8,645,000	-	8,645,000
Long Term - Series 2022	-	-	-	-	-	6,960,000	-	6,960,000
Total Liabilities	**$ 63,818**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 16,590,000**	**$ -**	**$ 16,653,818**
Fund Equity and Other Credits								
Investment in General Fixed Assets	-					-	36,514,917	36,514,917
Fund Balance								
Restricted								
Beginning: October 1, 2021 (Audited)	-	690,801	1,136,694	-	-	-	-	1,827,494
Results from Current Operations	-	(690,801)	503,006	8,022,714	2,684	-	-	7,837,603
Unassigned								
Beginning: October 1, 2021 (Audited)	320,696					-	-	-
Allocation of Fund Balance								
Reserve for Water Management System	105,000							105,000
Reserve for Disaster Relief Reserve	95,000							95,000
Results from Prior Year Operations	120,696					-	-	120,696
Results of Current Operations	513,672							513,672
Total Fund Equity and Other Credits	**$ 834,368**	**$ -**	**$ 1,639,699**	**$ 8,022,714**	**$ 2,684**	**$ -**	**$ 36,514,917**	**$ 47,014,382**
Total Liabilities, Fund Equity and Other Credits	**$ 898,187**	**$ -**	**$ 1,639,699**	**$ 8,022,714**	**$ 2,684**	**$ 16,590,000**	**$ 36,514,917**	**$ 63,668,201**

Miromar Lakes Community Development District
General Fund
Statement of Revenues, Expenditures and Changes in Fund Balance
Through April 30, 2022

Description	October	November	December	January	February	March	April	Year to Date	Total Annual Budget	% of Budget
Revenue and Other Sources										
Carryforward	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-	-	N/A
Interest										
Interest - General Checking	3	3	12	9	8	8	8	51	100	51%
Special Assessment Revenue										
Special Assessments - On-Roll	239	210,890	447,855	17,302	16,261	8,554	6,547	707,648	725,565	98%
Special Assessments - Off-Roll	34,164	-	-	34,164	-	-	34,164	102,491	136,655	75%
Miscellaneous Revenue	-	-	-	-	-	-	-	-	-	N/A
Easement Encroachments	-	1,050	-	70	-	-	70	1,189	-	N/A
Intragovernmental Transfer In	-	-	-	-	-	-	-	-	-	N/A
Total Revenue and Other Sources:	**$ 34,406**	**$ 211,943**	**$ 447,868**	**$ 51,544**	**$ 16,269**	**$ 8,562**	**$ 40,788**	**811,379**	**$ 862,320**	**94%**
Expenditures and Other Uses										
Legislative										
Board of Supervisor's - Fees	1,000	1,000	1,000	-	1,000	2,000	1,000	7,000	12,000	58%
Board of Supervisor's - Taxes	77	77	77	-	77	153	77	536	918	58%
Executive										
Professional Management	3,333	3,333	3,333	3,333	3,333	3,333	3,333	23,333	40,000	58%
Financial and Administrative										
Audit Services	-	-	4,100	-	-	-	-	4,100	4,100	100%
Accounting Services	-	-	-	-	-	-	-	-	-	N/A
Assessment Roll Services	-	-	18,000	-	-	-	-	18,000	18,000	100%
Arbitrage/Bond Reamortization	-	1,250	-	-	-	-	-	1,250	2,000	63%
Other Contractual Services										
Legal Advertising	-	297	-	-	-	-	-	297	1,200	25%
Trustee Services	-	3,400	-	-	-	5,859	-	9,258	9,300	100%
Property Appraiser/Tax Collector Fees	-	1,216	-	-	-	-	-	1,216	1,300	94%
Bank Services	36	34	36	37	33	21	25	222	500	44%
Travel and Per Diem	-	-	-	-	-	-	-	-	-	N/A
Communications & Freight Services										
Postage, Freight & Messenger	-	133	64	-	80	74	140	491	800	61%

Miromar Lakes Community Development District
General Fund
Statement of Revenues, Expenditures and Changes in Fund Balance
Through April 30, 2022

Description	October	November	December	January	February	March	April	Year to Date	Total Annual Budget	% of Budget
Insurance	-	7,170	-	-	-	-	-	7,170	7,000	102%
Printing & Binding	-	635	-	-	263	573	340	1,810	2,200	82%
Website Maintenance	50	50	50	-	50	50	-	250	1,200	21%
Office Supplies	-	-	-	-	-	-	-	-	-	N/A
Subscription & Memberships	-	175	-	-	-	-	-	175	175	100%
Legal Services										
Legal - General Counsel	-	4,388	-	1,138	-	-	1,045	6,570	15,000	44%
Legal - Encroachments	-	-	-	-	1,358	-	1,212	2,570	-	N/A
Other General Government Services										
Engineering Services - General Fund	-	1,898	-	-	-	-	-	1,898	5,000	38%
Asset Maps/Cost Estimates	-	-	-	-	-	-	-	-	2,500	0%
Asset Administrative Services	-	833	833	-	833	1,667	833	5,000	10,000	50%
Reserve Analysis	-	7,250	-	-	-	-	-	7,250	-	N/A
Encroachment Agreements	-	-	618	-	-	-	-	618	-	N/A
Contingencies	-	-	-	-	-	-	-	-	-	N/A
Sub-Total:	**4,496**	**33,138**	**28,111**	**4,508**	**7,026**	**13,730**	**8,005**	**99,013**	**133,193**	**74%**
Stormwater Management Services										
Professional Services										
Asset Management	-	2,983	2,983	-	2,983	5,967	2,983	17,900	35,800	50%
NPDES	-	-	-	-	-	-	-	-	3,000	0%
Mitigation Monitoring	-	2,393	-	-	-	850	-	3,243	-	N/A
Utility Services										
Electric - Aeration Systems	-	764	-	546	550	553	1,191	3,604	4,800	75%
Repairs & Maintenance										
Lake System										
Aquatic Weed Control	-	5,438	4,752	-	10,940	4,752	10,496	36,378	76,000	48%
Lake Bank Maintenance	-	-	-	-	-	-	4,001	4,001	3,000	133%
Water Quality Testing	-	-	-	-	-	-	-	-	14,300	0%
Water Control Structures	-	4,500	-	-	-	-	4,000	8,500	25,000	34%
Grass Carp Installation	-	-	-	-	-	-	-	-	-	N/A
Litoral Shelf Barrier/Replanting	-	-	-	-	-	-	-	-	-	N/A

Miromar Lakes Community Development District
General Fund
Statement of Revenues, Expenditures and Changes in Fund Balance
Through April 30, 2022

Description	October	November	December	January	February	March	April	Year to Date	Total Annual Budget	% of Budget
Cane Toad Removal	-	3,300	3,000	-	2,900	6,300	3,600	19,100	36,000	53%
Midge Fly Control	-	-	4,660	-	-	9,150	-	13,810	19,600	70%
Aeration System	-	750	1,444	-	5,050	-	4,710	11,955	12,000	100%
Fish Re-Stocking	-	-	-	-	-	-	-	-	-	N/A
Wetland System										
Routine Maintenance	-	3,134	6,134	-	6,268	4,134	3,228	22,898	48,100	48%
Water Quality Testing	-	-	-	-	-	-	-	-	-	N/A
Capital Outlay										
Aeration Systems	-	-	-	-	-	-	-	-	16,000	0%
Littortal Shelf Replanting/Barrier	-	-	-	-	-	-	-	-	-	N/A
Lake Bank Restoration	-	500	600	-	1,400	2,050	52,756	57,306	-	N/A
Turbidity Screens	-	-	-	-	-	-	-	-	-	N/A
Erosion Restoration	-	-	-	-	-	-	-	-	118,800	0%
Contingencies	-	-	-	-	-	-	-	-	108,000	0%
Sub-Total:	**-**	**23,762**	**23,573**	**546**	**30,092**	**33,755**	**86,965**	**198,694**	**520,400**	**38%**
Other Current Charges										
Hendry County - Panther Habitat Taxes	-	-	-	-	-	-	-	-	500	0%
Reserves for General Fund										
Water Management System	-	-	-	-	-	-	-	-	105,000	0%
Disaster Relief Reserve	-	-	-	-	-	-	-	-	95,000	0%
Sub-Total:	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**200,500**	**0%**
Total Expenditures and Other Uses:	**$ 4,496**	**$ 56,900**	**$ 51,685**	**$ 5,053**	**$ 37,118**	**$ 47,485**	**$ 94,970**	**$ 297,707**	**$ 854,093**	**35%**
Net Increase/ (Decrease) in Fund Balance	29,910	155,043	396,183	46,490	(20,850)	(38,923)	(54,182)	513,672	8,227	
Fund Balance - Beginning	320,696	350,606	505,649	901,833	948,323	927,473	888,550	320,696	320,696	
Fund Balance - Ending	**$ 350,606**	**$ 505,649**	**$ 901,833**	**$ 948,323**	**$ 927,473**	**$ 888,550**	**$ 834,368**	**834,368**	**$ 328,923**	

Miromar Lakes Community Development District
Debt Service Fund - Series 2012 Bonds
Statement of Revenues, Expenditures and Changes in Fund Balance
Through April 30, 2022

Description	October	November	December	January	February	March	April	Year to Date	Total Annual Budget	% of Budget
Revenue and Other Sources										
Carryforward	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-	$ 79,641	0%
Interest Income										
Reserve Account	(10,240)	-	-	-	13,508	2	-	3,270	7,200	45%
Prepayment Account	-	0	0	0	-	0	-	1	-	N/A
Revenue Account	1	1	0	0	4	6	-	13	100	13%
Interest Account	-	-	-	-	0	-	-	0	-	N/A
Special Assessment Revenue	-									
Special Assessments - On-Roll	306	270,220	573,853	22,169	20,836	10,961	-	898,346	929,731	97%
Special Assessments - Off-Roll	-	-	-	-	-	-	-	-	-	N/A
Special Assessments - Prepayments	-	-	-	-	-	-	-	-	-	N/A
Net Inc (Dec) Fair Value Investments	-	-	-	-	-	-	-	-	-	N/A
Operating Transfers In (From Other Funds)	-	-	-	-	-	-	-	-	-	N/A
Total Revenue and Other Sources:	**$ (9,932)**	**$ 270,222**	**$ 573,853**	**$ 22,170**	**$ 34,348**	**$ 10,969**	**$ -**	**901,630**	**$ 1,016,672**	N/A
Expenditures and Other Uses										
Debt Service										
Principal Debt Service - Mandatory										
Series 2012 Bonds	-		-	-	-	-	-	-	$ 525,000	0%
Principal Debt Service - Early Redemptions										
Series 2012 Bonds	-	85,000	-	-	-	-	-	85,000	85,000	100%
Interest Expense										
Series 2012 Bonds	-	206,956	-	-	-	-	-	206,956	412,031	50%
Operating Transfers Out (To Other Funds)	-	-	-	-	-	1,300,474	-	1,300,474	-	N/A
Total Expenditures and Other Uses:	**$ -**	**$ 291,956**	**$ -**	**$ -**	**$ -**	**$ 1,300,474**	**$ -**	**1,592,430**	**$ 1,022,031**	N/A
Net Increase/ (Decrease) in Fund Balance	(9,932)	(21,734)	573,853	22,170	34,348	(1,289,505)	-	(690,801)	(5,359)	
Fund Balance - Beginning	690,801	680,868	659,134	1,232,987	1,255,157	1,289,505	-	690,801	870,552	
Fund Balance - Ending	**$ 680,868**	**$ 659,134**	**$ 1,232,987**	**$ 1,255,157**	**$ 1,289,505**	**$ -**	**$ -**	**-**	**$ 865,193**	

Miromar Lakes Community Development District
Debt Service Fund - Series 2015 Bonds
Statement of Revenues, Expenditures and Changes in Fund Balance
Through April 30, 2022

Description	October	November	December	January	February	March	April	Year to Date	Total Annual Budget	% of Budget
Revenue and Other Sources										
Carryforward	$ -	$ -	$ -	$ -	$ -	$ -	$ -	-	$ 193,689	0%
Interest Income										
Reserve Account	(11,275)	0	0	0	0	0	15,233	3,959	12,000	33%
Interest Account	-	-	-	-	-	-	0	0	-	N/A
Sinking Fund Account	-	-	-	-	-	-	-	-	-	N/A
Prepayment Account	1	1	-	-	-	-	-	1	-	N/A
Revenue Account	3	3	2	2	4	4	4	21	20	105%
Special Assessment Revenue										
Special Assessments - On-Roll	180	158,919	337,489	13,038	12,254	6,446	4,933	533,259	546,703	98%
Special Assessments - Off-Roll	-	-	-	-	-	-	352,264	352,264	352,264	100%
Special Assessments - Prepayments	-	-	-	-	-	-	-	-	-	N/A
Net Inc (Dec) Fair Value Investments	-	-	-	-	-	-	-	-	-	N/A
Operating Transfers In (From Other Funds)	-	-	-	-	-	-	-	-	-	N/A
Bond Proceeds	-	-	-	-	-	-	-	-	-	N/A
Total Revenue and Other Sources:	**$ (11,091)**	**$ 158,923**	**$ 337,491**	**$ 13,040**	**$ 12,258**	**$ 6,450**	**$ 372,435**	**$ 889,506**	**$ 1,104,676**	N/A
Expenditures and Other Uses										
Debt Service										
Principal Debt Service - Mandatory										
Series 2015 Bonds	-	-	-	-	-	-	-	-	$ 460,000	0%
Principal Debt Service - Early Redemptions										
Series 2015 Bonds	-	155,000	-	-	-	-	-	155,000	200,000	78%
Interest Expense										
Series 2015 Bonds	-	231,500	-	-	-	-	-	231,500	453,000	51%
Original Issue Discount	-	-	-	-	-	-	-	-	-	N/A
Operating Transfers Out (To Other Funds)	-	-	-	-	-	-	-	-	-	N/A
Total Expenditures and Other Uses:	**$ -**	**$ 386,500**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**386,500**	**$ 1,113,000**	N/A
Net Increase/ (Decrease) in Fund Balance	(11,091)	(227,577)	337,491	13,040	12,258	6,450	372,435	503,006	(8,324)	
Fund Balance - Beginning	1,136,694	1,125,602	898,025	1,235,517	1,248,557	1,260,815	1,267,265	1,136,694	-	
Fund Balance - Ending	**$ 1,125,602**	**$ 898,025**	**$ 1,235,517**	**$ 1,248,557**	**$ 1,260,815**	**$ 1,267,265**	**$ 1,639,699**	**1,639,699**	**$ (8,324)**	

Miromar Lakes Community Development District
Debt Service Fund - Series 2022 Bonds
Statement of Revenues, Expenditures and Changes in Fund Balance
Through April 30, 2022

Description	March	April	Year to Date	Total Annual Budget	% of Budget
Revenue and Other Sources					
Carryforward	$ -	$ -	-	$ -	N/A
Interest Income					
Reserve Account	-	-	-	-	N/A
Interest Account	-	0	0	-	N/A
Sinking Fund Account	-	-	-	-	N/A
Prepayment Account	-	-	-	-	N/A
Revenue Account	-	-	-	-	N/A
Escrow Fund Account	-	-	-	-	N/A
Special Assessment Revenue					
Special Assessments - On-Roll	-	8,388	8,388	-	N/A
Special Assessments - Off-Roll	-	-	-	-	N/A
Special Assessments - Prepayments	-	-	-	-	N/A
Net Inc (Dec) Fair Value Investments	-	-	-	-	N/A
Operating Transfers In (From Other Funds)	1,300,474	-	1,300,474	-	N/A
Refunding Bond Proceeds (2012 Bonds)	6,713,851	-	6,713,851	-	N/A
Total Revenue and Other Sources:	**$ 8,014,326**	**$ 8,389**	**$ 8,022,714**	**$ -**	N/A
Expenditures and Other Uses					
Debt Service					
Principal Debt Service - Mandatory					
Series 2022 Bonds	-	-	-	$ -	N/A
Principal Debt Service - Early Redemptions					
Series 2022 Bonds	-	-	-	-	N/A
Interest Expense					
Series 2022 Bonds	-	-	-	-	N/A
Original Issue Discount	-	-	-	-	N/A
Operating Transfers Out (To Other Funds)	-	-	-	-	N/A
Total Expenditures and Other Uses:	**$ -**	**$ -**	**-**	**$ -**	N/A
Net Increase/ (Decrease) in Fund Balance	8,014,326	8,389	8,022,714	-	
Fund Balance - Beginning	-	8,014,326	-	-	
Fund Balance - Ending	**$ 8,014,326**	**$ 8,022,714**	**8,022,714**	**$ -**	

Miromar Lakes Community Development District
Capital Project Fund - Series 2022
Statement of Revenues, Expenditures and Changes in Fund Balance
Through April 30, 2022

Description	March	April	Year to Date	Total Annual Budget
Revenue and Other Sources				
Carryforward	$ -	$ -	-	$ -
Interest Income				
Construction Account	-		-	-
Cost of Issuance	-	0	0	-
Refunding Bond Proceeds (2012 Bonds)	246,149	-	246,149	-
Contributions from Private Sources	-	-	-	-
Operating Transfers In (From Other Funds)	-	-	-	-
Total Revenue and Other Sources:	**$ 246,149**	**$ 0**	**$ 246,149**	**$ -**
Expenditures and Other Uses				
Executive				
Professional Management	5,000	-	$ 5,000	$ -
Assessment Roll Services	5,000	-	$ 5,000	$ -
Other Contractual Services				
Trustee Services	5,975	-	$ 5,975	$ -
Printing & Binding	-	-	$ -	$ -
Legal Services				
Legal - Series 2022 Bonds	93,750	-	$ 93,750	-
Payment to Refunded Bonds Escrow Agent				
2022 Refinance	133,740	-	$ 133,740	-
Capital Outlay				
Water-Sewer Combination-Construction	-	-	$ -	$ -
Stormwater Mgmt-Construction	-	-	$ -	$ -
Off-Site Improvements-CR 951 Extension	-	-	$ -	$ -
Construction in Progress	-	-	$ -	-
Cost of Issuance				
Series 2022 Bonds	-	-	-	$ -
Underwriter's Discount	-	-	$ -	-
Operating Transfers Out (To Other Funds)	$ -	$ -	$ -	-
Total Expenditures and Other Uses:	**$ 243,465**	**$ -**	**$ 243,465**	**$ -**
Net Increase/ (Decrease) in Fund Balance	$ 2,684	$ 0	$ 2,684	-
Fund Balance - Beginning	$ -	$ 2,684	-	-
Fund Balance - Ending	**$ 2,684**	**$ 2,684**	**$ 2,684**	**$ -**