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14 August 2023

Ms. Fran Pawlak, Executive Director
Dobson Ranch HOA
2719 South Reyes
Mesa, Arizona 85202

July 2023 Lake Report

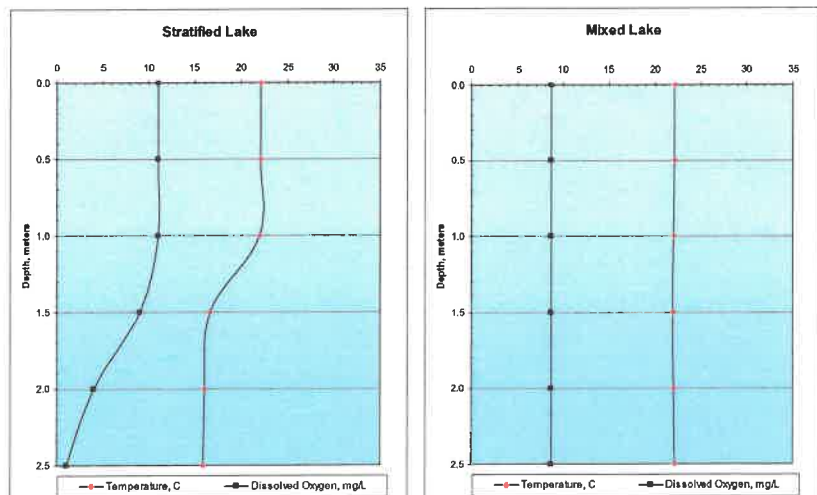
The following report presents the results of field inspections on the Dobson Ranch lakes for the month of July 2023. This report summarizes data collected under the updated program started in 2019 and expanded in 2020 that includes comprehensive testing of one-half of the lakes on a monthly basis from March through October and bi-weekly field inspections twice per month throughout the year. Comprehensive testing on Lakes 1-4 was completed during the month and laboratory reports are provided. Comparison to the last comprehensive test (May 2023) are provided for those lakes. Field sheets for the inspection weeks are also included. Additional data requested for Lake 8 are provided at the end of the narrative report.

A number of tools have been used to evaluate and quantify the water quality of each lake. These include: Arizona Department of Environmental Quality Numeric Targets for Urban Lakes, the Carlson Trophic Status Index (TSI), and a Lake Report Card based on that used by Arizona Game and Fish Department that was developed by Aquatic Consulting & Testing, Inc.

The following provides brief descriptions of some of the more important parameters.

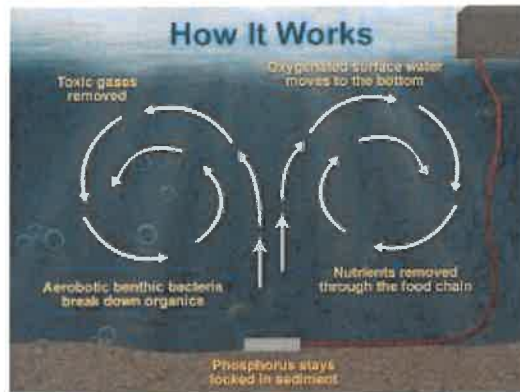
Temperature and Oxygen

Density differences in water caused by temperature produce a physical barrier to the exchange of gases and nutrients between water layers. Typically warmer (less dense) water rests above deeper, cooler (more dense) water. Deep waters can become anoxic (oxygen poor) and cause the formation and release of



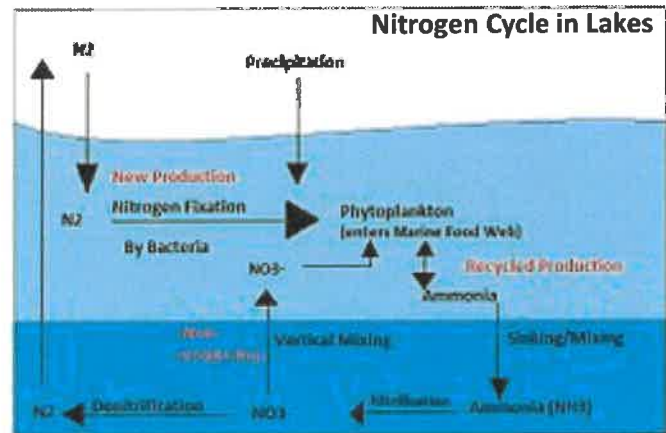
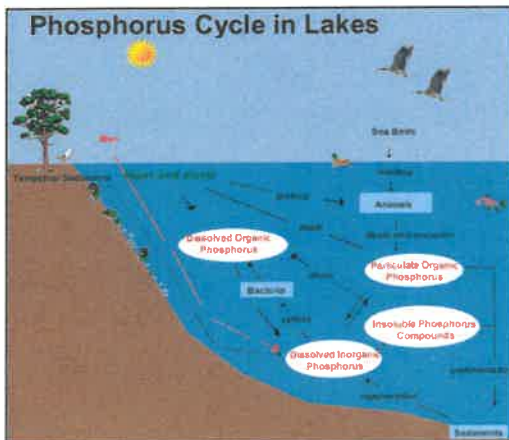
toxic gases as hydrogen sulfide and ammonia, and the release of plant nutrients as phosphates. A vertically mixed lake rarely suffers from such issues.

Aeration systems are designed to circulate and distribute oxygen vertically in the water column. Circulation is necessary for two primary purposes: (1) to deliver oxygen to the deeper waters for fish survival and (2) to maintain an aerobic environment throughout the lake to prevent the release and distribution of phosphates, ammonia, and sulfide from the anaerobic sediment.



Nutrients

Algae are plants and require nitrogen and phosphorus for growth. In the desert southwest, large growths of planktonic algae typically form in the summer when total phosphorus concentrations are above 0.030 mg/L. Nitrogen values usually need to be at least 10 times that of phosphorus and in a soluble, usable (nitrate or ammonia) form to stimulate algae growth. Phosphorus and nitrogen cycles in the aquatic environment are illustrated below.



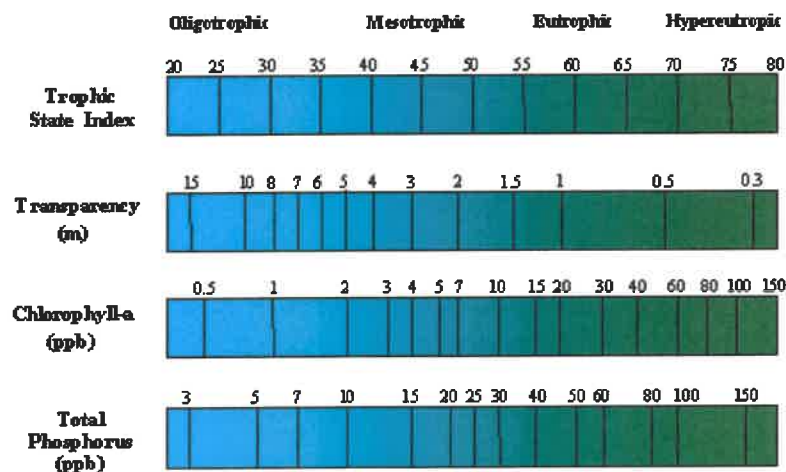
Algae and Aquatic Weeds

Algae are beneficial to a lake as they provide food for aquatic organisms and produce oxygen. However, some algae are undesirable and an overabundance of algae reduces aesthetic appeal and interferes with the ecological balance of the environment. Large die offs of algae can deplete dissolved oxygen in the water via bacterial utilization of the gas during decomposition of the plant biomass. Blue-green (Cyanophyta) algae are least desirable because some forms can form stringers (long filaments) and large colonies (masses) and are difficult to chemically manage because of their mucilaginous coatings.

Submerged weeds can be beneficial because they also produce oxygen and provide habitat and shelter for aquatic animals. However, an overabundance of weeds reduces aesthetic appeal, interferes with fishing and boating activities, interferes with the ecological balance of the environment, and can also deplete dissolved oxygen if a rapid die-off occurs.

Trophic Status Index

The Carlson Trophic Status Index (TSI) is a series of calculations that attempt to put a numerical value on water quality. The more algae and greener a lake is, the more nutrients a lake has, and the less transparent the water becomes, the higher the trophic status and the greater the TSI value. Three values are calculated using the Secchi disk depth, total phosphorus concentration, and chlorophyll measurement to obtain an average TSI. Those lakes with relatively low TSI values are unproductive and termed oligotrophic. Those lakes with very high TSI values are classified as productive (eutrophic). Those lakes with TSI values falling in between are considered mesotrophic.



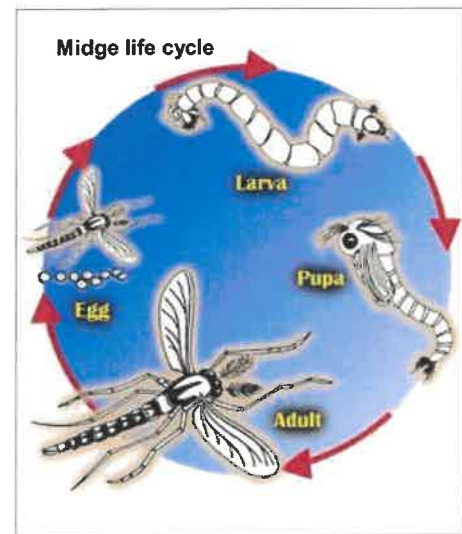
The Trophic Status report addendum provides each of these values for the sampling sites. For southern Arizona, a TSI of less than 60 is the target for reasonable aesthetic quality. Fisheries often flourish when TSI values are in the 55 to 65 range. Severe aesthetic and recreational problems occur when conditions result in TSI values of 80 or higher.

General Characteristics of Oligotrophic and Eutrophic Lakes

Condition	Oligotrophic	Eutrophic
Productivity	Low	High
Algae density	Low	High
Nutrient concentrations	Low	High
Hypolimnion oxygen content	High	Low
Sediment nutrient release	Low to none	High
Organic matter	Low	High
Light transparency	Deep	Shallow
Macrophyte (weed) density	Low	High

Midge flies

Midge flies are common inhabitants of most lakes. Adult females lay hundreds of eggs on the water surface. The eggs settle to the lake bottom and hatch in a few days. Larvae develop and grow in the superficial sediments over a three to four week period. In about 30 days the insect larvae become pupae, rise in the water column, and emerge as adult flies. The adults tend to swarm at dusk and dawn and become a nuisance. They fly into residents' eyes and mouths, congregate under eaves of houses, and leave a sticky messy residue when they die. Management techniques may include stocking of bottom-feeding fishes and application of bacterial or chemical larvicides. The primary control of midge flies has been stocking of fish that eat the larvae living in the lake sediment.



Waterfowl

The adverse impacts of excessive waterfowl include fecal matter deposition and public health issues, turf destruction, aesthetic detracting, and fish consumption. The Arizona Game and Fish Department has recently adopted the following classification for ducks counts (per acre) in urban fishing lakes: <3 (excellent), 3-4 (good), 5-6 (fair), and >6 (poor; relocate non-migratory).

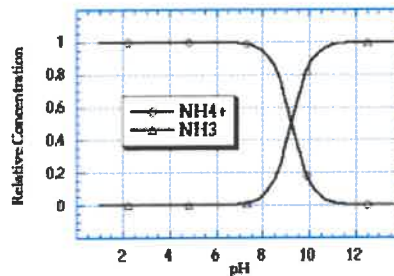
July 2023 Report Narrative Summary

The following pages provide a summary of the monthly survey results. Comprehensive analyses were conducted on Lakes 1-4 on 06 July 2023. A brief narrative description is provided for each lake. Data are additionally qualified in the Lake Report Card (See Supporting Documentation). Lakes 1-8 received visual examination and basic water quality testing on 06 and 27 July 2023.

Lakes 1-4

Lake 1

Lake 1 exhibited no thermal stratification and no significant loss of oxygen in the deep waters (see attached profiles). The surface dissolved oxygen concentrations (6.3-6.4 mg/L) were above the target 6.0 mg/L concentration desired to protect the fishery and no fish stress was observed. Water pH was moderate at 8.1 to 8.4 SU and indicated a low to moderate suspended algae density. Low pH is advantageous because it prevents conversion of ammonium ions (NH_4^+) to toxic (to aquatic animals) ammonia (NH_3) gas (see figure below). Transparency (Secchi disk depth) improved to 1.9 m (6.2 ft) and turbidity remained low at 3.0-5.6 NTU.



Alkalinity (135 mg/L as CaCO_3) and hardness (188 mg/L as CaCO_3) decreased slightly. Values are typical and expected from most waters in central Arizona. The total dissolved solids (mineral) concentration of the lake decreased and remained acceptable at 484 mg/L.

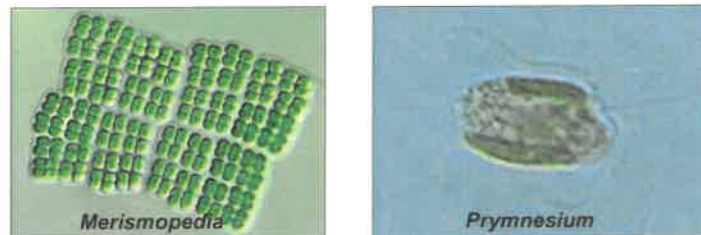
Waterfowl density ranged from one (1) to two (2) per acre which is considered in the excellent range (Arizona Game & Fish Department rating system). No cormorants were observed.

Midge fly density decreased and remained low ($40/\text{m}^2$) and should produce no issues to lakeside residents or visitors.



Bio-available nitrogen and total nitrogen decreased slightly to 0.24 mg/L and 1.27 mg/L, respectively. Phosphorus concentration was stable and low at 0.016 mg/L. Ammonia was minimal at 0.07 mg/L. At ambient temperature and pH, no toxicity issues would result. Chlorophyll concentration, indicative of algal biomass, was low and stable at 1.60 ug/L. Algae density was correspondingly low (2.21×10^3 cells/mL). The dominant alga

was *Merismopedia* (Cyanophyta colony). It can become problematic causing very turbid water. However, total density was sufficiently low to prevent that occurrence. The golden alga, *Prymnesium parvum*, was not observed. *P. parvum* can produce a toxin that destroys exposed cells in the gill tissue of fish, causing asphyxiation and death. No submerged weeds were observed.



The mean TSI value decreased to 43 (range 35-51), with the lake remaining in the mesotrophic category. Decreased phosphorus and improved transparency were the responsible factors for the TSI decrease. The lake improved in clarity and became more aesthetically pleasing, but could develop anoxia in the deep waters during the summer. It should be, otherwise, supportive of the fishery.

The *E. coli* concentration was 2 MPN/100 mL. The maximum bacteria level for full body contact (FBC=swimming) and partial body contact (PBC=fishing and boating) recreation, is 126/100 mL (30-day geometric mean). The single sample maxima are 410 and 575 for FBC and PBC recreation (ARS, Dec 2022).

The Lake Report Card value for July 2023 was 50; down two (2) units from May, but keeping the lake in the “excellent” category.

Lake 2

Lake 2 was vertically mixed. No substantial loss of oxygen in the deep waters occurred (see attached profiles). The surface dissolved oxygen concentrations (6.2-6.3 mg/L) were above the target 6.0 mg/L concentration desired to protect the fishery and no fish stress was observed. Water pH was variable and in the range of 8.1-8.4 SU, and indicated little change in suspended (planktonic) algae density. Low pH is advantageous because it prevents conversion of ammonium ions (NH_4^+) to toxic (to aquatic animals) ammonia (NH_3) gas. Transparency (Secchi disk depth) improved to 0.86 m (2.8 ft) and turbidity ranged from 6.1 to 7.5 NTU.

Alkalinity (135 mg/L as CaCO_3) and hardness (215 mg/L as CaCO_3) were typical and remained elevated, as would be expected from most waters in central Arizona. The total dissolved solids (mineral) concentration increased slightly to 576 mg/L.

Midge fly density remained quite low ($<40/\text{m}^2$) and should produce no issues to lakeside residents or visitors. Maximum waterfowl density was two (2) birds per acre which is considered in the excellent range (Arizona Game & Fish Department rating system). No cormorants were noted.

Bio-available nitrogen concentration was stable at 0.27 mg/L. Total nitrogen decreased slightly to 1.39 mg/L. Phosphorus concentration had a small increase to 0.024 mg/L; a very desirable concentration. Ammonia concentration was 0.08 mg/L. At ambient temperature and pH, no toxicity issues would result.

Chlorophyll concentration, indicative of algal biomass, remained very low at 1.92 ug/L. Algae density decreased to 1.99×10^3 cells/mL. *Merismopedia* was the dominant form. The alga can cause problems, but unlikely to do so at the density measured. No potentially-toxic golden algae (*Prymnesium parvum* or related species) were found. *P. parvum* can produce a toxin that destroys exposed cells in the gill tissue of fish, causing asphyxiation and death. No submerged weeds were observed, including horned pondweed (*Zannichellia palustris*) and brittle naiad (*Najas marina*) that have been problematic in other lakes in the past.

The mean TSI value increased four (4) units to 50 (range 37-61), and continued to place the lake in the mesotrophic category. These lakes are more desirable for an urban lake in terms of aesthetics, and can still support a fishery. They sometimes tend to have dominance of blue-green algae, as was the case during the month.

The *E. coli* concentration was 2 MPN/100 mL and met the single-sample full body contact (swimming) and partial body contact (fishing and boating) recreation standards.

The Lake Report Card value for July 2023 was 46, a three unit increase compared to May 2023 data. The lake remained within the "good" category.

Lake 3

Lake 3 exhibited no thermal stratification (vertically mixed) and had a modest loss of oxygen (0.6 mg/L) in the deep waters (see attached profiles). The surface dissolved oxygen concentrations (6.1-6.2 mg/L) met the minimum target of 6.0 mg/L desired to protect the fishery. No fish stress was observed. Water pH ranged from 8.2 to 8.3 SU and reflected stabilizing conditions. Low pH is more advantageous because it prevents conversion of ammonium ions (NH_4^+) to toxic (to aquatic animals) ammonia (NH_3) gas. Transparency (Secchi disk depth) improved to 2.23 m (7.2 ft). Turbidity was moderate (4.0-7.7 NTU) during the month.

Waterfowl density was less two to three birds per acre (2-3/A) which is considered excellent (Arizona Game & Fish Department rating system). No cormorants were observed.

Midge fly density was low ($<40/\text{m}^2$) and should produce no issues to lakeside residents or visitors.

Alkalinity (144 mg/L as CaCO_3) and hardness (206 mg/L as CaCO_3) were fairly stable and remained slightly elevated as typical and expected from most waters in central Arizona. The total dissolved solids (mineral) concentration of the lake decreased to 468 mg/L.

Bio-available nitrogen concentration was stable at 0.28 mg/L, and total nitrogen increased to 1.51 mg/L. Phosphorus concentration decreased to 0.013 mg/L. The ammonia concentration was 0.07 mg/L and would not create any toxicity issues at ambient temperature and pH.

Chlorophyll concentration, indicative of algal biomass, decreased to 1.16 ug/L. Algae density correspondingly decreased to 1.87×10^3 cells/mL. The dominant alga was *Chlorella*, a relatively benign green (Chlorophyta) unicellular form. No significant issues with the algae occurred. Golden algae were absent.



The mean TSI value decreased significantly to 41 (range 32-48), with the lake remaining in the mesotrophic category. Improved clarity and decreased phosphorus were responsible for the change in score.

The *E. coli* concentration was 2 MPN/100 mL and met partial body contact recreation limits.

The Lake Report Card value for July 2023 was 50, up three units compared to May 2023 and moving the lake into the "excellent" category.

Lake 4

Lake 4 had a weak thermocline at about one meter depth. There was little loss of oxygen in the deep water (see attached profiles). The dissolved oxygen concentrations were reduced at 5.6-6.8 mg/L. Concentrations were below the target of 6.0 mg/L, but fish activity appeared normal. Water pH ranged from 8.1-8.3 SU and indicated a low to moderate algae density and a small change in water quality. Water transparency decreased to 0.89m (2.9 ft). Turbidity increased to 5.5 to 6.5 NTU.

Waterfowl density was 2.6 birds per acre which is considered excellent to fair by the Arizona Game & Fish Department rating system. No cormorants were noted. Midge fly density was quite low ($<40/m^2$) and should produce no issues to lakeside residents or visitors.

Bio-available and total nitrogen concentrations were stable at 0.27 and 1.40 mg/L, respectively. Phosphorus concentration doubled to 0.033 mg/L. The ammonia concentration remained low (0.07 mg/L). At ambient pH and temperature, acute or chronic ammonia toxicity to fish would not occur.

Algae density decreased to 1.17×10^3 cells/mL. The dominant alga was *Chlorella*. The chlorophyll-a concentration (biomass indicator) decreased to 1.20 ug/L; a significant drop. The potentially toxic golden alga (*Prymnesium parvum*) was not present during the month.

The mean TSI value increased four (4) units to 50 (range 32-62), but maintaining the lake in the mesotrophic category. The value indicates the lake should be much more desirable in terms of aesthetics, but possibly less supportive of a robust fishery. The *E. coli* concentrations were 7 and 99 MPN/100 mL. The measurements met the bacteria maximum for partial body contact recreation (fishing and boating).

The Lake Report Card value for July 2023 was 46, showing a three-unit decrease from May. The lake remained within the “good” category.

Lakes 5-8

Lake 5

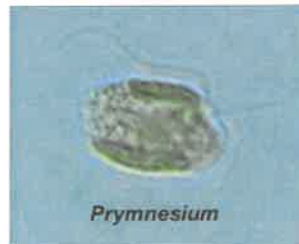
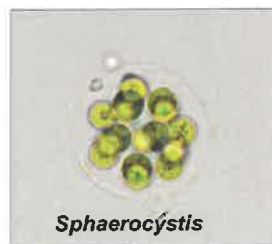
The Lake 1 temperature remained low and ranged from 30.0 C to 32.7 C (86-91 F). Water pH was 8.0-8.2 SU indicating low to moderate algae density. Dissolved oxygen (5.1-5.5 mg/L) was below the target concentration for the fishery, but fish activity appeared normal. Decreases in dissolved oxygen concentration often occur during the summer because of increased respiration and decomposition rates at higher temperatures and the inability of warm water to hold more dissolved oxygen than cold water. Transparency was about one meter and turbidity ranged from 5.5 to 7.3 NTU.

Waterfowl mean density was Less than three (3) per acre which is considered excellent (Arizona Game & Fish Department rating system shown below). No cormorants were noted. Adult midge flies did not appear to produce any nuisance issues to lakeside residents or visitors.

Waterfowl Density Ranking System (AZG&FD)

No. waterfowl per acre	Ranking
<3	Excellent
3-4	Good
5-6	Fair
>6	Poor

No abnormal algae growths or submerged weeds were observed. The green colony, *Sphaerocystis*, dominated the phytoplankton. Cell density was low (1.17×10^3 cells/mL). No golden algae (*Prymnesium parvum* or related species) were detected.

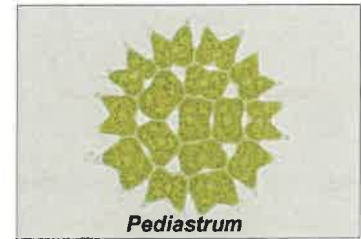


Lake 6

The water temperature of Lake 6 was 31.8-33.1 C (89-92 F). Water pH was 8.4 SU, indicating possible increased algae density. Dissolved oxygen (7.0-8.0 mg/L) was satisfactory for the fishery and fish activity appeared normal. Transparency was approximately one meter, but turbidity increased to 8.5-9.3 NTU.

Two to four (2-4) waterfowl per acre were observed and the density is considered good for an urban lake. Adult midge flies did not appear to produce any nuisance issues to lakeside residents or visitors.

No abnormal algae growth or submerged weeds were observed. The dominant alga was *Pediastrum*, a green (Chlorophyta) colony. The alga is rarely problematic. Total cell density increased in the lake (1.42×10^4 cells/mL). No golden algae (*Prymnesium parvum* or related species) were detected.



Lake 7

Lake temperature range was 30.0 to 33.1 C (86-92 F). Water pH ranged from 8.2-8.4 SU. Dissolved oxygen concentration ranged from 6.5 to 6.9 mg/L and remained satisfactory for the fishery. Fish activity appeared normal. Transparency was stable at about one meter. Turbidity ranged from 2.8-4.6 NTU. The fountain was operating during the reporting period.

Waterfowl density was <1 per acre; an "excellent" rating. Minimal cormorants were observed. Decreased numbers of waterfowl was expected outside the migratory season. Adult midge flies did not appear to produce any nuisance issues to lakeside residents or visitors.

No abnormal algae growth or submerged weeds were observed. During July, *Merismopedia*, was the dominant alga. The total cell density for the algae community was moderate at 7.59×10^4 cells/mL. The density of *Merismopedia* should be carefully monitored because it can cause highly turbid water. No golden algae (*Prymnesium parvum* or related species) were detected.

Lake 8

The temperature of Lake 8 ranged from 32.8-34.0 C (91-93 F). Water pH was moderate at 8.0-8.2 SU and indicated a low to moderate algae density. Dissolved oxygen (5.3-6.8 mg/L) was marginally satisfactory for the fishery and fish activity appeared normal. Transparency was vastly improved to well over a meter and turbidity remained low (1.8-3.8 NTU). Fountains were in operation.

Waterfowl density was about five per acre which is considered poor. No cormorant issues were reported. Adult midge flies did not appear to produce any nuisance issues to lakeside residents or visitors.

No abnormal algae growth or submerged weeds were observed. *Merismopedia*, a sometimes problematic blue-green colony, was the dominant alga. The total phytoplankton density was moderate at 4.11×10^4 cells/mL. No golden algae (*Prymnesium parvum* or related species) were detected.

Special Testing

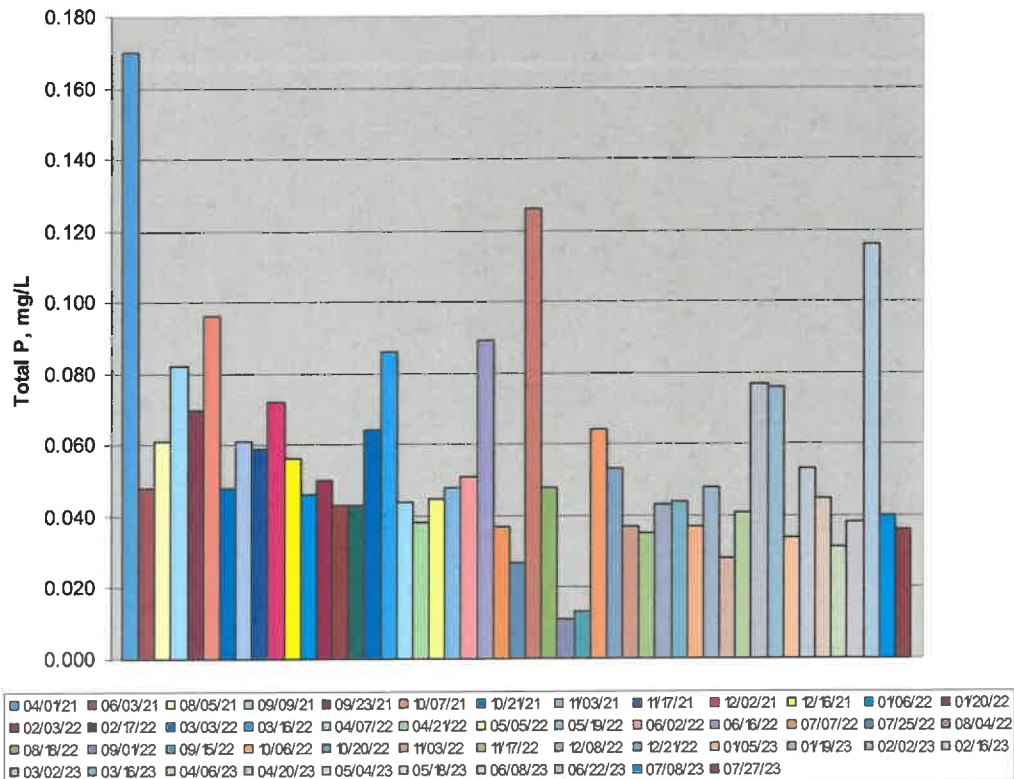
E. coli bacteria and total phosphorus were measured in Lake 8 on two dates during the month. Data are presented below.

Date	<i>E. coli</i> , MPN/100 mL)	Phosphorus, mg/L
07-06-23	272	0.040
07-27-23	99	0.036

The measured bacteria concentrations are below the levels established for partial and full body contact recreation by the State, based on a single-sample maximum.

The phosphorus concentrations in Lake 8 during the recent study period were fairly stable. Noting the Phoslock® application occurred on 29 November 2021, no dramatic reduction in phosphorus is shown in the figure below. However, the impact may be more long-term if it reduces recycling of phosphorus from the sediment. Data collection will be continued.

TOTAL PHOSPHORUS LAKE 8



Next Month:

Lakes 5-8 are scheduled for comprehensive monitoring next month. All lakes will be visually inspected and field data collected two times during the month. Additional monitoring of Lake 8 phosphorus and *E. coli* will continue.

Respectfully:

Aquatic Consulting & Testing, Inc.



Frederick A. Amalfi, Ph.D., C.L.M.



DOBSON RANCH REPORT CARD

DATE OF EVALUATION: Jul-23 CONDITION GOOD SCORE 50 46 50 46 50 46

PREVIOUS EVALUATION: Last complete May-23 CONDITION GOOD SCORE 52 49 47 49 49 49

CONDITION	RATIONALE	4 pts			3 pts			2 pts			1 pt		
		EXCELLENT	GOOD	FAIR	GOOD	FAIR	POOR	SCORE Lake 1	SCORE Lake 2	SCORE Lake 3	SCORE Lake 4		
Transparency - SDz (m) avg.	aesthetics	1.5-2.0	1.0-1.4	0.5-0.9	<0.5		4	2	2		2		
Dissolved oxygen (mg/L) @1m	aquatic life, sediment nutrient release, odors	>7.0	5.6-6.9	4.0-5.5	<4.0		3	3	3		3		
Nitrogen, total (mg/L)	algae and macrophyte growth	<0.5	0.5-1.0	1.0-2.0	>2.0		2	2	2		2		
Phosphorus, total (mg/L)	algae and macrophyte growth	<0.03	0.03-0.05	0.06-0.10	>0.10		4	4	4		4		
Turbidity (NTU) avg.	aesthetics, State std	<5	5-10	11-20	>20		4	3	4		4		
Chlorophyll-a (ug/L) avg.	aesthetics, oxygen balance	<10	11-20	21-30	>30		4	4	4		4		
Algae density (no./mL)	aesthetics	<5 x 10 ⁴	5x10 ⁴ - 9x10 ⁴	1 x 10 ⁵ - 5x 10 ⁵	>5 x 10 ⁵		4	4	4		4		
Midge larvae (# per sq m)	aesthetics	<200	200-400	500-800	>800		4	4	4		4		
Algae form (dominant)	aesthetics, treatability	greens; no floating mats	diatoms; no floating mats	blue-greens; no floating mats	blue-greens; floating mats common		2	2	4		4		
pH (SU) avg.	swimming, fishery, ammonia toxicity	6.5-8.0	8.1-8.5	8.6-9.0	>9.0		3	3	3		3		
Carlson Trophic Status	eutrophication	<50	50-60	61-70	>70		4	3	4		3		
Fishery	recreation, aesthetics	no fish piping; no fish kills	some fish piping, gulping; no fish kills	fish piping before dawn; occasional fish kills	fish piping common; fish kills common		4	4	4		4		
Waterfowl (per acre mean)	Aesthetics, public health	<3	3-4	5-6	>6		4	4	4		4		
Shoreline/banks	Minimal Filamentous Algae	no evidence of salt crusts or algal scums	some white deposits and scums	numerous patches of salt deposits and algae scums	most of lake shore covered with crusts or scums		4	4	4		4		

SCORING KEY: Excellent Good Fair Poor
 50-56 41-49 30-40 <30

Definitions: Ratings

Excellent: Lake aesthetic and operational conditions above level of expectation.

Good: Lake aesthetic and operational conditions at level of expectation.

Fair: Lake aesthetic and operational conditions slightly below level of expectation.

Poor: Lake aesthetic and operational conditions considerably below level of expectation.

Definitions: Terms

Benthos: Bottom dwelling organisms

Carlson Trophic Index: A series of calculations incorporating transparency, chlorophyll and phosphorus data used to provide a quantitative estimate of the degree of eutrophication in a lake.

Chlorophyll: Pigment in green plants involved in photosynthesis used to estimate the density of algae in the water column.

Coliform bacteria: Enteric bacteria used as an indicator of the sanitary condition of the water.

Eutrophication: Process by which lakes age by increasing in nutrient (nitrogen and phosphorus) content and plant life.

Fecal bacteria: Any of the bacteria types provided by the fecal matter of warm-blooded organisms.

Macrophyte: Large plant, observable without the aid of a microscope, that may be floating, submerged or emergent.

Midge: Small, flying, non-biting "gnat-like" insect whose larval stage exists in the lake sediments (bloodworm).

N/A: not applicable; insufficient data or too early in development of lake (an arbitrary 3 rating is provided for these items).

pH: -log hydrogen ion conc.; amount of acid in the water identified on scale 1-14; 1 being most acid, 7 neutral, and 14 being most caustic.

Phytoplankton (algae): Microscopic plant fraction of the plankton community.

Piping: Act of fish coming to surface of water and capturing a bubble of air in their mouth; a sign of low oxygen concentrations.

Plankton: Organisms of relatively small size that have relatively small powers of locomotion or that drift in the water.

Sedimentation: Rate at which solids accumulate on the lake bottom.

Transparency (SDz): Depth to which a standard disk can be observed in the water column.

Turbidity: Degree to which particles and color in the water scatter light; the "cloudiness" of the water.

Zooplankton: Animal fraction of the plankton community

CLIENT: DOBSON RANCH

DATE: 06-Jul-23

	LAKE	LAKE	LAKE	LAKE			
PARAMETER	1	2	3	4			
Secchi Disk Depth (m)	1.90	0.86	2.23	0.89			
Phosphorus, total (ug/L)	16	24	13	33			
Chlorophyll-a (ug/L)	1.6	1.9	1.2	1.2			
	LAKE	LAKE	LAKE	LAKE			
TSI VALUES	1	2	3	4			
Secchi Disk Depth	51	62	48	62			
Phosphorus, total	44	50	41	55			
Chlorophyll-a	35	37	32	32			
					average		
AVERAGE	43	50	41	50	46		

SYNOPSIS OF TROPHIC STATUS RESULTS:

Carlson Trophic Status Index (TSI): The classical interpretation of various Index value ranges is provided below:

- TSI<30 **Classic Oligotrophic**; clear water, oxygenated hypolimnion throughout the year; suitable for cold water fishery in deep lakes.
- TSI 30-40 **Oligotrophic**; shallow lakes may exhibit anoxic hypolimnion in summer.
- TSI 41-50 **Mesotrophic**; moderately clear water, increasing chance of anoxia in hypolimnion during the summer.
- TSI 51-60 **Slightly Eutrophic**; decreased transparency, anoxia in hypolimnion during the summer expected, macrophyte problems possible, warm water fishery only.
- TSI 61-70 **Eutrophic**; dominance of blue-green algae and algal scums probable, can have extensive macrophyte problems.
- TSI 70-80 **Highly Eutrophic**; heavy algal blooms, dense macrophyte beds possible, limited light penetration.
- TSI>80 **Hypereutrophic**; algal scums, summertime fish kills, limited light penetration, few macrophytes.

Aquatic Consulting & Testing, Inc.

SUPPORTING DOCUMENTATION

- Laboratory reports
- Field Inspection Sheets
- Pesticide application documents



AQUATIC CONSULTING & TESTING, INC.

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Lic. No. AZ0003

LABORATORY REPORT

Client: Dobson Ranch Association
2719 South Reyes Road
Mesa, AZ 85202

Date Submitted: 07/06/23
Date Reported: 08/09/23

Attn: Lynelle Glysson, Community Mgr

Project: Monthly Lake 1-4 Monitoring

RESULTS

Client ID: Lake 1
ACT Lab No.: CF04725

Sample Type: Surface Water
Sample Time: 07/06/23 08:00

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>Result</u>	<u>Unit</u>
	<u>Start</u>	<u>End</u>			
Algae Count	07/21/23	07/21/23	SM 10200 F	See Attached	cells/mL
Algae Identification	07/21/23	07/21/23		See Attached	
Chl/Pheo Ratio	08/25/23	07/25/23	SM10200 H	1.50	
Chlorophyll a	07/25/23	07/25/23	SM10200 H	1.60	ug/L
Golden Algae	07/06/23	07/06/23	P/C Microscopy	Absent	Pres/Abs
Midge count	07/06/23	07/06/23	SM10500 C	40	#/sq. meter
Pheophytin a	07/25/23	07/25/23	SM10200 H	0.64	ug/L
Oxygen, Dissolved Field	07/06/23	07/06/23	SM4500 O G ⁴	6.4	mg/L as O ₂
pH, Field	07/06/23	07/06/23	SM4500H+ B	8.1	SU
Secchi Disk Depth	07/06/23	07/06/23	NALMS	1.9	meters
Temperature, Field	07/06/23	07/06/23	SM2550 B	30.4	C
Alkalinity, Total	07/13/23	07/13/23	SM 2320 B	135.	mg/L as CaCO ₃
Ammonia - N	07/11/23	07/11/23	SM4500NH ₃ D	0.07	mg/L as N
Nitrate + Nitrite - N	07/16/23	07/16/23	SM4500NO ₃ E	0.17	mg/L as N
Phosphorus, Total	07/13/23	07/15/23	365.3	0.016	mg/L as P
Total Hardness	07/13/23	07/13/23	SM2340C	188.	mg/L as CaCO ₃
Total Kjeldahl Nitrogen	07/11/23	07/11/23	SMNorg C,NH ₃ C/D	1.1	mg/L as N
E. coli, Colilert	07/06/23	07/07/23	SM 9223 B	2	MPN/100 mL
Total Dissolved Solids	07/14/23	07/16/23	SM2540 C	484.	mg/L
Turbidity	07/06/23	07/06/23	180.1	3.0	NTU

RESULTS

Client ID: Lake 2
ACT Lab No.: CF04726

Sample Type: Surface Water
Sample Time: 07/06/23 08:20

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>Result</u>	<u>Unit</u>
	<u>Start</u>	<u>End</u>			
Algae Count	07/21/23	07/21/23	SM 10200 F	See Attached	cells/mL
Algae Identification	07/21/23	07/21/23		See Attached	
Chl/Pheo Ratio	08/25/23	07/25/23	SM10200 H	1.50	
Chlorophyll a	07/25/23	07/25/23	SM10200 H	1.92	ug/L
Golden Algae	07/06/23	07/06/23	P/C Microscopy	Absent	Pres/Abs
Midge count	07/06/23	07/06/23	SM10500 C	<40	#/sq. meter
Pheophytin a	07/25/23	07/25/23	SM10200 H	0.77	ug/L
Oxygen, Dissolved Field	07/06/23	07/06/23	SM4500 O G	6.2	mg/L as O2
pH, Field	07/06/23	07/06/23	SM4500H+ B	8.1	SU
Secchi Disk Depth	07/06/23	07/06/23	NALMS	0.86	meters
Temperature, Field	07/06/23	07/06/23	SM2550 B	30.8	C
Alkalinity, Total	07/13/23	07/13/23	SM 2320 B	135.	mg/L as CaCO3
Ammonia - N	07/11/23	07/11/23	SM4500NH3 D	0.08	mg/L as N
Nitrate + Nitrite - N	07/16/23	07/16/23	SM4500NO3 E	0.19	mg/L as N
Phosphorus, Total	07/13/23	07/15/23	365.3	0.024	mg/L as P
Total Hardness	07/13/23	07/13/23	SM2340C	215.	mg/L as CaCO3
Total Kjeldahl Nitrogen	07/11/23	07/11/23	SMNorg C,NH3 C/D	1.2	mg/L as N
E. coli, Colilert	07/06/23	07/07/23	SM 9223 B	12	MPN/100 mL
Total Dissolved Solids	07/14/23	07/16/23	SM2540 C	576.	mg/L
Turbidity	07/06/23	07/06/23	180.1	7.5	NTU

RESULTS

Client ID: Lake 3
ACT Lab No.: CF04727

Sample Type: Surface Water
Sample Time: 07/06/23 09:00

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>Result</u>	<u>Unit</u>
	<u>Start</u>	<u>End</u>			
Algae Count	07/21/23	07/21/23	SM 10200 F	See Attached	cells/mL
Algae Identification	07/21/23	07/21/23		See Attached	
Chl/Pheo Ratio	08/25/23	07/25/23	SM10200 H	1.45	
Chlorophyll a	07/25/23	07/25/23	SM10200 H	1.16	ug/L
Golden Algae	07/06/23	07/06/23	P/C Microscopy	Absent	Pres/Abs
Midge count	07/06/23	07/06/23	SM10500 C	<40	#/sq. meter
Pheophytin a	07/25/23	07/25/23	SM10200 H	0.62	ug/L
Oxygen, Dissolved Field	07/06/23	07/06/23	SM4500 O G	6.2	mg/L as O2
pH, Field	07/06/23	07/06/23	SM4500H+ B	8.2	SU
Secchi Disk Depth	07/06/23	07/06/23	NALMS	2.23	meters
Temperature, Field	07/06/23	07/06/23	SM2550 B	31.0	C
Alkalinity, Total	07/13/23	07/13/23	SM 2320 B	144.	mg/L as CaCO3
Ammonia - N	07/11/23	07/11/23	SM4500NH3 D	0.07	mg/L as N
Nitrate + Nitrite - N	07/16/23	07/16/23	SM4500NO3 E	0.21	mg/L as N
Phosphorus, Total	07/13/23	07/15/23	365.3	0.013	mg/L as P
Total Hardness	07/13/23	07/13/23	SM2340C	206.	mg/L as CaCO3
Total Kjeldahl Nitrogen	07/11/23	07/11/23	SMNorg C,NH3 C/D	1.3	mg/L as N
E. coli, Colilert	07/06/23	07/07/23	SM 9223 B	2	MPN/100 mL
Total Dissolved Solids	07/14/23	07/16/23	SM2540 C	468.	mg/L
Turbidity	07/06/23	07/06/23	180.1	4.0	NTU

RESULTS

Client ID: Lake 4
ACT Lab No.: CF04728

Sample Type: Surface Water
Sample Time: 07/06/23 09:30

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>Result</u>	<u>Unit</u>
	<u>Start</u>	<u>End</u>			
Algae Count	07/21/23	07/21/23	SM 10200 F	See Attached	cells/mL
Algae Identification	07/21/23	07/21/23		See Attached	
Chl/Pheo Ratio	08/25/23	07/25/23	SM10200 H	1.45	
Chlorophyll a	07/25/23	07/25/23	SM10200 H	1.20	ug/L
Golden Algae	07/06/23	07/06/23	P/C Microscopy	Absent	Pres/Abs
Midge count	07/06/23	07/06/23	SM10500 C	<40	#/sq. meter
Pheophytin a	07/25/23	07/25/23	SM10200 H	0.65	ug/L
Oxygen, Dissolved Field	07/06/23	07/06/23	SM4500 O G	5.8	mg/L as O2
pH, Field	07/06/23	07/06/23	SM4500H+ B	8.1	SU
Secchi Disk Depth	07/06/23	07/06/23	NALMS	0.89	meters
Temperature, Field	07/06/23	07/06/23	SM2550 B	31.1	C
Alkalinity, Total	07/13/23	07/13/23	SM 2320 B	140.	mg/L as CaCO3
Ammonia - N	07/11/23	07/11/23	SM4500NH3 D	0.07	mg/L as N
Nitrate + Nitrite - N	07/16/23	07/16/23	SM4500NO3 E	0.20	mg/L as N
Phosphorus, Total	07/13/23	07/15/23	365.3	0.033	mg/L as P
Total Hardness	07/13/23	07/13/23	SM2340C	197.	mg/L as CaCO3
Total Kjeldahl Nitrogen	07/11/23	07/11/23	SMNorg C,NH3 C/D	1.2	mg/L as N
E. coli, Colilert	07/06/23	07/07/23	SM 9223 B	7	MPN/100 mL
Total Dissolved Solids	07/17/23	07/18/23	SM2540 C	880.	mg/L
Turbidity	07/06/23	07/06/23	180.1	6.6	NTU

Client ID: Lake 5
ACT Lab No.: CF04729

Sample Type: Surface Water
Sample Time: 07/06/23 09:40

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>Result</u>	<u>Unit</u>
	<u>Start</u>	<u>End</u>			
Golden Algae	07/06/23	07/06/23	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	07/06/23	07/06/23	SM4500 O G	5.1	mg/L as O2
pH, Field	07/06/23	07/06/23	SM4500H+ B	8.0	SU
Temperature, Field	07/06/23	07/06/23	SM2550 B	30.0	C
Turbidity	07/06/23	07/06/23	180.1	7.3	NTU

RESULTS

Client ID: Lake 6
ACT Lab No.: CF04730

Sample Type: Surface Water
Sample Time: 07/06/23 09:50

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>Result</u>	<u>Unit</u>
	<u>Start</u>	<u>End</u>			
Golden Algae	07/06/23	07/06/23	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	07/06/23	07/06/23	SM4500 O G	8.0	mg/L as O2
pH, Field	07/06/23	07/06/23	SM4500H+ B	8.4	SU
Temperature, Field	07/06/23	07/06/23	SM2550 B	31.8	C
Turbidity	07/06/23	07/06/23	180.1	8.5	NTU

Client ID: Lake 7
ACT Lab No.: CF04731

Sample Type: Surface Water
Sample Time: 07/06/23 10:00

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>Result</u>	<u>Unit</u>
	<u>Start</u>	<u>End</u>			
Golden Algae	07/06/23	07/06/23	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	07/06/23	07/06/23	SM4500 O G	6.5	mg/L as O2
pH, Field	07/06/23	07/06/23	SM4500H+ B	8.2	SU
Temperature, Field	07/06/23	07/06/23	SM2550 B	30.0	C
Turbidity	07/06/23	07/06/23	180.1	4.6	NTU

Client ID: Lake 8
ACT Lab No.: CF04732

Sample Type: Surface Water
Sample Time: 07/06/23 10:05

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>Result</u>	<u>Unit</u>
	<u>Start</u>	<u>End</u>			
Golden Algae	07/06/23	07/06/23	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	07/06/23	07/06/23	SM4500 O G	6.8	mg/L as O2
pH, Field	07/06/23	07/06/23	SM4500H+ B	8.0	SU
Temperature, Field	07/06/23	07/06/23	SM2550 B	34.0	C
Phosphorus, Total	07/13/23	07/15/23	365.3	0.040	mg/L as P
E. coli, Colilert	07/06/23	07/07/23	SM 9223 B	272	MPN/100 mL
Turbidity	07/06/23	07/06/23	180.1	3.8	NTU

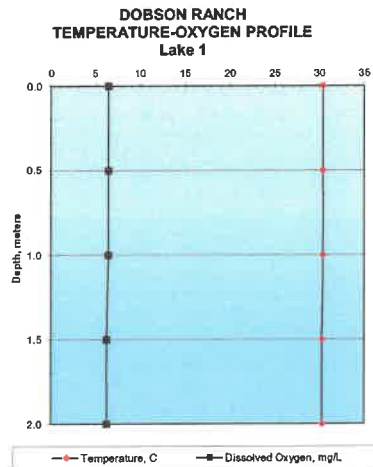
Reviewed by:


Frederick A. Amalfi, Ph.D.
Laboratory Director

Field Data for 07-06-23 Sampling Event
 Aquatic Consulting & Testing, Inc.

DOBSON RANCH LAKE 1

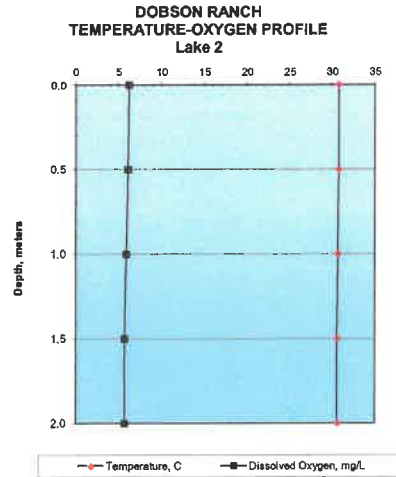
Depth, m	Temp, C	Oxygen, mg/L
0.0	30.4	6.4
0.5	30.4	6.4
1.0	30.4	6.4
1.5	30.3	6.2
2.0	30.3	6.2



Field Data for 07-06-23 Sampling Event
 Aquatic Consulting & Testing, Inc.

DOBSON RANCH LAKE 2

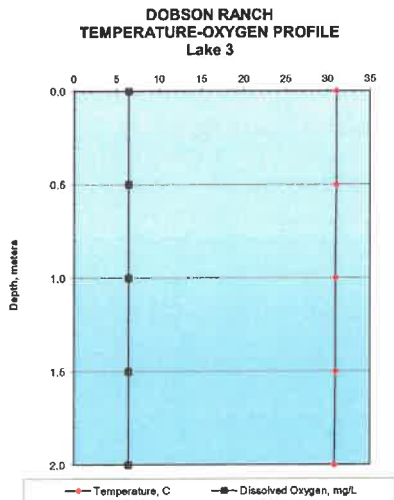
Depth, m	Temp, C	Oxygen, mg/L
0.0	30.8	6.2
0.5	30.8	6.1
1.0	30.7	5.9
1.5	30.6	5.7
2.0	30.6	5.7



Field Data for 07-06-23 Sampling Event
 Aquatic Consulting & Testing, Inc.

DOBSON RANCH LAKE 3

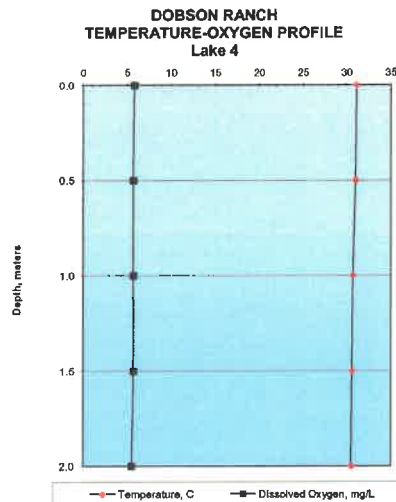
Depth, m	Temp, C	Oxygen, mg/L
0.0	31.0	6.4
0.5	31.0	6.4
1.0	30.9	6.4
1.5	30.9	6.4
2.0	30.8	6.4



Field Data for 07-06-23 Sampling Event
 Aquatic Consulting & Testing, Inc.

DOBSON RANCH LAKE 4

Depth, m	Temp, C	Oxygen, mg/L
0.0	31.1	5.8
0.5	31.0	5.7
1.0	30.7	5.7
1.5	30.6	5.7
2.0	30.5	5.5



ALGAE IDENTIFICATION

AC&T Lab No.	CF-04725	Date Collected	07/06/23
Client I.D.	Lake 1	Collected By	AC&T

Divisions: bac=Bacillariophyta; chl=Chlorophyta; cry=Chrysophyta; cyn=Cyanophyta; eug=Euglenophyta; hap=Haptophyta; pyr=Pyrrhophyta
Forms: u=unicell; c=colony; f=filament; g= flagellate

Genus	Div.-Form	Rel. Count	Total per mL	Comp.	Genus	Div.-Form	Rel. Count	Total per mL	Comp
<i>Achnanthes</i>	bac-u				<i>Microcystis</i>	cyn-c			
<i>Anabaena</i>	cyn-f				<i>Microspora</i>	chl-f			
<i>Ankistrodesmus</i>	chl-u				<i>Nanochloris</i>	chl-u			
<i>Aphanothece</i>	cyn-c				<i>Navicula</i>	bac-u	2	74	3.33%
<i>Asterionella</i>	bac-c				<i>Nitzschia</i>	bac-u			
<i>Botryococcus</i>	chl-c				<i>Oocystis</i>	chl-c			
<i>Carteria</i>	chl-ug				<i>Oscillatoria</i>	cyn-f			
<i>Cephalomonas</i>	chl-ug				<i>Pandorina</i>	chl-cg			
<i>Ceratium</i>	pyr-ug				<i>Pediastrum</i>	chl-c			
<i>Chlamydomonas</i>	chl-ug	2	74	3.33%	<i>Peridinium</i>	pyr-ug			
<i>Chlorella</i>	chl-u	17	626	28.33%	<i>Phacotus</i>	chl-ug			
<i>Chlorogonium</i>	chl-ug				<i>Phacus</i>	chl-ug			
<i>Chroococcus</i>	cyn-c				<i>Pinnularia</i>	bac-u			
<i>Chroomonas</i>	crp-ug				<i>Pithophora</i>	chl-f			
<i>Closterium</i>	chl-u				<i>Planktosphaeria</i>	chl-c			
<i>Cocconeis</i>	bac-u				<i>Rhizoclonium</i>	chl-f			
<i>Coelastrum</i>	chl-c				<i>Rhoicosphenia</i>	bac-u			
<i>Cosmarium</i>	chl-u				<i>Rhopalodia</i>	bac-u			
<i>Cosmocladium</i>	chl-c				<i>Scenedesmus</i>	chl-c	3	110	5.00%
<i>Crucigenia</i>	chl-c				<i>Schroederia</i>	chl-u			
<i>Cryptomonas</i>	crp-ug				<i>Selanastrum</i>	chl-u	1	37	1.67%
<i>Cyclotella</i>	bac-u				<i>Sphaerocystis</i>	chl-c			
<i>Cymbella</i>	bac-u				<i>Spondylumorum</i>	chl-c			
<i>Denticula</i>	bac-u				<i>Spirulina</i>	cyn-f			
<i>Dinobryon</i>	bac-c				<i>Staurastrum</i>	chl-u			
<i>Dysmorphococcus</i>	chl-ug				<i>Stephanodiscus</i>	bac-u			
<i>Eremosphaeria</i>	chl-u				<i>Stigeoclonium</i>	chl-f			
<i>Euglena</i>	eug-ug	1	37	1.67%	<i>Surirella</i>	bac-u			
<i>Fragilaria</i>	bac-u				<i>Synechococcus</i>	cyn-u			
<i>Frustulia</i>	bac-u				<i>Synechocystis</i>	cyn-c			
<i>Glenodinium</i>	pyr-ug				<i>Synedra</i>	bac-u	1	37	1.67%
<i>Golenkinia</i>	chl-c	1	37	1.67%	<i>Synura</i>	cry-cg			
<i>Gomphonema</i>	bac-u				<i>Tetraedron</i>	chl-u			
<i>Gonium</i>	chl-cg				<i>Thoracomonas</i>	chl-u			
<i>Gonyaulax</i>	pyr-ug				<i>Trachelomonas</i>	eug-ug			
<i>Gymnodinium</i>	bac-u				<i>Vaucheria</i>	chl-f			
<i>Holopedium</i>	cyn-u				<i>Volvox</i>	chl-cg			
<i>Lyngbya</i>	cyn-f				<i>Zygnema</i>	chl-f			
<i>Mastogloia</i>	bac-u								
<i>Meridion</i>	bac-u								
<i>Merismopedia</i>	cyn-c	32	1178	53.33%					

check 100.00%

Aquatic Consulting & Testing, Inc.
1525 W. University Dr., Suite 106
Tempe, Arizona 85281

Count (cells/mL) 2.21E+03

ALGAE IDENTIFICATION

AC&T Lab No.	CF-04726	Date Collected	07/06/23
Client I.D.	Lake 2	Collected By	AC&T

Divisions: bac=Bacillariophyta; chl=Chlorophyta; cry=Chrysophyta; cyn=Cyanophyta; eug=Euglenophyta; hap=Haptophyta; pyr=Pyrrhophyta
Forms: u=unicell; c=colony; f=filament; g= flagellate

Genus	Div.- Form	Rel. Count	Total per mL	Comp.	Genus	Div.- Form	Rel. Count	Total per mL.	Comp
<i>Achnanthes</i>	bac-u				<i>Microcystis</i>	cyn-c			
Anabaena	cyn-f	12	368	18.46%	<i>Microspora</i>	chl-f			
<i>Ankistrodesmus</i>	chl-u				<i>Nanochloris</i>	chl-u			
<i>Aphanothece</i>	cyn-c				Navicula	bac-u	3	92	4.62%
<i>Asterionella</i>	bac-c				<i>Nitzschia</i>	bac-u			
<i>Botryococcus</i>	chl-c				<i>Oocystis</i>	chl-c			
<i>Carteria</i>	chl-ug				<i>Oscillatoria</i>	cyn-f			
<i>Cephalomonas</i>	chl-ug				<i>Pandorina</i>	chl-cg			
<i>Ceratium</i>	pyr-ug				<i>Pediastrum</i>	chl-c			
Chlamydomonas	chl-ug	2	61	3.08%	Peridinium	pyr-ug	1	31	1.54%
Chlorella	chl-u	2	61	3.08%	<i>Phacotus</i>	chl-ug			
<i>Chlorogonium</i>	chl-ug				<i>Phacus</i>	chl-ug			
<i>Chroococcus</i>	cyn-c				<i>Pinnularia</i>	bac-u			
Chroomonas	crp-ug	1	31	1.54%	<i>Pithophora</i>	chl-f			
<i>Closterium</i>	chl-u				<i>Planktosphaeria</i>	chl-c			
<i>Cocconeis</i>	bac-u				<i>Rhizoclonium</i>	chl-f			
<i>Coelastrum</i>	chl-c				<i>Rhoicosphenia</i>	bac-u			
<i>Cosmarium</i>	chl-u				<i>Rhopalodia</i>	bac-u			
<i>Cosmocladium</i>	chl-c				Scenedesmus	chl-c	6	184	9.23%
<i>Crucigenia</i>	chl-c				<i>Schroederia</i>	chl-u			
<i>Cryptomonas</i>	crp-ug				<i>Selanastrum</i>	chl-u			
<i>Cyclotella</i>	bac-u				<i>Sphaerocystis</i>	chl-c			
<i>Cymbella</i>	bac-u				<i>Spondylumorum</i>	chl-c			
<i>Denticula</i>	bac-u				<i>Spirulina</i>	cyn-f			
<i>Dinobryon</i>	bac-c				<i>Staurastrum</i>	chl-u			
<i>Dysmorphococcus</i>	chl-ug				<i>Stephanodiscus</i>	bac-u			
<i>Eremosphaeria</i>	chl-u				<i>Stigeoclonium</i>	chl-f			
<i>Euglena</i>	eug-ug				Surirella	bac-u	1	31	1.54%
<i>Fragilaria</i>	bac-u				<i>Synechococcus</i>	cyn-u			
<i>Frustulia</i>	bac-u				<i>Synechocystis</i>	cyn-c			
<i>Glenodinium</i>	pyr-ug				Synedra	bac-u	1	31	1.54%
<i>Golenkinia</i>	chl-c				<i>Synura</i>	cry-cg			
<i>Gomphonema</i>	bac-u				<i>Tetraedron</i>	chl-u			
<i>Gonium</i>	chl-cg				<i>Thoracomonas</i>	chl-u			
<i>Gonyaulax</i>	pyr-ug				<i>Trachelomonas</i>	eug-ug			
<i>Gymnodinium</i>	bac-u				<i>Vaucheria</i>	chl-f			
<i>Hoiopedium</i>	cyn-u				<i>Volvox</i>	chl-cg			
<i>Lyngbya</i>	cyn-f				<i>Zygnema</i>	chl-f			
<i>Mastogloia</i>	bac-u								
<i>Meridion</i>	bac-u								
Merismopedia	cyn-c	36	1104	55.38%					

check 100.00%

Aquatic Consulting & Testing, Inc.
1525 W. University Dr., Suite 106
Tempe, Arizona 85281

Count (cells/mL) 1.99E+03

ALGAE IDENTIFICATION

AC&T Lab No.	CF-04727	Date Collected	07/06/23
Client I.D.	Lake 3	Collected By	AC&T

Divisions: bac=Bacillariophyta; chl=Chlorophyta; cry=Chrysophyta; cyn=Cyanophyta; eug=Euglenophyta; hap=Haptophyta; pyr=Pyrrhophyta
Forms: u=unicell; c=colony; f=filament; g= flagellate

Genus	Div.-Form	Rel. Count	Total per mL	Comp.	Genus	Div.-Form	Rel. Count	Total per mL.	Comp
<i>Achnanthes</i>	bac-u				<i>Microcystis</i>	cyn-c			
<i>Anabaena</i>	cyn-f				<i>Microspora</i>	chl-f			
<i>Ankistrodesmus</i>	chl-u				<i>Nanochloris</i>	chl-u			
<i>Aphanothece</i>	cyn-c				<i>Navicula</i>	bac-u	3	92	4.92%
<i>Asterionella</i>	bac-c				<i>Nitzschia</i>	bac-u			
<i>Botryococcus</i>	chl-c				<i>Oocystis</i>	chl-c			
<i>Carteria</i>	chl-ug				<i>Oscillatoria</i>	cyn-f			
<i>Cephalomonas</i>	chl-ug				<i>Palmellococcus</i>	chl-cg	1	31	1.64%
<i>Ceratium</i>	pyr-ug				<i>Pediastrum</i>	chl-c			
<i>Chlamydomonas</i>	chl-ug	12	368	19.67%	<i>Peridinium</i>	pyr-ug			
<i>Chlorella</i>	chl-u	21	644	34.43%	<i>Phacotus</i>	chl-ug			
<i>Chlorogonium</i>	chl-ug				<i>Phacus</i>	chl-ug			
<i>Chroococcus</i>	cyn-c	4	123	6.56%	<i>Pinnularia</i>	bac-u			
<i>Chroomonas</i>	crp-ug	1	31	1.64%	<i>Pithophora</i>	chl-f			
<i>Closterium</i>	chl-u				<i>Planktosphaeria</i>	chl-c			
<i>Cocconeis</i>	bac-u				<i>Rhizoclonium</i>	chl-f			
<i>Coelastrum</i>	chl-c	8	246	13.11%	<i>Rhoicosphenia</i>	bac-u			
<i>Cosmarium</i>	chl-u				<i>Rhopalodia</i>	bac-u			
<i>Cosmocladium</i>	chl-c				<i>Scenedesmus</i>	chl-c	3	92	4.92%
<i>Crucigenia</i>	chl-c				<i>Schroederia</i>	chl-u			
<i>Cryptomonas</i>	crp-ug				<i>Selanastrum</i>	chl-u			
<i>Cyclotella</i>	bac-u				<i>Sphaerocystis</i>	chl-c			
<i>Cymbella</i>	bac-u				<i>Spondylumorum</i>	chl-c			
<i>Denticula</i>	bac-u				<i>Spirulina</i>	cyn-f			
<i>Dinobryon</i>	bac-c				<i>Staurastrum</i>	chl-u			
<i>Dysmorphococcus</i>	chl-ug				<i>Stephanodiscus</i>	bac-u			
<i>Eremosphaeria</i>	chl-u				<i>Stigeoclonium</i>	chl-f			
<i>Euglena</i>	eug-ug				<i>Surirella</i>	bac-u			
<i>Fragilaria</i>	bac-u				<i>Synechococcus</i>	cyn-u			
<i>Frustulia</i>	bac-u				<i>Synechocystis</i>	cyn-c			
<i>Glenodinium</i>	pyr-ug				<i>Synedra</i>	bac-u			
<i>Golenkinia</i>	chl-c				<i>Synura</i>	cry-cg			
<i>Gomphonema</i>	bac-u				<i>Tetraedron</i>	chl-u			
<i>Gonium</i>	chl-cg				<i>Thoracomonas</i>	chl-u			
<i>Gonyaulax</i>	pyr-ug				<i>Trachelomonas</i>	eug-ug			
<i>Gymnodinium</i>	bac-u				<i>Vaucheria</i>	chl-f			
<i>Hoiopedium</i>	cyn-u				<i>Voivox</i>	chl-cg			
<i>Lyngbya</i>	cyn-f				<i>Zygnema</i>	chl-f			
<i>Mastogloia</i>	bac-u								
<i>Meridion</i>	bac-u								
<i>Merismopedia</i>	cyn-c	8	246	13.11%					

check 100.00%

Aquatic Consulting & Testing, Inc.
1525 W. University Dr., Suite 106
Tempe, Arizona 85281

Count (cells/mL) 1.87E+03

ALGAE IDENTIFICATION

AC&T Lab No.	CF-04728	Date Collected	07/06/23
Client I.D.	Lake 4	Collected By	AC&T

Divisions: bac=Bacillariophyta; chl=Chlorophyta; cry=Chrysophyta; cyn=Cyanophyta; eug=Euglenophyta; trap=Haptophyta; pyr=Pyrrhophyta
Forms: u=unicell; c=colony; f=filament; g= flagellate

Genus	Div.-Form	Rel. Count	Total per mL	Comp.	Genus	Div.-Form	Rel. Count	Total per mL.	Comp
Achnanthes	bac-u	1	31	2.63%	<i>Microcystis</i>	cyn-c			
<i>Anabaena</i>	cyn-f				<i>Microspora</i>	chl-f			
<i>Ankistrodesmus</i>	chl-u				<i>Nanochloris</i>	chl-u			
<i>Aphanothece</i>	cyn-c				<i>Navicula</i>	bac-u			
<i>Asterionella</i>	bac-c				<i>Nitzschia</i>	bac-u			
<i>Botryococcus</i>	chl-c				<i>Oocystis</i>	chl-c			
<i>Carteria</i>	chl-ug				<i>Oscillatoria</i>	cyn-f			
<i>Cephalomonas</i>	chl-ug				<i>Pandorina</i>	chl-c	8	245	21.05%
<i>Ceratium</i>	pyr-ug				<i>Pediastrum</i>	chl-c			
<i>Chlamydomonas</i>	chl-ug	9	276	23.68%	<i>Peridinium</i>	pyr-ug			
<i>Chlorella</i>	chl-u	12	368	31.58%	<i>Phacotus</i>	chl-ug			
<i>Chlorogonium</i>	chl-ug	1	31	2.63%	<i>Phacus</i>	chl-ug			
<i>Chroococcus</i>	cyn-c	4	123	10.53%	<i>Pinnularia</i>	bac-u			
<i>Chroomonas</i>	crp-ug	3	92	7.89%	<i>Pithophora</i>	chl-f			
<i>Closterium</i>	chl-u				<i>Planktosphaeria</i>	chl-c			
<i>Cocconeis</i>	bac-u				<i>Rhizoclonium</i>	chl-f			
<i>Coelastrum</i>	chl-c				<i>Rhicosphenia</i>	bac-u			
<i>Cosmarium</i>	chl-u				<i>Rhopalodia</i>	bac-u			
<i>Cosmocladium</i>	chl-c				<i>Scenedesmus</i>	chl-c			
<i>Crucigenia</i>	chl-c				<i>Schroederia</i>	chl-u			
<i>Cryptomonas</i>	crp-ug				<i>Selanastrum</i>	chl-u			
<i>Cyclotella</i>	bac-u				<i>Sphaerocystis</i>	chl-c			
<i>Cymbella</i>	bac-u				<i>Spondylumorum</i>	chl-c			
<i>Denticula</i>	bac-u				<i>Spirulina</i>	cyn-f			
<i>Dinobryon</i>	bac-c				<i>Staurastrum</i>	chl-u			
<i>Dysmorphococcus</i>	chl-ug				<i>Stephanodiscus</i>	bac-u			
<i>Eremosphaeria</i>	chl-u				<i>Stigeoclonium</i>	chl-f			
<i>Euglena</i>	eug-ug				<i>Surirella</i>	bac-u			
<i>Fragilaria</i>	bac-u				<i>Synechococcus</i>	cyn-u			
<i>Frustulia</i>	bac-u				<i>Synechocystis</i>	cyn-c			
<i>Glenodinium</i>	pyr-ug				<i>Synedra</i>	bac-u			
<i>Golenkinia</i>	chl-c				<i>Synura</i>	cry-cg			
<i>Gomphonema</i>	bac-u				<i>Tetraedron</i>	chl-u			
<i>Gonium</i>	chl-cg				<i>Thoracomonas</i>	chl-u			
<i>Gonyaulax</i>	pyr-ug				<i>Trachelomonas</i>	eug-ug			
<i>Gymnodinium</i>	bac-u				<i>Vaucheria</i>	chl-f			
<i>Holopedium</i>	cyn-u				<i>Voivox</i>	chl-cg			
<i>Lyngbya</i>	cyn-f				<i>Zygnema</i>	chl-f			
<i>Mastogloia</i>	bac-u								
<i>Meridion</i>	bac-u								
<i>Merismopedia</i>	cyn-c								

check 100.00%

Aquatic Consulting & Testing, Inc.
1525 W. University Dr., Suite 106
Tempe, Arizona 85281

Count (cells/mL)	1.17E+03
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ALGAE IDENTIFICATION

AC&T Lab No.	CF-04730	Date Collected	07/06/23
Client I.D.	Lake 6	Collected By	AC&T

Divisions: bac=Bacillariophyta; chl=Chlorophyta; cry=Chrysophyta; cyn=Cyanophyta; eug=Euglenophyta; hap=Haptophyta; pyr=Pyrrhophyta
Forms: u=uniceli; c=colony; f=filament; g= flagellate

Genus	Div.-Form	Rel. Count	Total per mL	Comp.	Genus	Div.-Form	Rel. Count	Total per mL	Comp
<i>Achnanthes</i>	bac-u				<i>Microcystis</i>	cyn-c			
<i>Anabaena</i>	cyn-f				<i>Microspora</i>	chl-f			
<i>Ankistrodesmus</i>	chl-u				<i>Nanochloris</i>	chl-u			
<i>Aphanothece</i>	cyn-c				<i>Navicula</i>	bac-u	12	1578	11.11%
<i>Asterionella</i>	bac-c				<i>Nitzschia</i>	bac-u			
<i>Botryococcus</i>	chl-c				<i>Oocystis</i>	chl-c			
<i>Carteria</i>	chl-ug				<i>Oscillatoria</i>	cyn-f			
<i>Cephalomonas</i>	chl-ug				<i>Palmellococcus</i>	chl-u	1	131	0.93%
<i>Ceratium</i>	pyr-ug				<i>Pediastrum</i>	chl-c	40	5259	37.04%
<i>Chlamydomonas</i>	chl-ug				<i>Peridinium</i>	pyr-ug			
<i>Chlorella</i>	chl-u	8	1052	7.41%	<i>Phacotus</i>	chl-ug			
<i>Chlorogonium</i>	chl-ug				<i>Phacus</i>	chl-ug			
<i>Chroococcus</i>	cyn-c				<i>Pinnularia</i>	bac-u			
<i>Chroomonas</i>	crp-ug				<i>Pithophora</i>	chl-f			
<i>Closterium</i>	chl-u				<i>Planktosphaeria</i>	chl-c			
<i>Cocconeis</i>	bac-u				<i>Polytoma</i>	chl-ug			
<i>Coelastrum</i>	chl-c				<i>Rhoicosphenia</i>	bac-u			
<i>Cosmarium</i>	chl-u				<i>Rhopalodia</i>	bac-u			
<i>Cosmocladium</i>	chl-c				<i>Scenedesmus</i>	chl-c	4	526	3.70%
<i>Crucigenia</i>	chl-c				<i>Schroederia</i>	chl-u			
<i>Cryptomonas</i>	crp-ug				<i>Selanastrum</i>	chl-u			
<i>Cyclotella</i>	bac-u				<i>Sphaerocystis</i>	chl-c	6	789	5.56%
<i>Cymbella</i>	bac-u				<i>Spondylumorum</i>	chl-c			
<i>Denticula</i>	bac-u				<i>Spirulina</i>	cyn-f	20	2630	18.52%
<i>Dinobryon</i>	bac-c				<i>Staurastrum</i>	chl-u			
<i>Dysmorphococcus</i>	chl-ug				<i>Stephanodiscus</i>	bac-u			
<i>Eremosphaeria</i>	chl-u				<i>Stigeoclonium</i>	chl-f			
<i>Euglena</i>	eug-ug	1	131	0.93%	<i>Surirella</i>	bac-u			
<i>Fragilaria</i>	bac-u				<i>Synechococcus</i>	cyn-u			
<i>Frustulia</i>	bac-u				<i>Synechocystis</i>	cyn-c			
<i>Glenodinium</i>	pyr-ug				<i>Synedra</i>	bac-u	15	1972	13.89%
<i>Golenkinia</i>	chl-c	1	131	0.93%	<i>Synura</i>	cry-cg			
<i>Gomphonema</i>	bac-u				<i>Tetraedron</i>	chl-u			
<i>Gonium</i>	chl-cg				<i>Thoracomonas</i>	chl-u			
<i>Gonyaulax</i>	pyr-ug				<i>Trachelomonas</i>	eug-ug			
<i>Gymnodinium</i>	bac-u				<i>Vaucheria</i>	chl-f			
<i>Hoiopedium</i>	cyn-u				<i>Volvox</i>	chl-cg			
<i>Lyngbya</i>	cyn-f				<i>Zygnema</i>	chl-f			
<i>Mastogloia</i>	bac-u								
<i>Meridion</i>	bac-u								
<i>Merismopedia</i>	cyn-c								

check 100.00%

Aquatic Consulting & Testing, Inc.
1525 W. University Dr., Suite 106
Tempe, Arizona 85281

Count (cells/mL) 1.42E+04

ALGAE IDENTIFICATION

AC&T Lab No.	CF-04731	Date Collected	07/06/23
Client I.D.	Lake 7	Collected By	AC&T

Divisions: bac=Bacillariophyta; chl=Chlorophyta; cry=Chrysophyta; cyn=Cyanophyta; eug=Euglenophyta; hap=Haptophyta; pyr=Pyrrhophyta
Forms: u=unicell; c=colony; f=filament; g= flagellate

Genus	Div.- Form	Rel. Count	Total per mL	Comp.	Genus	Div.- Form	Rel. Count	Total per mL.	Comp
<i>Achnanthes</i>	bac-u				<i>Microcystis</i>	cyn-c			
<i>Anabaena</i>	cyn-f				<i>Microspora</i>	chl-f			
<i>Ankistrodesmus</i>	chl-u				<i>Nanochloris</i>	chl-u			
<i>Aphanothece</i>	cyn-c				<i>Navicula</i>	bac-u	1	460	0.61%
<i>Asterionella</i>	bac-c				<i>Nitzschia</i>	bac-u			
<i>Botryococcus</i>	chl-c				<i>Oocystis</i>	chl-c			
<i>Carteria</i>	chl-ug				<i>Oscillatoria</i>	cyn-f	30	13807	18.18%
<i>Cephalomonas</i>	chl-ug				<i>Palmellococcus</i>	chl-u			
<i>Ceratium</i>	pyr-ug				<i>Pediastrum</i>	chl-c			
<i>Chlamydomonas</i>	chl-ug				<i>Peridinium</i>	pyr-ug			
<i>Chlorella</i>	chl-u				<i>Phacotus</i>	chl-ug			
<i>Chlorogonium</i>	chl-ug				<i>Phacus</i>	chl-ug			
<i>Chroococcus</i>	cyn-c				<i>Pinnularia</i>	bac-u			
<i>Chroomonas</i>	crp-ug	1	460	0.61%	<i>Pithophora</i>	chl-f			
<i>Closterium</i>	chl-u				<i>Planktosphaeria</i>	chl-c			
<i>Cocconeis</i>	bac-u				<i>Polytoma</i>	chl-ug			
<i>Coelastrum</i>	chl-c				<i>Rhoicosphenia</i>	bac-u			
<i>Cosmarium</i>	chl-u				<i>Rhopalodia</i>	bac-u			
<i>Cosmocladium</i>	chl-c				<i>Scenedesmus</i>	chl-c			
<i>Crucigenia</i>	chl-c				<i>Schroederia</i>	chl-u			
<i>Cryptomonas</i>	crp-ug				<i>Selanastrum</i>	chl-u			
<i>Cyclotella</i>	bac-u	2	920	1.21%	<i>Sphaerocystis</i>	chl-c	6	2761	3.64%
<i>Cymbella</i>	bac-u				<i>Spondylumorum</i>	chl-c			
<i>Denticula</i>	bac-u				<i>Spirulina</i>	cyn-f			
<i>Dinobryon</i>	bac-c				<i>Staurastrum</i>	chl-u			
<i>Dysmorphococcus</i>	chl-ug				<i>Stephanodiscus</i>	bac-u			
<i>Eremosphaeria</i>	chl-u				<i>Stigeoclonium</i>	chl-f			
<i>Euglena</i>	eug-ug				<i>Surirella</i>	bac-u			
<i>Fragilaria</i>	bac-u				<i>Synechococcus</i>	cyn-u			
<i>Frustulia</i>	bac-u				<i>Synechocystis</i>	cyn-c			
<i>Glenodinium</i>	pyr-ug				<i>Synedra</i>	bac-u	1	460	0.61%
<i>Golenkinia</i>	chl-c				<i>Synura</i>	cry-cg			
<i>Gomphonema</i>	bac-u				<i>Tetraedron</i>	chl-u			
<i>Gonium</i>	chl-cg				<i>Thoracomonas</i>	chl-u			
<i>Gonyaulax</i>	pyr-ug				<i>Trachelomonas</i>	eug-ug			
<i>Gymnodinium</i>	bac-u				<i>Vaucheria</i>	chl-f			
<i>Hoiopedium</i>	cyn-u				<i>Voivox</i>	chl-cg			
<i>Lyngbya</i>	cyn-f				<i>Zygnema</i>	chl-f			
<i>Mastogloia</i>	bac-u								
<i>Meridion</i>	bac-u								
<i>Merismopedia</i>	cyn-c	124	57067	75.15%					

check 100.00%

Aquatic Consulting & Testing, Inc.
1525 W. University Dr., Suite 106
Tempe, Arizona 85281

Count (cells/mL)	7.59E+04
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ALGAE IDENTIFICATION

AC&T Lab No.	CF-04732	Date Collected	07/06/23
Client I.D.	Lake 8	Collected By	AC&T

Divisions: bac=Bacillariophyta; chl=Chlorophyta; cry=Chrysophyta; cyn=Cyanophyta; eug=Euglenophyta; hap=Haptophyta; pyr=Pyrrhophyta
Forms: u=unicell; c=colony; f=filament; g= flagellate

Genus	Div.-Form	Rel. Count	Total per mL	Comp.	Genus	Div.-Form	Rel. Count	Total per mL.	Comp
Achnanthes	bac-u	2	614	1.49%	<i>Microcystis</i>	cyn-c			
<i>Anabaena</i>	cyn-f				<i>Microspora</i>	chl-f			
<i>Ankistrodesmus</i>	chl-u				<i>Nanochloris</i>	chl-u			
<i>Aphanothece</i>	cyn-c				<i>Navicula</i>	bac-u			
<i>Asterionella</i>	bac-c				<i>Nitzschia</i>	bac-u			
<i>Botryococcus</i>	chl-c				<i>Oocystis</i>	chl-c			
<i>Carteria</i>	chl-ug				<i>Oscillatoria</i>	cyn-f			
<i>Cephalomonas</i>	chl-ug				<i>Palmellococcus</i>	chl-u			
<i>Ceratium</i>	pyr-ug				<i>Pediastrum</i>	chl-c			
<i>Chlamydomonas</i>	chl-ug				<i>Peridinium</i>	pyr-ug			
Chlorella	chl-u	19	5829	14.18%	<i>Phacotus</i>	chl-ug			
<i>Chlorogonium</i>	chl-ug				<i>Phacus</i>	chl-ug			
Chroococcus	cyn-c	2	614	1.49%	<i>Pinnularia</i>	bac-u			
Chroomonas	crp-ug	1	307	0.75%	<i>Pithophora</i>	chl-f			
<i>Closterium</i>	chl-u				<i>Planktosphaeria</i>	chl-c			
<i>Cocconeis</i>	bac-u				Pteromonas	chl-ug	5	1534	3.73%
<i>Coelastrum</i>	chl-c				<i>Rhoicosphenia</i>	bac-u			
<i>Cosmarium</i>	chl-u				<i>Rhopalodia</i>	bac-u			
<i>Cosmocladium</i>	chl-c				<i>Scenedesmus</i>	chl-c			
<i>Crucigenia</i>	chl-c				<i>Schroederia</i>	chl-u			
<i>Cryptomonas</i>	crp-ug				<i>Selanastrum</i>	chl-u			
Cyclotella	bac-u	1	307	0.75%	<i>Sphaerocystis</i>	chl-c			
<i>Cymbella</i>	bac-u				<i>Spondylumorum</i>	chl-c			
<i>Denticula</i>	bac-u				<i>Spirulina</i>	cyn-f			
<i>Dinobryon</i>	bac-c				<i>Staurastrum</i>	chl-u			
<i>Dysmorphococcus</i>	chl-ug				<i>Stephanodiscus</i>	bac-u			
<i>Eremosphaeria</i>	chl-u				<i>Stigeoclonium</i>	chl-f			
<i>Euglena</i>	eug-ug				<i>Surirella</i>	bac-u			
<i>Fragilaria</i>	bac-u				<i>Synechococcus</i>	cyn-u			
<i>Frustulia</i>	bac-u				<i>Synechocystis</i>	cyn-c			
<i>Glenodinium</i>	pyr-ug				<i>Synedra</i>	bac-u			
<i>Golenkinia</i>	chl-c				<i>Synura</i>	cry-cg			
<i>Gomphonema</i>	bac-u				<i>Tetraedron</i>	chl-u			
<i>Gonium</i>	chl-cg				<i>Thoracomonas</i>	chl-u			
<i>Gonyaulax</i>	pyr-ug				<i>Trachelomonas</i>	eug-ug			
<i>Gymnodinium</i>	bac-u				<i>Vaucheria</i>	chl-f			
<i>Holopedium</i>	cyn-u				<i>Volvox</i>	chl-cg			
<i>Lyngbya</i>	cyn-f				<i>Zygnema</i>	chl-f			
<i>Mastogloia</i>	bac-u								
<i>Meridion</i>	bac-u								
Merismopedia	cyn-c	104	31909	77.61%					

check 100.00%

Aquatic Consulting & Testing, Inc.
1525 W. University Dr., Suite 106
Tempe, Arizona 85281

Count (cells/mL) 4.11E+04

Aquatic Consulting & Testing, Inc.
 1525 W. University Drive, Suite 106
 Tempe, AZ 85281
 480-921-8044 fax: 480-921-0049
 lab@aquaticconsulting.com

Chain of Custody

Client Project Info:
 Lake 1-4 Monthly Monitoring
 Dobson Ranch Association

AC & T Client Reporting Information:		AC&T Laboratory Sample Identification																					
Sample Location ID:	Date:	Time:	Matrix:	P-T	NO3+NO2	TKN-Elec	Ammonia (NH3)	Hardness	Alkalinity	TDS	E. Coll	#Chl/Pheo	Algae - ID #	Golden algae	Turb	Field Measurements: pH, Temp, O2	None Preserved	NA2S2O3 (Sterile)	HNO3 (Nitric)	H2SO4 (Sulfuric)	Lugols	Other:	
Lake 1	7/6/23	800	SW	X	X	X	X	X	X	X	X	X	X	X	X	X	3	1	1	1	1		CFD4725
Lake 2	7/6/23	820	SW	X	X	X	X	X	X	X	X	X	X	X	X	X	3	1	1	1	1		720
Lake 3	7/6/23	900	SW	X	X	X	X	X	X	X	X	X	X	X	X	X	3	1	1	1	1		727
Lake 4	7/6/23	930	SW	X	X	X	X	X	X	X	X	X	X	X	X	X	3	1	1	1	1		728
Lake 5	7/6/23	940	SW													X	2						729
Lake 6	7/6/23	950	SW													X	2						730
Lake 7	7/6/23	1000	SW													X	2						731
Lake 8	7/6/23	1005	SW	X							X					X	2		1				732

Project Location:	A C & T Sample Receipt:		1. RELINQUISHED BY:		3. RELINQUISHED BY:	
Dobson Ranch	Total # Containers:	YES	NO	Signature:	Signature:	Signature:
PO#: Lakes Contract	Received Intact:	10	10	Print Name: Andrew Matre	Print Name:	Print Name:
Notes:	# Bottles Preserved:	10	10	Date: 7/6/23	Date:	Date:
	Samples On Ice:	YES	NO	Time: 1300	Time:	Time:
	Ice Type:	WET	BLUE	2. RECEIVED BY:		
	Sample Receipt Temperature:	28°C		Signature:	Signature:	Signature:
				Print Name: A Bentley	Print Name:	Print Name:
				Date: 7-6-23	Date:	Date:
				Time: 1300	Time:	Time:

5-015



AQUATIC CONSULTING & TESTING, INC.

1525 W. University Drive, Suite 106
P.O. Box 1510
Tempe, Arizona 85281
Phone: (480) 921-8044 • Fax: (480) 921-0049

Lic. No. AZ0003

LABORATORY REPORT

Client: Dobson Ranch Association
2719 South Reyes Road
Mesa, AZ 85202

Date Submitted: 07/27/23
Date Reported: 08/09/23

Attn: Lynelle Glysson, Community Mgr

Project: Monthly Lake 1-8 Monitoring

RESULTS

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>Result</u>	<u>Unit</u>
	<u>Start</u>	<u>End</u>			
Client ID: Lake 1 ACT Lab No.: CF05344					
Sample Type: Surface Water Sample Time: 07/27/23 09:50					
Golden Algae	07/27/23	07/27/23	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	07/27/23	07/27/23	SM4500 O G	6.3	mg/L as O2
pH, Field	07/27/23	07/27/23	SM4500H+ B	8.4	SU
Temperature, Field	07/27/23	07/27/23	SM2550 B	32.0	C
Turbidity	07/27/23	07/27/23	180.1	5.6	NTU
Client ID: Lake 2 ACT Lab No.: CF05345					
Sample Type: Surface Water Sample Time: 07/27/23 10:00					
Golden Algae	07/27/23	07/27/23	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	07/27/23	07/27/23	SM4500 O G	6.3	mg/L as O2
pH, Field	07/27/23	07/27/23	SM4500H+ B	8.4	SU
Temperature, Field	07/27/23	07/27/23	SM2550 B	32.3	C
Turbidity	07/27/23	07/27/23	180.1	6.1	NTU

RESULTS

Client ID: Lake 3
ACT Lab No.: CF05346

Sample Type: Surface Water
Sample Time: 07/27/23 10:10

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>Result</u>	<u>Unit</u>
	<u>Start</u>	<u>End</u>			
Golden Algae	07/27/23	07/27/23	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	07/27/23	07/27/23	SM4500 O G	6.1	mg/L as O2
pH, Field	07/27/23	07/27/23	SM4500H+ B	8.3	SU
Temperature, Field	07/27/23	07/27/23	SM2550 B	32.2	C
Turbidity	07/27/23	07/27/23	180.1	7.7	NTU

Client ID: Lake 4
ACT Lab No.: CF05347

Sample Type: Surface Water
Sample Time: 07/27/23 10:20

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>Result</u>	<u>Unit</u>
	<u>Start</u>	<u>End</u>			
Golden Algae	07/27/23	07/27/23	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	07/27/23	07/27/23	SM4500 O G	5.6	mg/L as O2
pH, Field	07/27/23	07/27/23	SM4500H+ B	8.3	SU
Temperature, Field	07/27/23	07/27/23	SM2550 B	32.7	C
Turbidity	07/27/23	07/27/23	180.1	5.5	NTU

Client ID: Lake 5
ACT Lab No.: CF05348

Sample Type: Surface Water
Sample Time: 07/27/23 10:30

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>Result</u>	<u>Unit</u>
	<u>Start</u>	<u>End</u>			
Golden Algae	07/27/23	07/27/23	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	07/27/23	07/27/23	SM4500 O G	5.5	mg/L as O2
pH, Field	07/27/23	07/27/23	SM4500H+ B	8.2	SU
Temperature, Field	07/27/23	07/27/23	SM2550 B	32.7	C
Turbidity	07/27/23	07/27/23	180.1	5.5	NTU

RESULTS

Client ID: Lake 6
ACT Lab No.: CF05349

Sample Type: Surface Water
Sample Time: 07/27/23 10:40

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>Result</u>	<u>Unit</u>
	<u>Start</u>	<u>End</u>			
Golden Algae	07/27/23	07/27/23	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	07/27/23	07/27/23	SM4500 O G	7.0	mg/L as O2
pH, Field	07/27/23	07/27/23	SM4500H+ B	8.4	SU
Temperature, Field	07/27/23	07/27/23	SM2550 B	33.1	C
Turbidity	07/27/23	07/27/23	180.1	9.3	NTU

Client ID: Lake 7
ACT Lab No.: CF05350

Sample Type: Surface Water
Sample Time: 07/27/23 10:50

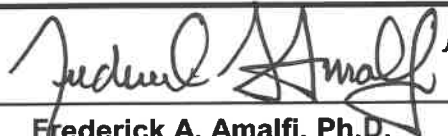
<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>Result</u>	<u>Unit</u>
	<u>Start</u>	<u>End</u>			
Golden Algae	07/27/23	07/27/23	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	07/27/23	07/27/23	SM4500 O G	6.8	mg/L as O2
pH, Field	07/27/23	07/27/23	SM4500H+ B	8.4	SU
Temperature, Field	07/27/23	07/27/23	SM2550 B	33.1	C
Turbidity	07/27/23	07/27/23	180.1	2.8	NTU

Client ID: Lake 8
ACT Lab No.: CF05351

Sample Type: Surface Water
Sample Time: 07/27/23 11:00

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>Result</u>	<u>Unit</u>
	<u>Start</u>	<u>End</u>			
Golden Algae	07/27/23	07/27/23	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	07/27/23	07/27/23	SM4500 O G	5.3	mg/L as O2
pH, Field	07/27/23	07/27/23	SM4500H+ B	8.2	SU
Temperature, Field	07/27/23	07/27/23	SM2550 B	32.8	C
Phosphorus, Total	08/02/23	08/05/23	365.3	0.036	mg/L as P
E. coli, Colilert	07/27/23	07/28/23	SM 9223 B	99	MPN/100 mL
Turbidity	07/27/23	07/27/23	180.1	1.8	NTU

Reviewed by:


Frederick A. Amalfi, Ph.D.

Laboratory Director

Aquatic Consulting & Testing, Inc.
 1525 W. University Drive, Suite 106
 Tempe, AZ 85281
 480-921-8044 fax: 480-921-0049
 lab@aquaticconsulting.com

Chain of Custody

Client Project Info:

Lake 1-8 Monthly Monitoring
 Dobson Ranch Association

AC&T Client Reporting Information:

Dobson Ranch Association
 2719 South Reyes
 Mesa, AZ 85202
 Attn: Fran Paqliak, Community Manager
 P: 480-831-8314

E:

AC&T Sampler:

Sample Location ID:	Date:	Time:	Matrix:
Lake 1	7/27/23	9:50	SW
Lake 2		10:00	SW
Lake 3		10:10	SW
Lake 4		10:20	SW
Lake 5		10:30	SW
Lake 6		10:40	SW
Lake 7		10:50	SW
Lake 8		11:00	SW

Field Measurements:	P-1	NO3+NO2	TKN-Elec	Ammonia (NH3)	E. Coli	#Chl/Phco	Algae - ID + #	Golden algae	Turb
None Preserved									
NH42S2O3 (Sterile)									
HNO3 (Nitric)									
H2SO4 (Sulfuric)									
Lugols									
Other:									

Page 1 of 1

**AC&T
 Laboratory Sample
 Identification**

CF05344
 345
 346
 347
 348
 349
 350
 351

Project Location:

A C & T Sample Receipt:	
Total # Containers:	18
# Bottles Preserved:	2
Received Intact:	YES
Non-#:	NO
Samples On Ice:	YES
Ice Type:	WET
Sample Receipt Temperature:	77°C

1. RELINQUISHED BY:

Signature: *Andrew Murray*
 Print Name: Andrew Murray
 Date: 7/27/23 Time: 12:40

2. RECEIVED BY:

Signature: *[Signature]*
 Print Name: *[Name]*
 Date: 7/27/23 Time: 12:40

3. RELINQUISHED BY:

Signature: _____
 Print Name: _____
 Date: _____ Time: _____

4. RECEIVED BY:

Signature: _____
 Print Name: _____
 Date: _____ Time: _____

DOBSON RANCH LAKES Bi-Monthly Lake Inspection

Date: 7/6/23

By: Ann

Lake	Temp	Dis. oxygen	pH	Clarity	Algae	Submerged weeds	Fish behavior	Waterfowl density	Insect activity	Mechanical issues
1	<u>30.4c</u>	<u>6.4</u> mg/L	<u>8.1</u> su	<u>75"</u> SDZ <u>3.0</u> NTU	<input type="checkbox"/> Suspended <input checked="" type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>20</u> No/A <u>1.2</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input checked="" type="checkbox"/> Operating <input type="checkbox"/> No service
2	<u>30.8c</u>	<u>6.2</u> mg/L	<u>8.1</u> su	<u>34"</u> SDZ <u>2.5</u> NTU	<input type="checkbox"/> Suspended <input checked="" type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>7</u> No/A <u>1.2</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input checked="" type="checkbox"/> Operating <input type="checkbox"/> No service
3	<u>31.0c</u>	<u>6.2</u> mg/L	<u>8.2</u> su	<u>89"</u> SDZ <u>4.0</u> NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>11</u> No/A <u>2.7</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input checked="" type="checkbox"/> Operating <input type="checkbox"/> No service
4	<u>31.1c</u>	<u>5.8</u> mg/L	<u>8.1</u> su	<u>35"</u> SDZ <u>6.6</u> NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>6</u> No/A <u>2.0</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input checked="" type="checkbox"/> Operating <input type="checkbox"/> No service
5	<u>30.6c</u>	<u>5.1</u> mg/L	<u>8.0</u> su	<u>73"</u> SDZ <u>3.3</u> NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>11</u> No/A <u>2.7</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	
6	<u>31.0c</u>	<u>8.0</u> mg/L	<u>8.4</u> su	<u>85"</u> SDZ <u>3.5</u> NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent	<input type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>19</u> No/A <u>2.3</u>	<input type="checkbox"/> Normal <input type="checkbox"/> Infestation	
7	<u>30.0c</u>	<u>6.5</u> mg/L	<u>8.2</u> su	<u>76"</u> SDZ <u>4.6</u> NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>29</u> No/A <u>2.1</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input checked="" type="checkbox"/> Operating <input type="checkbox"/> No service
8	<u>34.9c</u>	<u>6.8</u> mg/L	<u>8.0</u> su	<u>38"</u> SDZ <u>3.8</u> NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>12</u> No/A <u>4.8</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Aerators <input type="checkbox"/> Operating <input checked="" type="checkbox"/> No service

Notes and recommendations for treatment/operation:

DOBSON RANCH LAKES Bi-Monthly Lake Inspection

Date: 7/28/23
By: [Signature]

Lake	Temp	Dis. oxygen	pH	Clarity	Algae	Submerged weeds	Fish behavior	Waterfowl density	Insect activity	Mechanical issues
1	<u>32.0</u> C	<u>6.3</u> mg/L	<u>8.4</u> SU	SDZ <u>5.6</u> NTU	<input type="checkbox"/> Suspended <input checked="" type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input checked="" type="checkbox"/> Present <input type="checkbox"/> Absent	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>10</u> No/A <u>1.4</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input checked="" type="checkbox"/> Operating <input type="checkbox"/> No service
2	<u>32.3</u> C	<u>6.3</u> mg/L	<u>8.4</u> SU	SDZ <u>6.1</u> NTU	<input checked="" type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>11</u> No/A <u>1.8</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input type="checkbox"/> Operating <input checked="" type="checkbox"/> NO SERVICE
3	<u>32.2</u> C	<u>6.1</u> mg/L	<u>8.3</u> SU	SDZ <u>2.7</u> NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>9</u> No/A <u>2.0</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input checked="" type="checkbox"/> Operating <input type="checkbox"/> No service
4	<u>32.7</u> C	<u>5.6</u> mg/L	<u>8.3</u> SU	SDZ <u>5.5</u> NTU	<input checked="" type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent	<input type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>17</u> No/A <u>5.7</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input checked="" type="checkbox"/> Operating <input type="checkbox"/> No service
5	<u>32.7</u> C	<u>5.5</u> mg/L	<u>8.2</u> SU	SDZ <u>5.5</u> NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input type="checkbox"/> Absent	<input type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>10</u> No/A <u>2.5</u>	<input type="checkbox"/> Normal <input type="checkbox"/> Infestation	
6	<u>33.1</u> C	<u>7.0</u> mg/L	<u>8.4</u> SU	SDZ <u>4.3</u> NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>21</u> No/A <u>3.5</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	
7	<u>33.1</u> C	<u>6.8</u> mg/L	<u>8.4</u> SU	SDZ <u>2.0</u> NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent	<input type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>29</u> No/A <u>5.1</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input checked="" type="checkbox"/> Operating <input type="checkbox"/> No service
8	<u>32.8</u> C	<u>5.3</u> mg/L	<u>8.2</u> SU	SDZ <u>1.8</u> NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>12</u> No/A <u>4.8</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Aerators <input checked="" type="checkbox"/> Operating <input type="checkbox"/> No service

Notes and recommendations for treatment/operation: