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

01 May 2023

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

April 2023 Lake Report

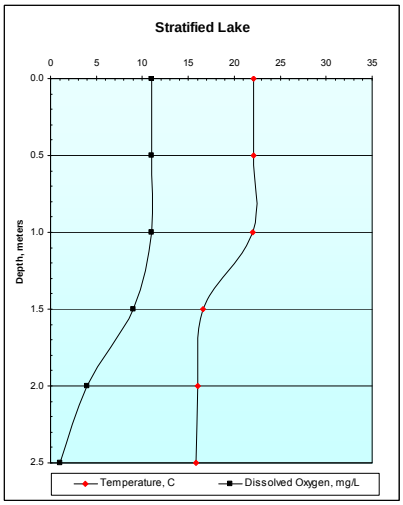
The following report presents the results of field inspections on the Dobson Ranch lakes for the month of April 2023. This report summarizes data collected under the updated program started in 2019 and expanded in 2020 that includes comprehensive testing of one-half of the lakes on a monthly basis from March through October and bi-weekly field inspections twice per month throughout the year. Comprehensive testing on Lakes 5-8 was completed during the month and laboratory reports are provided. Comparison to the last comprehensive test (October 2022) 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.

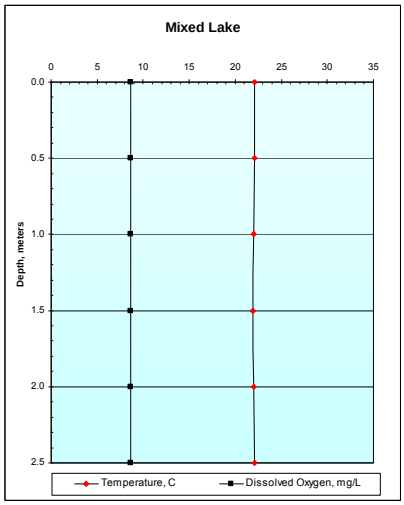
A number of tools have been used to evaluate and quantify the water quality of each lake. These include: Arizona Department of Environmental Quality Numeric Targets for Urban Lakes, the Carlson Trophic Status Index (TSI), and a Lake Report Card based on that used by Arizona Game and Fish Department that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

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

<u>Temperature and Oxygen</u>

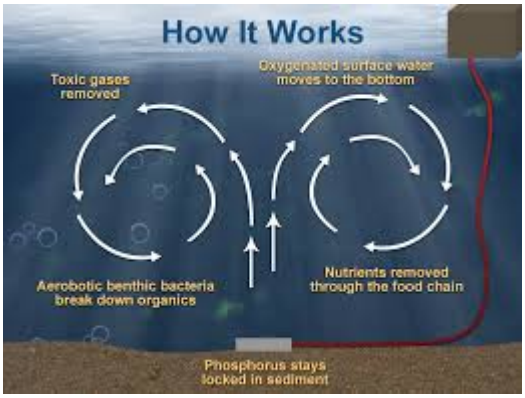
Density differences in water caused by temperature produce a physical barrier to the exchange of gases and nutrients between water layers. Typically warmer (less dense) water rests above deeper, cooler (more dense) water. Deep waters can become anoxic (oxygen poor) and cause the formation and release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





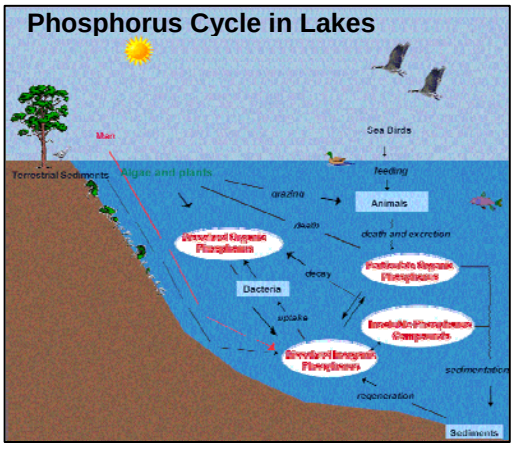
toxic gases as hydrogen sulfide and ammonia, and the release of plant nutrients as phosphates. A vertically mixed lake rarely suffers from such issues.

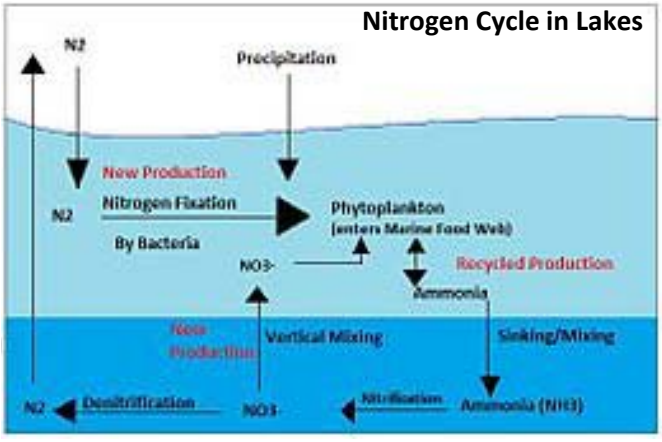
Aeration systems are designed to circulate and distribute oxygen vertically in the water column. Circulation is necessary for two primary purposes: (1) to deliver oxygen to the deeper waters for fish survival and (2) to maintain an aerobic environment throughout the lake to prevent the release and distribution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





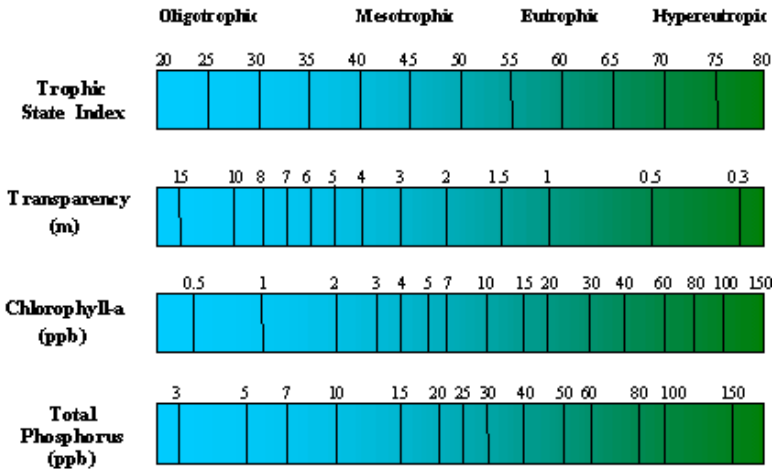
Algae and Aquatic Weeds

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.



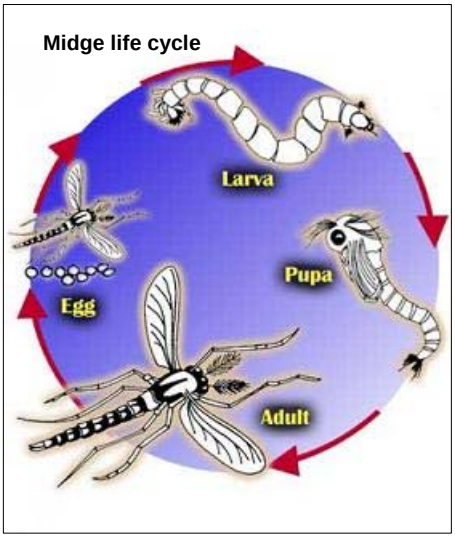
The Trophic Status report addendum provides each of these values for the sampling sites. For southern Arizona, a TSI of less than 60 is the target for reasonable aesthetic quality. Fisheries often flourish when TSI values are in the 55 to 65 range. Severe aesthetic and recreational problems occur when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




Adult midge

Waterfowl

The adverse impacts of excessive waterfowl include fecal matter deposition and public health issues, turf destruction, aesthetic detraction, 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).

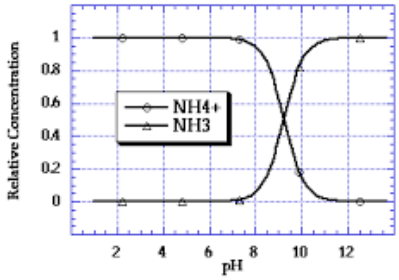
April 2023 Report Narrative Summary

The following pages provide a summary of the monthly survey results. Comprehensive analyses were conducted on Lakes 5-8 on 06 April 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 20 April 2023.

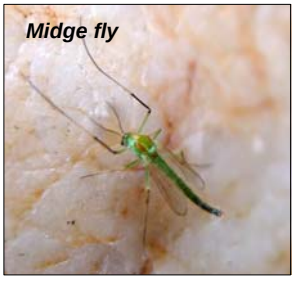
Lakes 5-8

Lake 5

Lake 5 exhibited no thermal stratification and no significant loss of oxygen in the deep waters (see attached profiles). The surface dissolved oxygen concentration (8.6-7.2 mg/L) was above the target 6.0 mg/L concentration desired to protect the fishery and no fish stress was observed. Water pH was moderate at 8.3 to 8.8 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 chart below). Transparency (Secchi disk depth) was stable 1.22 m (4.0 ft) and turbidity remained low at 3.3-4.1 NTU.



Alkalinity (140 mg/L as $CaCO_3$) and hardness (205 mg/L as $CaCO_3$) were fairly stable. Values are typical and expected from most waters in central Arizona. The total dissolved solids (mineral) concentration of the lake was good at 440 mg/L.

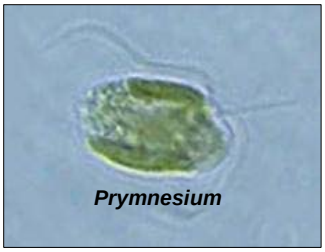

Midge fly

Waterfowl density ranged from four (4) to five (5) birds per acre which is considered in the range of good to fair (Arizona Game & Fish Department rating system). No cormorants were observed.

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

Bio-available nitrogen and total nitrogen decreased slightly to 0.27 mg/L and 1.77 mg/L, respectively. Phosphorus concentration decreased to 0.020 mg/L. Ammonia was minimal at 0.08 mg/L. At ambient temperature and pH, no toxicity issues would result.

Chlorophyll concentration, indicative of algal biomass, decreased to 1.2 ug/L. Algae density was correspondingly low (7.89 x 10^2 cells/mL). The dominant alga was *Chroomonas* (Cryptophyta unicellular flagellate). It is rarely problematic. 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 from 53 to 46, with the lake moving to the mesotrophic category. Decreased biomass was the main factor for the TSI decrease. The lake may have improved clarity and become aesthetically more pleasing, but may have anoxia in the deep waters during the summer.

The *E. coli* concentration was 16 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 updated single sample maxima are 235 and 575 for FBC and PBC recreation.

The Lake Report Card value for April 2023 was 51; up eight (8) units from October, and moving into the "excellent" category. Low chlorophyll and phosphorus concentrations were primary factors for the increased score.

Lake 6

Lake 6 was vertically mixed. No substantial loss of oxygen in the deep waters occurred. (see attached profiles). The surface dissolved oxygen concentrations (7.2-9.9 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 8.2-8.7 SU, and indicated slight 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) decreased to 0.51 m (2.0 ft) and turbidity correspondingly increased to 7.9 to 13.4 NTU.

Alkalinity (135 mg/L as $CaCO_3$) and hardness (186 mg/L as $CaCO_3$) decreased, but were still elevated, as would be expected from most waters in central Arizona. The total dissolved solids (mineral) concentration decreased slightly to 464 mg/L.

Midge fly density was quite low (<40/m^2) and should produce no issues to lakeside residents or visitors. Maximum waterfowl density was 5 to 9 (5-9) birds per acre which is considered in the range of good to poor (Arizona Game & Fish Department rating system). No cormorants were noted.

Bio-available nitrogen concentration increased to 0.16 mg/L. Total nitrogen decreased slightly to 1.36 mg/L. Phosphorus concentration decreased to 0.034 mg/L; a slightly

elevated value. Ammonia concentration was 0.06 mg/L. At ambient temperature and pH, no toxicity issues would result.

Chlorophyll concentration, indicative of algal biomass, decreased to 8.8 ug/L. Algae density decreased to 3.64 x 10^3 cells/mL. *Chlorella,* green (Chlorophyta) unicell was the dominant form. The alga is unlikely to cause problems. 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. Some filamentous algae was observed near the end of the month. A treatment proposal will be sent to the City of Mesa.

The mean TSI value was 59 (range 52-70), maintaining the lake in the slightly-eutrophic category. Eutrophic lakes are less desirable for an urban lake in terms of aesthetics, but more supportive of a robust fishery. They tend to have dominance of blue-green algae as was the case during the month.

The *E. coli* concentration was 122 MPN/100 mL and met the full body contact (swimming) and partial body contact (fishing and boating) recreation standards.

The Lake Report Card value for April 2023 was 46, a 5 point increase compared to October data, and maintaining the lake within the “good” category.

Lake 7

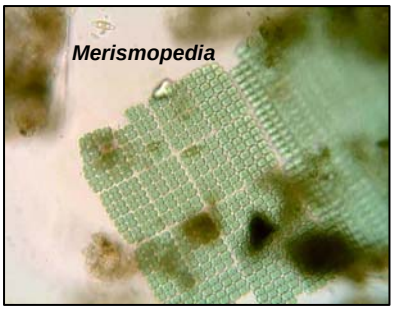
Lake 7 exhibited no thermal stratification (vertically mixed) and had no significant loss of oxygen in the deep waters (see attached profiles). The surface dissolved oxygen concentration (7.0-10.7 mg/L) met the minimum target of 6.0 mg/L desired to protect the fishery. No fish stress was observed. Water pH ranged from 8.4 to 8.5 SU and reflected a continuing decrease. 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) was fairly stable at 0.64 m (2 ft). Turbidity was moderate (2.4-4.7 NTU) during the month.

Waterfowl density was around 2 birds per acre which is considered excellent (Arizona Game & Fish Department rating system). No cormorants were observed.

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

Alkalinity (135 mg/L as $CaCO_3$) and hardness (247 mg/L as $CaCO_3$) increased slightly 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 776 mg/L.

Bio-available nitrogen concentration decreased to 0.11 mg/L, and total nitrogen decreased to 1.21 mg/L. Phosphorus concentration increased to 0.040 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 slightly to 12.8 ug/L. Algae density increased to 8.65 x 10^4 cells/mL. The dominant algae were *Merismopedia,* a blue-green (Cyanophyta) colonial form. No significant issues with the alga or other surface algae occurred. Golden algae (*Prymnesium parvum*) were found in low density at the beginning of the month and was treated. A post treatment sample was collected and was negative for golden algae.

The mean TSI value decreased by four units to 60 (range 56-66), with the lake remaining in the slightly-eutrophic category.

The *E. coli* concentration was 28 MPN/100 mL and met partial and full body contact (swimming) recreation limits.

The Lake Report Card value for April 2023 was 47 a ten-unit increase compared to October 2022 and moving the lake into the "good" category. Low phosphorus and chlorophyll concentration greatly impacted the score.

Lake 8

Lake 8 was vertically mixed with little loss of oxygen in the deep water (see attached profiles). The dissolved oxygen concentrations improved to 7.0-10.7 mg/L. Concentrations were at the satisfactory level for the fishery and fish activity appeared normal. Oxygen demand is apparently very high in the lake due to organic content and nutrient loading. Water pH ranged from 8.0-8.3 SU and indicated a moderate to high suspended algae density. Water transparency decreased to 0.81 m (2.8 ft). Turbidity was moderate at 2.5 to 3.4 NTU.

Waterfowl density was 3 to 4 (3-4) birds per acre which is considered good to fair (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.

Nitrogen concentrations increased to 0.17 mg/L bio-available nitrogen and 1.37 mg/L total nitrogen. Phosphorus concentration decreased significantly to 0.034 mg/L. The ammonia concentration remained low (0.06 mg/L). At ambient pH and temperature, acute or chronic ammonia toxicity to fish would not occur.

Algae density increased substantially and reached an elevated level of 7.13 x 10^4 cells/mL. The dominant alga was *Chlorella*. These algae are unlikely to cause issues in

the lake. The chlorophyll-a concentration (biomass indicator) decreased to 12.8 ug/L. Some olive green coloration and surface scum of the water was observed. No *Botryococcus* was found. The potentially toxic golden alga (*Prymnesium parvum*) was not present during the month.

The mean TSI value was 58 (range 56-63), moving the lake into the slightly-eutrophic category. The value indicates the lake should be less desirable in terms of aesthetics, but possibly more supportive of a robust fishery.

The *E. coli* concentrations were 4 and 11 MPN/100 mL. The measurements met the bacteria maximum for full body contact (swimming) and partial body contact (fishing and boating) recreation.

The Lake Report Card value for April 2023 49, a twelve-unit increase, and moving the lake into the "good" category.

Lakes 1-4

Lake 1

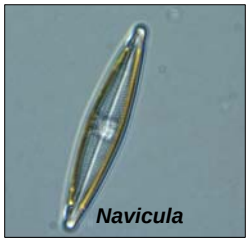
The Lake 1 temperature remained low and ranged from a high of 22.5 C to a low of 17.5 C. Water pH was 8.0-8.3 SU indicating low to moderate algae density. Dissolved oxygen (7.7-9.1 mg/L) was satisfactory for the fishery and fish activity appeared normal. Increases in dissolved oxygen concentration frequently occur during winter because of reduced respiration and decomposition rates at colder temperatures and the ability of cold water to hold more dissolved oxygen than warm water. Transparency was improved at over one meter and turbidity ranged from 4.0 to 3.3 NTU. Fountains were in service throughout the reporting period.

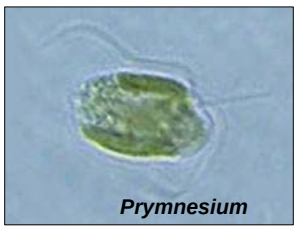
Waterfowl mean density was 29 per acre (42/A) which is considered poor (Arizona Game & Fish Department rating system shown below). No cormorants were noted. Adult midge flies did not appear to produce any nuisance issues to lakeside residents or visitors.

Waterfowl Density Ranking System (AZG&FD)

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

No abnormal algae growth or submerged weeds were observed. The diatom, *Navicula* dominated the phytoplankton. Cell density was low. No golden algae (*Prymnesium parvum* or related species) were detected.





Lake 2

The water temperature of Lake 2 was 17.0-22.0 C. Water pH ranged from 8.2-9.0 SU indicating probable increasing algae density. Dissolved oxygen (7.5-9.0 mg/L) was satisfactory for the fishery and fish activity appeared normal. Transparency was approximately one meter and turbidity was typical at 3.9-5.2 NTU. Fountains were in operation.

About twenty-four birds per acre (24/A) were observed and the density is considered poor 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 *Oscillatoria.* Total cell density was moderate in the lake. No golden algae (*Prymnesium parvum* or related species) were detected.

Lake 3

Lake temperature range was 17.5 to 22.5 C. Water pH ranged from 8.0-8.2 SU. Dissolved oxygen concentration ranged from 7.8 to 9.2 mg/L and remained satisfactory for the fishery. Fish activity appeared normal. Transparency was stable at just under one meter. Turbidity was stable, ranging from 2.9 to 5.8 NTU. Fountains were operating throughout the reporting period.

Waterfowl density ranged from 5 to 7 birds per acre; a “fair” to “poor” rating. Minimal cormorants were observed. Decreased numbers of waterfowl was not expected during 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 April *Cyclotella w*as the dominant alga. Very low total phytoplankton density prevented any problems. No golden algae (*Prymnesium parvum* or related species) were detected.

Lake 4

The temperature of Lake 4 was 17.1-22.3 C. Water pH was moderate at 8.3-8.5 SU and indicated a low to moderate algae density. Dissolved oxygen (7.5-9.2 mg/L) was satisfactory for the fishery and fish activity appeared normal. Transparency was slightly over one meter and turbidity remained low (8.7-10.2 NTU). Fountains were in operation.

Waterfowl density was 14 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. Diatoms dominated the sample and included *Navicula, Synedra,* and *Cyclotella.* This alga is not usually

known to be problematic and the overall cell count was low. Total phytoplankton density also was relatively low. 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	*E. coli*, MPN/100 mL)	Phosphorus, mg/L
04-06-23	4	0.034
04-20-23	11	0.053

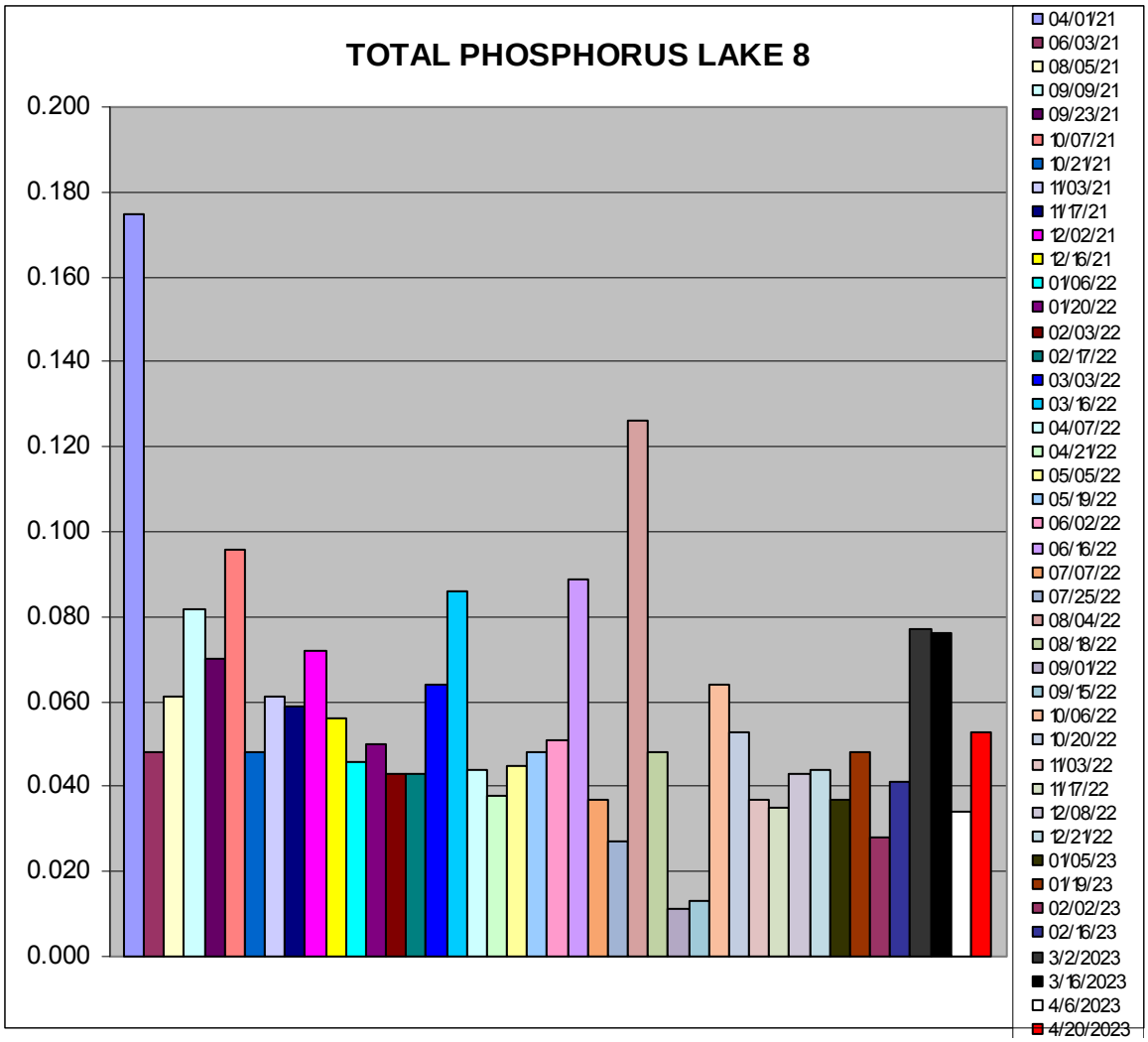
The measured bacteria concentrations are below the maximum levels established for partial and full body contact recreation by the State.

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

An application of 325 Kg of SchlixX Plus® was made in early November. The product is designed to degrade organic sludge at the lake bottom, while inactivating and preventing phosphorus recycling. The product was supplied by and application was assisted and supervised by the manufacturer (Oase, Horstel Germany) at no cost to Dobson Association. Sludge depth and phosphorus concentrations will be periodically monitored to track the success of the application.

Next Month:

Lakes 1-4 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.

North American Lake Management Society
NALMS
Frederick Amalfi
#91-01M
Certified Lake Manager

SUPPORTING DOCUMENTATION

- Laboratory reports
- Field Inspection Sheets
- Pesticide application documents

DOBSON RANCH REPORT CARD

DATE OF EVALUATION:	**Apr-23**	CONDITION	**GOOD**	SCORE	**51**	**46**	**46**	**49**
PREVIOUS EVALUATION: ***Last complete analysis***	**Mar-23**	CONDITION	**GOOD**	SCORE	**49**	**49**	**48**	**43**

		4 pts	3 pts	2 pts	1 pt	SCORE	SCORE	SCORE	SCORE
CONDITION	RATIONALE	EXCELLENT	GOOD	FAIR	POOR	Lake 5	Lake 6	Lake 7	Lake 8
Transparency - SDz (m) avg.	aesthetics	1.5-2.0	1.0-1.4	0.5-0.9	<0.5	**3**	**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	**4**	**4**	**4**	**4**
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	**3**	**3**	**3**	**3**
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**	**3**	**3**
Algae density (no./mL)	aesthetics	$<5 \times 10^4$	$5x10^4$ - $9x10^4$	1×10^5 -$5x\ 10^5$	$>5 \times 10^5$	**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	**4**	**4**	**4**	**4**
pH (SU) avg.	swimming, fishery, ammonia toxicity	6.5-8.0	8.1-8.5	8.6-9.0	>9.0	**3**	**2**	**3**	**4**
Carlson Trophic Status	eutrophication	<50	50-60	61-70	>70	**4**	**3**	**3**	**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**	**2**	**4**
Waterfowl (per acre mean)	Aesthetics, public health	<3	3-4	5-6	>6	**4**	**3**	**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: April 2023

	LAKE	LAKE	LAKE	LAKE			
PARAMETER	5	6	7	8			
Secchi Disk Depth (m)	1.22	0.51	0.64	0.81			
Phosphorus, total (ug/L)	20	34	40	34			
Chlorophyll-a (ug/L)	1.2	8.8	12.8	12.8			

	LAKE	LAKE	LAKE	LAKE			
TSI VALUES	5	6	7	8			
Secchi Disk Depth	57	70	66	63			
Phosphorus, total	47	55	57	55			
Chlorophyll-a	32	52	56	56			
					average		
AVERAGE	**46**	**59**	**60**	**58**	**56**		

SYNOPSIS OF TROPHIC STATUS RESULTS:

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

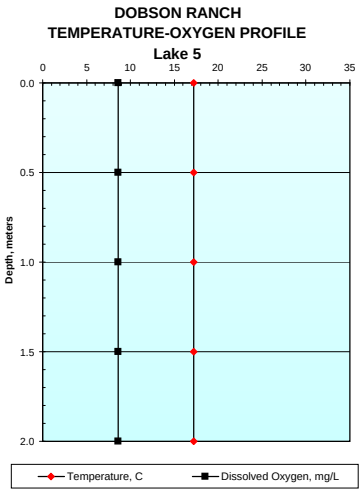
TSI<30	**Classic Oligotrophic**; clear water, oxygenated hypolimnion throughout the year; suitable for cold water fishery in deep lakes.
TSI 30-40	**Oligotrophic**; shallow lakes may exhibit anoxic hypolimnion in summer.
TSI 41-50	**Mesotrophic**; moderately clear water, increasing chance of anoxia in 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.

Field Data for 04-06-23 Sampling Event

Aquatic Consulting & Testing, Inc.

DOBSON RANCH LAKE 5

Depth, m	Temp, C	Oxygen, mg/L
0.0	17.2	8.6
0.5	17.2	8.6
1.0	17.2	8.6
1.5	17.2	8.6
2.0	17.2	8.6

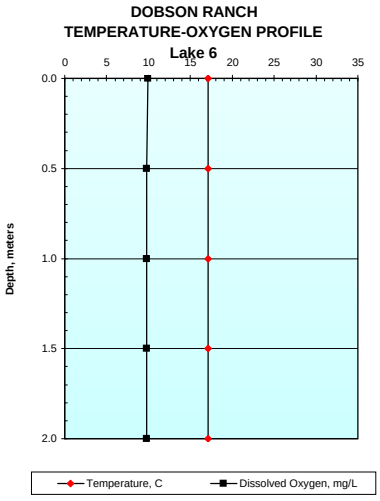


Field Data for 04-06-23 Sampling Event

Aquatic Consulting & Testing, Inc.

DOBSON RANCH LAKE 6

Depth, m	Temp, C	Oxygen, mg/L
0.0	17.1	9.9
0.5	17.1	9.8
1.0	17.1	9.8
1.5	17.1	9.8
2.0	17.1	9.8

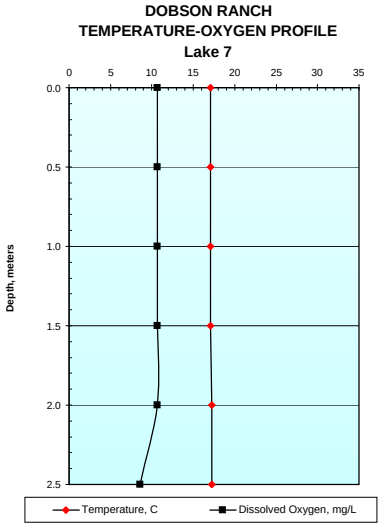


Field Data for 04-06-23 Sampling Event

Aquatic Consulting & Testing, Inc.

DOBSON RANCH LAKE 7

Depth, m	Temp, C	Oxygen, mg/L
0.0	17.1	10.7
0.5	17.1	10.7
1.0	17.1	10.7
1.5	17.1	10.7
2.0	17.2	10.7
2.5	17.2	8.6

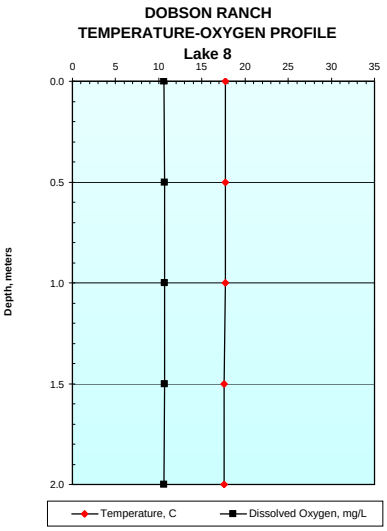


Field Data for 04-06-23 Sampling Event

Aquatic Consulting & Testing, Inc.

DOBSON RANCH LAKE 8

Depth, m	Temp, C	Oxygen, mg/L
0.0	17.7	10.6
0.5	17.7	10.7
1.0	17.7	10.7
1.5	17.6	10.7
2.0	17.6	10.6



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: 04/06/23
Date Reported: 04/28/23

Attn: Lynelle Glysson, Community Mgr

Project: Monthly Lake 5-8 Monitoring

RESULTS

Client ID: Lake 1
ACT Lab No.: CF02551

Sample Type: Surface Water
Sample Time: 04/06/23 08:30

Parameter	Analysis Date Start	Analysis Date End	Method No.	Result	Unit
Golden Algae	04/06/23	04/06/23	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	04/06/23	04/06/23	SM4500 O G	9.1	mg/L as O2
pH, Field	04/06/23	04/06/23	SM4500H+ B	8.0	SU
Temperature, Field	04/06/23	04/06/23	SM2550 B	17.5	C
Turbidity	04/06/23	04/06/23	180.1	4.0	NTU

Client ID: Lake 2
ACT Lab No.: CF02552

Sample Type: Surface Water
Sample Time: 04/06/23 08:35

Parameter	Analysis Date Start	Analysis Date End	Method No.	Result	Unit
Golden Algae	04/06/23	04/06/23	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	04/06/23	04/06/23	SM4500 O G	9.0	mg/L as O2
pH, Field	04/06/23	04/06/23	SM4500H+ B	9.0	SU
Temperature, Field	04/06/23	04/06/23	SM2550 B	17.0	C
Turbidity	04/06/23	04/06/23	180.1	3.9	NTU

Client ID: Lake 3
ACT Lab No.: CF02553

Sample Type: Surface Water
Sample Time: 04/06/23 08:40

Parameter	Analysis Date Start	Analysis Date End	Method No.	Result	Unit
Golden Algae	04/06/23	04/06/23	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	04/06/23	04/06/23	SM4500 O G	9.2	mg/L as O2
pH, Field	04/06/23	04/06/23	SM4500H+ B	8.0	SU
Temperature, Field	04/06/23	04/06/23	SM2550 B	17.5	C
Turbidity	04/06/23	04/06/23	180.1	2.9	NTU

RESULTS

Client ID: Lake 4
ACT Lab No.: CF02554

Sample Type: Surface Water
Sample Time: 04/06/23 08:45

Parameter	Analysis Date Start	Analysis Date End	Method No.	Result	Unit
Golden Algae	04/06/23	04/06/23	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	04/06/23	04/06/23	SM4500 O G	9.2	mg/L as O2
pH, Field	04/06/23	04/06/23	SM4500H+ B	8.5	SU
Temperature, Field	04/06/23	04/06/23	SM2550 B	17.1	C
Turbidity	04/06/23	04/06/23	180.1	8.7	NTU

Client ID: Lake 5
ACT Lab No.: CF02555

Sample Type: Surface Water
Sample Time: 04/06/23 07:00

Parameter	Analysis Date Start	Analysis Date End	Method No.	Result	Unit
Algae Count	04/28/23	04/28/23	SM 10200 F	See Attached	cells/mL
Algae Identification	04/28/23	04/28/23		See Attached	
Chl/Pheo Ratio	04/20/23	04/21/23	SM10200 H	2.50	
Chlorophyll a	04/20/23	04/21/23	SM10200 H	1.20	ug/L
Golden Algae	04/06/23	04/06/23	P/C Microscopy	Absent	Pres/Abs
Midge count	04/06/23	04/06/23	SM10500 C	<40	#/sq. meter
Pheophytin a	04/20/23	04/21/23	SM10200 H	<0.10	ug/L
Oxygen, Dissolved Field	04/06/23	04/06/23	SM4500 O G	8.6	mg/L as O2
pH, Field	04/06/23	04/06/23	SM4500H+ B	8.3	SU
Secchi Disk Depth	04/06/23	04/06/23	NALMS	1.22	meters
Temperature, Field	04/06/23	04/06/23	SM2550 B	17.2	C
Alkalinity, Total	04/20/23	04/20/23	SM 2320 B	140.	mg/L as CaCO3
Ammonia - N	04/12/23	04/12/23	SM4500NH3 D	0.08	mg/L as N
Nitrate + Nitrite - N	04/23/23	04/23/23	SM4500NO3 E	0.27	mg/L as N
Phosphorus, Total	04/17/23	04/19/23	365.3	0.020	mg/L as P
Total Hardness	04/26/23	04/26/23	SM2340C	205.	mg/L as CaCO3
Total Kjeldahl Nitrogen	04/12/23	04/12/23	SMNorg C,NH3 C/D	1.5	mg/L as N
E. coli, Colilert	04/06/23	04/07/23	SM 9223 B	16	MPN/100 mL
Total Dissolved Solids	04/17/23	04/18/23	SM2540 C	440.	mg/L
Turbidity	04/06/23	04/06/23	180.1	3.3	NTU

RESULTS

Client ID: Lake 6
ACT Lab No.: CF02556

Sample Type: Surface Water
Sample Time: 04/06/23 07:30

Parameter	Analysis Date Start	Analysis Date End	Method No.	Result	Unit
Algae Count	04/28/23	04/28/23	SM 10200 F	See Attached	cells/mL
Algae Identification	04/28/23	04/28/23		See Attached	
Chl/Pheo Ratio	04/20/23	04/21/23	SM10200 H	1.79	
Chlorophyll a	04/20/23	04/21/23	SM10200 H	8.81	ug/L
Golden Algae	04/06/23	04/06/23	P/C Microscopy	Absent	Pres/Abs
Midge count	04/06/23	04/06/23	SM10500 C	<40	#/sq. meter
Pheophytin a	04/20/23	04/21/23	SM10200 H	<0.10	ug/L
Oxygen, Dissolved Field	04/06/23	04/06/23	SM4500 O G	9.9	mg/L as O2
pH, Field	04/06/23	04/06/23	SM4500H+ B	8.7	SU
Secchi Disk Depth	04/06/23	04/06/23	NALMS	0.51	meters
Temperature, Field	04/06/23	04/06/23	SM2550 B	17.1	C
Alkalinity, Total	04/20/23	04/20/23	SM 2320 B	135.	mg/L as CaCO3
Ammonia - N	04/12/23	04/12/23	SM4500NH3 D	0.06	mg/L as N
Nitrate + Nitrite - N	04/23/23	04/23/23	SM4500NO3 E	0.16	mg/L as N
Phosphorus, Total	04/17/23	04/19/23	365.3	0.034	mg/L as P
Total Hardness	04/26/23	04/26/23	SM2340C	186.	mg/L as CaCO3
Total Kjeldahl Nitrogen	04/12/23	04/12/23	SMNorg C,NH3 C/D	1.2	mg/L as N
E. coli, Colilert	04/06/23	04/07/23	SM 9223 B	122	MPN/100 mL
Total Dissolved Solids	04/17/23	04/18/23	SM2540 C	464.	mg/L
Turbidity	04/06/23	04/06/23	180.1	7.9	NTU

RESULTS

Client ID: Lake 7
ACT Lab No.: CF02557

Sample Type: Surface Water
Sample Time: 04/06/23 08:00

Parameter	Analysis Date Start	End	Method No.	Result	Unit
Algae Count	04/28/23	04/28/23	SM 10200 F	See Attached	cells/mL
Algae Identification	04/28/23	04/28/23		See Attached	
Chl/Pheo Ratio	04/20/23	04/21/23	SM10200 H	1.67	
Chlorophyll a	04/20/23	04/21/23	SM10200 H	12.8	ug/L
Golden Algae	04/06/23	04/06/23	P/C Microscopy	Present 1	Pres/Abs
Midge count	04/06/23	04/06/23	SM10500 C	<40	#/sq. meter
Pheophytin a	04/20/23	04/21/23	SM10200 H	0.64	ug/L
Oxygen, Dissolved Field	04/06/23	04/06/23	SM4500 O G	10.7	mg/L as O2
pH, Field	04/06/23	04/06/23	SM4500H+ B	8.4	SU
Secchi Disk Depth	04/06/23	04/06/23	NALMS	0.63	meters
Temperature, Field	04/06/23	04/06/23	SM2550 B	17.1	C
Alkalinity, Total	04/20/23	04/20/23	SM 2320 B	135.	mg/L as CaCO3
Ammonia - N	04/12/23	04/12/23	SM4500NH3 D	0.07	mg/L as N
Nitrate + Nitrite - N	04/23/23	04/23/23	SM4500NO3 E	0.11	mg/L as N
Phosphorus, Total	04/17/23	04/19/23	365.3	0.040	mg/L as P
Total Hardness	04/26/23	04/26/23	SM2340C	247.	mg/L as CaCO3
Total Kjeldahl Nitrogen	04/12/23	04/12/23	SMNorg C,NH3 C/D	1.1	mg/L as N
E. coli, Colilert	04/06/23	04/07/23	SM 9223 B	28	MPN/100 mL
Total Dissolved Solids	04/17/23	04/18/23	SM2540 C	776.	mg/L
Turbidity	04/06/23	04/06/23	180.1	4.7	NTU

RESULTS

Client ID: Lake 8
ACT Lab No.: CF02558

Sample Type: Surface Water
Sample Time: 04/06/23 08:20

Parameter	Analysis Date Start	Analysis Date End	Method No.	Result	Unit
Algae Count	04/28/23	04/28/23	SM 10200 F	See Attached	cells/mL
Algae Identification	04/28/23	04/28/23		See Attached	
Chl/Pheo Ratio	04/20/23	04/21/23	SM10200 H	1.80	
Chlorophyll a	04/20/23	04/21/23	SM10200 H	12.8	ug/L
Golden Algae	04/06/23	04/06/23	P/C Microscopy	Absent	Pres/Abs
Midge count	04/06/23	04/06/23	SM10500 C	<40	#/sq. meter
Pheophytin a	04/20/23	04/21/23	SM10200 H	<0.10	ug/L
Oxygen, Dissolved Field	04/06/23	04/06/23	SM4500 O G	10.7	mg/L as O2
pH, Field	04/06/23	04/06/23	SM4500H+ B	8.0	SU
Secchi Disk Depth	04/06/23	04/06/23	NALMS	0.81	meters
Temperature, Field	04/06/23	04/06/23	SM2550 B	17.7	C
Alkalinity, Total	04/20/23	04/20/23	SM 2320 B	158.	mg/L as CaCO3
Ammonia - N	04/12/23	04/12/23	SM4500NH3 D	0.06	mg/L as N
Nitrate + Nitrite - N	04/23/23	04/23/23	SM4500NO3 E	0.17	mg/L as N
Phosphorus, Total	04/17/23	04/19/23	365.3	0.034	mg/L as P
Total Hardness	04/26/23	04/26/23	SM2340C	294.	mg/L as CaCO3
Total Kjeldahl Nitrogen	04/12/23	04/12/23	SMNorg C,NH3 C/D	1.2	mg/L as N
E. coli, Colilert	04/06/23	04/07/23	SM 9223 B	4	MPN/100 mL
Total Dissolved Solids	04/17/23	04/18/23	SM2540 C	1100.	mg/L
Turbidity	04/06/23	04/06/23	180.1	3.4	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 5-8 Monthly Monitoring
Dobson Ranch Association

AC&T Client Reporting Information:

Dobson Ranch Association
2719 South Reyes
Mesa, AZ 85202

Attn: Fran Pawlak, Community Manager
P: 4/80-831-8314
E:

AC&T Sampler: AM

Sample Location ID:	Date:	Time:	Matrix:	P-T	NO3+NO2	TKN-Elec	Ammonia (NH3)	Hardness	Alkalinity	TDS	E. Coli	#Chl/Pheo	Alage - ID + #	Golden algae	Turb	Field Measurements: pH, Temp, O2	Sample Containers # / Preservation: None Preserved	Na2S2O3 (Sterile)	HNO3 (Nitric)	H2SO4 (Sulfuric)	Lugols	Other:	AC&T Laboratory Sample Identification
Lake 1	4/6/23	830	SW											X	X	X	2						CF02551
Lake 2		835	SW											X	X	X	2						552
Lake 3		840	SW											X	X	X	2						553
Lake 4		845	SW											X	X	X	2						554
Lake 5		7:00	SW	X	X	X	X	X	X	X	X	X	X	X	X	X	~~3~~ 4	1		1	1		555
Lake 6		7:30	SW	X	X	X	X	X	X	X	X	X	X	X	X	X	~~3~~ 4	1		1	1		556
Lake 7		800	SW	X	X	X	X	X	X	X	X	X	X	X	X	X	~~3~~ 4	1		1	1		557
Lake 8		820	SW	X	X	X	X	X	X	X	X	X	X	X	X	X	~~3~~ 4	1		1	1		558

Project Location: Dobson Ranch

PO#: Lakes Contract

Notes:

A C & T Sample Receipt:

Total # Containers:	36		
Received Intact:	YES	NO	
# Bottles Preserved: 12	# Non:	24	
Samples On Ice:	YES	(NO)	
Ice Type:	WET	BLUE	
Sample Receipt Temperature:	17 °C		

1. RELINQUISHED BY:
Signature: Andrew Mumbrott
Print Name: Andrew Mumbrott
Date: 4/6/23 Time: 1420

2. RECEIVED BY:
Signature: M
Print Name: MJ
Date: 4/6/23 Time: 1420

3. RELINQUISHED BY:
Signature:
Print Name:
Date: Time:

4. RECEIVED BY:
Signature:
Print Name:
Date: Time:

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: 04/20/23
Date Reported: 04/28/23

Attn: Lynelle Glysson, Community Mgr

Project: Monthly Lake 1-8 Monitoring

RESULTS

Client ID: Lake 1
ACT Lab No.: CF02927

Sample Type: Surface Water
Sample Time: 04/20/23 11:15

Parameter	Analysis Date Start	Analysis Date End	Method No.	Result	Unit
Golden Algae	04/20/23	04/20/23	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	04/20/23	04/20/23	SM4500 O G	7.7	mg/L as O2
pH, Field	04/20/23	04/20/23	SM4500H+ B	8.3	SU
Temperature, Field	04/20/23	04/20/23	SM2550 B	22.5	C
Turbidity	04/20/23	04/20/23	180.1	3.3	NTU

Client ID: Lake 4
ACT Lab No.: CF02928

Sample Type: Surface Water
Sample Time: 04/20/23 10:55

Parameter	Analysis Date Start	Analysis Date End	Method No.	Result	Unit
Golden Algae	04/20/23	04/20/23	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	04/20/23	04/20/23	SM4500 O G	22.3	mg/L as O2
pH, Field	04/20/23	04/20/23	SM4500H+ B	8.3	SU
Temperature, Field	04/20/23	04/20/23	SM2550 B	22.3	C
Turbidity	04/20/23	04/20/23	180.1	10.	NTU

Client ID: Lake 5
ACT Lab No.: CF02929

Sample Type: Surface Water
Sample Time: 04/20/23 10:45

Parameter	Analysis Date Start	Analysis Date End	Method No.	Result	Unit
Golden Algae	04/20/23	04/20/23	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	04/20/23	04/20/23	SM4500 O G	22.1	mg/L as O2
pH, Field	04/20/23	04/20/23	SM4500H+ B	8.8	SU
Temperature, Field	04/20/23	04/20/23	SM2550 B	22.1	C
Turbidity	04/20/23	04/20/23	180.1	4.1	NTU

RESULTS

Client ID: Lake 6
ACT Lab No.: CF02930

Sample Type: Surface Water
Sample Time: 04/20/23 10:30

Parameter	Analysis Date Start	Analysis Date End	Method No.	Result	Unit
Golden Algae	04/20/23	04/20/23	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	04/20/23	04/20/23	SM4500 O G	22.2	mg/L as O2
pH, Field	04/20/23	04/20/23	SM4500H+ B	8.2	SU
Temperature, Field	04/20/23	04/20/23	SM2550 B	22.2	C
Turbidity	04/20/23	04/20/23	180.1	13.	NTU

Client ID: Lake 7
ACT Lab No.: CF02931

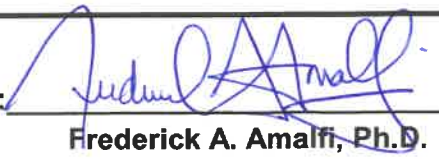
Sample Type: Surface Water
Sample Time: 04/20/23 10:10

Parameter	Analysis Date Start	Analysis Date End	Method No.	Result	Unit
Golden Algae	04/20/23	04/20/23	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	04/20/23	04/20/23	SM4500 O G	22.7	mg/L as O2
pH, Field	04/20/23	04/20/23	SM4500H+ B	8.5	SU
Temperature, Field	04/20/23	04/20/23	SM2550 B	22.7	C
Turbidity	04/20/23	04/20/23	180.1	2.3	NTU

Client ID: Lake 8
ACT Lab No.: CF02932

Sample Type: Surface Water
Sample Time: 04/20/23 10:00

Parameter	Analysis Date Start	Analysis Date End	Method No.	Result	Unit
Golden Algae	04/20/23	04/20/23	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	04/20/23	04/20/23	SM4500 O G	21.7	mg/L as O2
pH, Field	04/20/23	04/20/23	SM4500H+ B	8.3	SU
Temperature, Field	04/20/23	04/20/23	SM2550 B	21.7	C
Phosphorus, Total	04/26/23	04/27/23	365.3	0.053	mg/L as P
E. coli, Colilert	04/20/23	04/21/23	SM 9223 B	11	MPN/100 mL
Turbidity	04/20/23	04/20/23	180.1	2.5	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 Paqwlak, Community Manager
P: 4/80-831-8314
E: Ann

AC&T Sampler:

Sample Location ID:	Date:	Time:	Matrix:	P-T	NO3+NO2	TKN-Elec	Ammonia (NH3)	E. Coli	#Chl/Pheo	Alage - ID + #	Golden algae	Turb	Field Measurements: pH, Temp, O2	Sample Containers # / Preservation: None Preserved	Na2S2O3 (Sterile)	HNO3 (Nitric)	H2SO4 (Sulfuric)	Lugols	Other:	AC&T Laboratory Sample Identification
Lake 1	4/20/23	1115	SW								X	X	X	12						CF02927
~~Lake 2~~		~~1110~~	~~SW~~								~~X~~	~~X~~	~~X~~	~~1~~						~~—~~
~~Lake 3~~		~~1100~~	~~SW~~								~~X~~	~~X~~	~~X~~	~~1~~						~~—~~
Lake 4		1055	SW								X	X	X	12						CF02928
Lake 5		1045	SW								X	X	X	12						929
Lake 6		1030	SW								X	X	X	12						930
Lake 7		1010	SW								X	X	X	12						931
Lake 8	↓	1000	SW	X				X			X	X	X	12	1		1			932
																				~~—~~

Project Location:	A C & T Sample Receipt:			1. RELINQUISHED BY:	3. RELINQUISHED BY:
Dobson Ranch	Total # Containers:	14		Signature: Andrew Marquett	Signature:
PO#:	Received Intact:	YES	NO	Print Name: Andrew Marquett	Print Name:
Lakes Contract	# Bottles Preserved: 2	# Non:	12	Date: 4/20/23 Time: 1315	Date: Time:
Notes:	Samples On Ice:	YES	NO	2. RECEIVED BY:	4. RECEIVED BY:
	Ice Type:	WET	BLUE	Signature: MJ	Signature:
	Sample Receipt Temperature:	24°C		Print Name: MJ	Print Name:
				Date: 4/20/23 Time: 1315	Date: Time:

DOBSON RANCH LAKES
Bi-Monthly Lake Inspection

Date: 4/6/23
By: AM

Lake	Temp	Dis. oxygen	pH	Clarity	Algae	Submerged weeds	Fish behavior	Waterfowl density	Insect activity	Mechanical issues
1	17.5 C	9.1 mg/L	8.0 SU	___ SDz 4.0 NTU	☐Suspended ☐ Floating ☐ Bottom ☐ Attached	☐ Present ☑ Absent	☑ Normal ☐ Distress ☐ Dead ___	No. 26 No/A ___	☑ Normal ☐ Infestation	Fountain ☑ Operating ☐ No service
2	17.0 C	9.0 mg/L	9.0 SU	___ SDz 3.9 NTU	☐Suspended ☐ Floating ☐ Bottom ☐ Attached	☐ Present ☑ Absent	☑ Normal ☐ Distress ☐ Dead ___	No. 19 No/A ___	☐ Normal ☐ Infestation	Fountain ☑ Operating ☐ No service
3	17.5 C	9.2 mg/L	8.0 SU	___ SDz 2.9 NTU	☐Suspended ☐ Floating ☐ Bottom ☐ Attached	☐ Present ☑ Absent	☑ Normal ☐ Distress ☐ Dead ___	No. 7 No/A ___	☑ Normal ☐ Infestation	Fountain ☑ Operating ☐ No service
4	17.1 C	9.2 mg/L	8.5 SU	___ SDz 8.7 NTU	☐Suspended ☐ Floating ☐ Bottom ☐ Attached	☐ Present ☑ Absent	☑ Normal ☐ Distress ☐ Dead ___	No. 16 No/A ___	☑ Normal ☐ Infestation	Fountain ☑ Operating ☐ No service
5	17.2 C	8.6 mg/L	8.2 SU	48" SDz 3.3 NTU	☐Suspended ☐ Floating ☐ Bottom ☐ Attached	☐ Present ☑ Absent	☑ Normal ☐ Distress ☐ Dead ___	No. 20 No/A ___	☑ Normal ☐ Infestation	
6	17.1 C	9.9 mg/L	8.7 SU	20" SDz 2.9 NTU	☐Suspended ☐ Floating ☐ Bottom ☐ Attached	☐ Present ☑ Absent	☑ Normal ☐ Distress ☐ Dead ___	No. 22 No/A ___	☑ Normal ☐ Infestation	
7	17.1 C	10.7 mg/L	8.4 SU	25" SDz 4.7 NTU	☐Suspended ☐ Floating ☐ Bottom ☐ Attached	☐ Present ☑ Absent	☑ Normal ☐ Distress ☐ Dead ___	No. 35 No/A ___	☑ Normal ☐ Infestation	Fountain ☑ Operating ☐ No service
8	17.7 C	10.7 mg/L	8.0 SU	32" SDz 3.4 NTU	☐Suspended ☐ Floating ☐ Bottom ☐ Attached	☐ Present ☑ Absent	☑ Normal ☐ Distress ☐ Dead ___	No. 14 No/A ___	☑ Normal ☐ Infestation	Aerators ☑ Operating ☐ No service

Notes and recommendations for treatment/operation:

DOBSON RANCH LAKES
Bi-Monthly Lake Inspection

Date: 4/20/23
By: AM

Lake	Temp	Dis. oxygen	pH	Clarity	Algae	Submerged weeds	Fish behavior	Waterfowl density	Insect activity	Mechanical issues
1	22.5 C	7.7 mg/L	8.3 SU	3.3 SDz NTU	☐ Suspended ☐ Floating ☐ Bottom ☐ Attached	☐ Present ☑ Absent	☐ Normal ☐ Distress ☐ Dead ___	No. 32 No/A ___	☐ Normal ☐ Infestation	Fountain ☐ Operating ☐ No service
2	22.0 C	7.5 mg/L	8.7 SU	5.7 SDz NTU	☐ Suspended ☐ Floating ☐ Bottom ☐ Attached	☐ Present ☑ Absent	☑ Normal ☐ Distress ☐ Dead ___	No. 29 No/A ___	☐ Normal ☐ Infestation	Fountain ☑ Operating ☐ No service
3	22.5 C	7.8 mg/L	8.2 SU	4.8 SDz NTU	☐ Suspended ☐ Floating ☐ Bottom ☐ Attached	☐ Present ☑ Absent	☐ Normal ☐ Distress ☐ Dead ___	No. 5 No/A ___	☐ Normal ☐ Infestation	Fountain ☑ Operating ☐ No service
4	22.3 C	7.5 mg/L	8.3 SU	10.2 SDz NTU	☐ Suspended ☐ Floating ☐ Bottom ☐ Attached	☐ Present ☑ Absent	☐ Normal ☐ Distress ☐ Dead ___	No. 11 No/A ___	☐ Normal ☐ Infestation	Fountain ☐ Operating ☐ No service
5	22.1 C	7.7 mg/L	8.8 SU	4.1 SDz NTU	☐ Suspended ☐ Floating ☐ Bottom ☐ Attached	☐ Present ☑ Absent	☑ Normal ☐ Distress ☐ Dead ___	No. 21 No/A ___	☐ Normal ☐ Infestation	
6	22.2 C	7.7 mg/L	8.2 SU	13.4 SDz NTU	☐ Suspended ☐ Floating ☐ Bottom ☐ Attached	☐ Present ☑ Absent	☐ Normal ☐ Distress ☐ Dead ___	No. 17 No/A ___	☐ Normal ☐ Infestation	
7	22.7 C	7.0 mg/L	8.5 SU	2.4 SDz NTU	☐ Suspended ☐ Floating ☐ Bottom ☐ Attached	☐ Present ☑ Absent	☑ Normal ☐ Distress ☐ Dead ___	No. 29 No/A ___	☑ Normal ☐ Infestation	Fountain ☑ Operating ☐ No service
8	21.7 C	7.0 mg/L	8.3 SU	2.5 SDz NTU	☐ Suspended ☐ Floating ☐ Bottom ☐ Attached	☐ Present ☑ Absent	☒ Normal ☐ Distress ☐ Dead ___	No. 17 No/A ___	☐ Normal ☐ Infestation	Aerators ☑ Operating ☐ No service

Notes and recommendations for treatment/operation:

AQUATIC CONSULTING & TESTING, INC.
1525 West University Drive, Suite 106
Tempe, Arizona 85281
Phone: 480-921-8044 Fax 480-921-0049

PESTICIDE TREATMENT NOTICE & RECORD

Client: Dobson Association

2719 S Reyes

Mesa, AZ 85202

Phone/fax: 480-831-8314 Lynelle Glysson

Location: Location: Lake 7

Date:	Time:	Start	Finish
04-07-23	1230	Conditions: clear **pt cloudy** overcast cold **cool** Wind Direction & speed: slight breeze Other :	Conditions: **clear** pt cloudy overcast cold mild **cool** Wind Direction & speed: breezy Other:

Material:	Reg. No. (*restricted)	Tot. Qty:	Acres/Volume:
Cutrine plus	8959-10	gal	35A

Pretreatment Surveillance

Target organism: Golden algae/ planktonic blue-green algae

Application method/calculations: lake 7: 35 sa x 6' x 0.6 gal/aft= 115 gallons

Dosage/rate: 0.18 ppm Cu	Percent active ingredient: copper=27.9%

Applicator: Amalfi Cert. No. 1360

Visual monitoring: Note effects on target and any non-target species.
During application: No unusual circumstances or effects

Post application: Date: 04/10/23
□ change in water quality ■ target species impact □ non-target species impact
Explain: No dead fish or other adverse effect observed; GA negative tests.

Precautionary Statement:

Warning-Pesticides can be harmful. Keep children and pets away from pesticide applications until dry, dissipated, or aerated. For more information contact Aquatic Consulting & Testing, Inc. at 480-921-8044 and ask for Dr. Rick Amalfi. AC&T License No. 4418 F. A. Amalfi QP#1360 Cert. No. 900496