



07 August 2025

Dobson Ranch HOA
2719 South Reyes
Mesa, Arizona 85202

July 2025 Lake Report

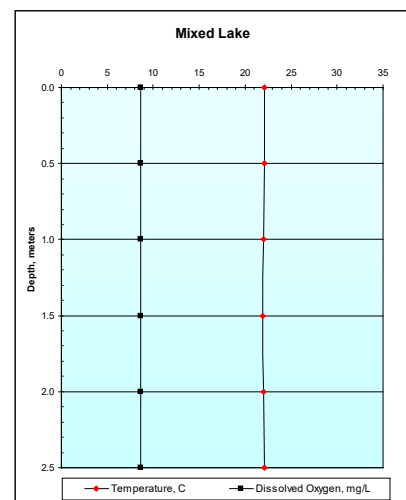
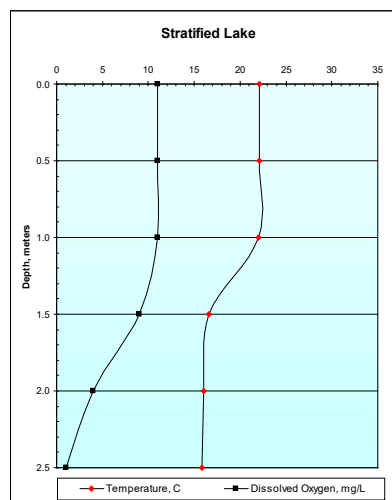
The following report presents the results of field inspections on the Dobson Ranch lakes for the month of July 2025. This report summarizes data collected under the revised program initiated in 2019 that includes comprehensive testing of one-half of the lakes on a monthly basis from March through October and bi-weekly field inspections twice per month throughout the year. Therefore, this report provides visual inspection, field and laboratory data for Lakes 1-4 completed during the month. Comparisons to the last comprehensive test (May 2025) are provided for those lakes. Field observations are also provided for Lakes 5-8. Field sheets for the inspections are also included.

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.

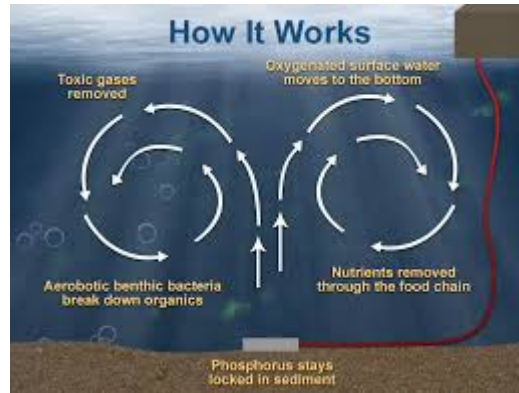
The following provides brief descriptions of some of the more important parameters.

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.

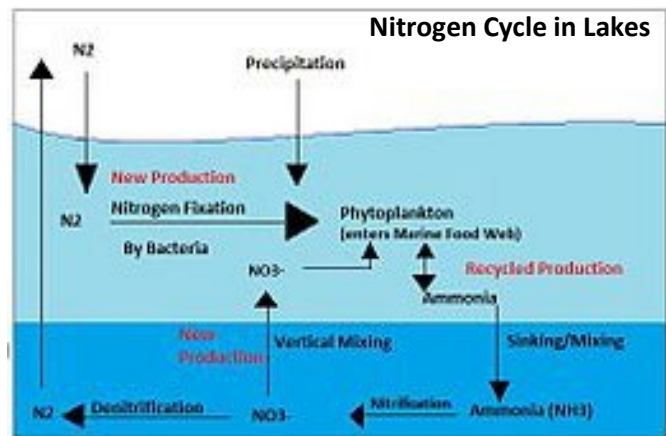
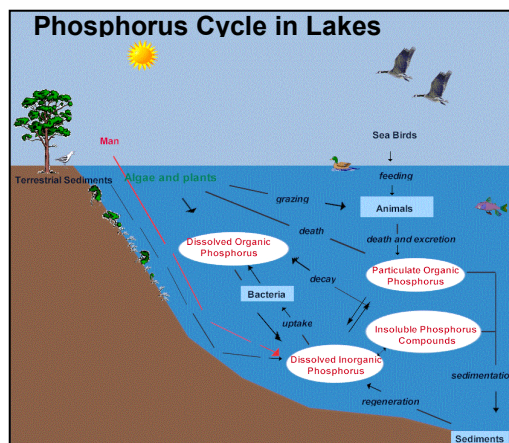


Aeration systems are designed to circulate and distribute oxygen vertically in the water column. Circulation is necessary for two primary purposes: (1) to deliver oxygen to the deeper waters for fish survival and (2) to maintain an aerobic environment throughout the lake to prevent the release and distribution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

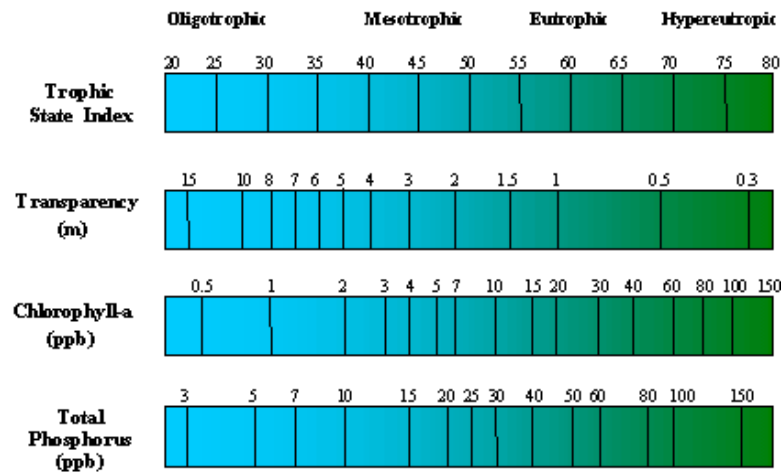
Algae are beneficial to a lake as they provide food for aquatic organisms and produce oxygen. However, some algae are undesirable and an overabundance of algae reduces aesthetic appeal and interferes with the ecological balance of the environment. Large die offs of algae can deplete dissolved oxygen 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.



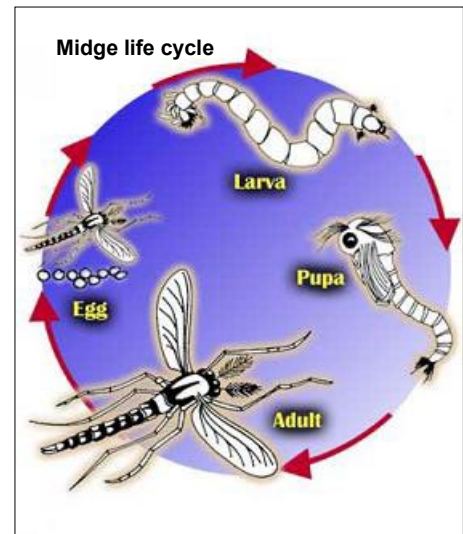
The Trophic Status report addendum provides each of these values for the sampling sites. For southern Arizona, a TSI of less than 60 is the target for reasonable aesthetic quality. Fisheries often flourish when TSI values are in the 55 to 65 range. Severe aesthetic and recreational problems occur when 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 2025 Report Narrative Summary

The following pages provide a summary of the monthly survey results. A brief narrative description is provided for each lake.

Lake 1

The Lake 1 temperature ranged from a low of 31.1 C to a high of 33.8C. The lake exhibited no thermal stratification (vertically mixed) and no significant loss of oxygen with depth. Water pH ranged between 8.2 and 8.5 SU indicating low to moderate algae density. Dissolved oxygen (6.8-10.8 mg/L) was satisfactory for the fishery and fish activity appeared normal. Decreases in dissolved oxygen concentration frequently occur during summer because of increased respiration and decomposition rates at warmer temperatures and the inability of warm water to hold more dissolved oxygen than cold water. Transparency was 0.8 m and turbidity was 6.6. Fountains were in service.

Alkalinity (122 mg/L as CaCO₃) and hardness (161 mg/L as CaCO₃) decreased slightly. Values are still typical and expected from most waters in central Arizona. The total dissolved solids (mineral) concentration of the lake was stable at 548.

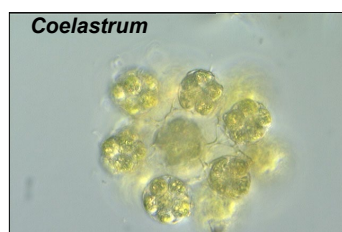
Waterfowl mean density was less than two birds per acre (<2/A) which is considered excellent (Arizona Game & Fish Department rating system shown below). No cormorants were noted.

Waterfowl Density Ranking System (AZG&FD)

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

Adult midge flies did not appear to produce any nuisance issues to lakeside residents or visitors. The sediment contained 80 larvae per sq m.

Bio-available nitrogen and total nitrogen changed slightly to 1.0 mg/L and 1.05 mg/L, respectively. Phosphorus concentration decreased slightly to 0.016 mg/L. Ammonia was stable at 0.13 mg/L. At ambient temperature and pH, no toxicity issues would result. Chlorophyll concentration, indicative of algal biomass, remained very low at 1.60 ug/L. Algae density was correspondingly low (1.89 x 10³ cells/mL). The dominant alga was *Coelastrum*, a non-problematic form. The relatively low total algae density was reflected by lack of any issues. The golden alga, *Prymnesium parvum*, was not detected. *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 remained low at 45, with the lake remaining in the mesotrophic category. Greater chlorophyll levels accounted for the TSI increase. At present conditions, 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 152 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 Lake Report Card value for July 2025 remained at 52 and lake conditions remained in the “excellent” category.

Lake 2

Water temperature ranged from 31.1-33.8 C. Lake 2 was vertically mixed. No substantial loss of oxygen in the deep waters occurred (see attached profiles). The surface dissolved oxygen concentrations (6.2-9.1 mg/L) were above the target 6.0 mg/L concentration desired to protect the fishery and no fish stress was observed. Fountains were in service. Water pH remained suitable at 8.2-8.5 SU, and indicated reduction in suspended (planktonic) algae density. Low pH is advantageous because it prevents conversion of ammonium ions (NH₄⁺) to toxic (to aquatic animals) ammonia (NH₃) gas. Transparency (Secchi disk depth) decreased to 1.40 m and turbidity increased to 5.7 NTU; still representing reasonably clear waters.

Alkalinity (122 mg/L as CaCO₃) and hardness (173 mg/L as CaCO₃) represented minor decreases. Concentrations would be expected from most waters in central Arizona. The total dissolved solids (mineral) concentration was stable at 706 mg/L.

Midge fly density decreased to <40/m² and should produce no issues to lakeside residents or visitors.

Maximum waterfowl density was <1 bird per acre which is considered ‘excellent’ (Arizona Game & Fish Department rating system). No cormorants were noted.

Bio-available nitrogen concentration doubled to 0.80 mg/L. Total nitrogen increased to 0.85 mg/L. Phosphorus concentration decreased to 0.016 mg/L; still a desirable value. Ammonia concentration was 0.12 mg/L. At ambient temperature and pH, no ammonia toxicity issues would result.

Chlorophyll concentration, indicative of algal biomass, increased slightly to 2.14 ug/L. Algae density was fairly stable at 1.96 x 10³ cells/mL. As in Lake 1, *Coelastrum*, was the dominant form and low numbers prevented any issues. 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 was problematic in the past.

The mean TSI value was 46 (range 38-555), retaining the lake in the mesotrophic category. Mesotrophic lakes are desirable for an urban lake in terms of aesthetics, but are less supportive of a robust fishery.

The *E. coli* concentration was 40 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 July 2025 was 53, up two points compared to May 2025. The value placed the lake in the “excellent” category.

Lake 3

Lake temperature range was 30.9-35.2C. Water pH was 8.2-8.5 SU. Low pH is more advantageous because it prevents conversion of ammonium ions (NH_4^+) to toxic (to aquatic animals) ammonia (NH_3) gas. Lake 3 exhibited no thermal stratification (vertically mixed) and had no significant loss of oxygen in the deep waters (see attached profiles). The fountain was not in service. The surface dissolved oxygen concentration (5.6-12.1 mg/L) did not meet the minimum target of 6.0 mg/L desired to protect the fishery; however daily oxygen production by algae prevented fishery issues. No fish stress was observed. Transparency was stable at 1.42 m. Turbidity was 9.0 NTU. Fountains were not in service at the time of sampling.

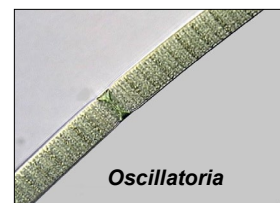
Waterfowl density was less than two birds per acre which is considered excellent (Arizona Game & Fish Department rating system). No cormorants were observed.

Midge fly density was low ($<40/\text{m}^2$) and should not produce nuisances to lakeside residents or visitors.

Alkalinity (122 mg/L as CaCO_3) and hardness (180 mg/L as CaCO_3) were within typical ranges for most waters in central Arizona. The total dissolved solids (mineral) concentration of the lake decreased to 640 mg/L.

Bio-available nitrogen concentration increased slightly to 0.90 mg/L, but total nitrogen was stable at 0.95 mg/L. Phosphorus concentration was fairly stable and relatively low at 0.021 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, increased to 5.34 ug/L. Algae density was stable at 5.27×10^3 cells/mL. The dominant alga was *Oscillatoria* a blue-green (*Cyanophyta*) filament. No significant issues with the alga or other surface algae occurred. Golden algae (*Prymnesium parvum* and related species) were not found during the reporting period.



The mean TSI value was stable when compared to May's values at 41 (range 24-53), with the lake remaining in the mesotrophic category.

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

The Lake Report Card value for July 2025 was 50, a four-unit decrease compared to the May 2025 value and maintaining the lake in the “excellent” category. Low phosphorus and chlorophyll concentration continue to positively impact the score.

Lake 4

Lake 4 was vertically mixed with little loss of oxygen in the deep water (see attached profiles). Temperature ranged from 31.9 to 36.7 C. The surface dissolved oxygen concentrations were 8.1 to 8.3 mg/L. Concentrations were at the satisfactory level for the fishery and fish activity appeared normal. The fountain was in service. Water pH ranged from 8.2-8.3 SU and indicated a moderate suspended algae density. Water transparency was increased to 1.09 m. Turbidity was typical at 6.5 NTU.

Waterfowl density was no more than two birds per acre which is considered excellent (Arizona Game & Fish Department rating system). No cormorants were noted. Midge fly density was quite low (<40/m²) and should produce no issues to lakeside residents or visitors.

Alkalinity (128 mg/L as CaCO₃) and hardness (169 mg/L as CaCO₃) 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 668 mg/L.

Bio-available nitrogen concentration increased to 1.0 mg/L, and total nitrogen increased to 1.05 mg/L. Phosphorus concentration was also stable at 0.030 mg/L. The ammonia concentration decreased to 0.13 mg/L, but at ambient pH and temperature, acute or chronic ammonia toxicity to fish would not occur.

Algae density decreased to 1.15 x 10³ cells/mL; a very low density. The dominant alga was *Coelastrum* the same as the dominant in lakes 1 and 2. This alga is not problematic. The chlorophyll-a concentration (biomass indicator) was stable at 7.51 ug/L. The potentially toxic golden alga (*Prymnesium parvum*) was not present during the month.

The mean TSI value was 54 (range 50-59), moving the lake into the slightly eutrophic category. The value indicates the lake should be acceptable in terms of aesthetics, and supportive of a robust fishery.

The *E. coli* concentration was 58 MPN/100 mL. The measurements met the bacteria maximum limit for full body contact (swimming) and partial body contact (fishing and boating) recreation.

The Lake Report Card value for July 2025 was 51, the same as the previous reporting period, and keeping the lake in the “excellent” category.

Lake 5

Lake temperature ranged from 33.5-34.9 C during the month. Water pH was 8.1-8.2 SU, indicative of a low to moderate algal density. Dissolved oxygen (7.2-9.7 mg/L) was satisfactory for the fishery and fish activity appeared normal. Turbidity was 9.0 NTU and indicating reasonably clear water.

Waterfowl density was <2 birds per acre; excellent by the AZG&F ranking system. Few cormorants were observed.

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 *Coelastrum*. The total cell density was low. No golden algae (*Prymnesium parvum* or related species) were detected.

Lake 6

The temperature of Lake 6 ranged from 34.4-34.5 C during the reporting period. Water pH ranged from 8.4 to 8.6 SU, indicating low to moderate algae density. Dissolved oxygen (6.7-10.0 mg/L) was satisfactory for the fishery and fish activity appeared normal. Turbidity was 20.5 NTU during the month and transparency was less than one meter. Data indicated possible increased algae growth.

Waterfowl density was approximately less than 2 birds per acre which is considered excellent. Cormorants were not observed.

Adult midge flies did not appear to produce any nuisance issues to lakeside residents or visitors.

No abnormal algae growth (other than increased density) or submerged weeds were observed. The dominant alga was the blue-green (Cyanophyta) filament, *Oscillatoria*. The alga can be problematic but no issues occurred. Golden algae (*Prymnesium parvum* or related species) were not detected.

Lake 7

Lake temperature ranged from 32.8-33.0 C. Water pH was 8.7-9.0 SU during the reporting period. Dissolved oxygen ranged from 7.8-10.4 mg/L and was satisfactory for the fishery. Fish activity appeared normal. Transparency was less than one meter, with turbidity at 7.3 NTU. Fountains were in operation.

Waterfowl density was about one bird per acre; excellent according to the Arizona Game & Fish Department rating system. No cormorants were noted. Adult midge flies did not appear to produce any nuisance issues to lakeside residents or visitors.

The dominant suspended alga in the lake was *Oscillatoria*. Density of the alga was moderate and no issues occurred. Golden algae were not identified in the lake during the reporting period.

Lake 8

Lake temperatures ranged from 33.0-35.7 C during the month. Water pH was 8.4-8.8 SU. Dissolved oxygen concentrations were 6.3-10.5 mg/L and were satisfactory for the fishery. Fish activity was normal. Transparency was under one meter and turbidity measured 7.3 NTU. Aerators were not operational.

Waterfowl density was less than 1 bird per acre. The rating would be considered excellent based on the Arizona Game & Fish Department rating system. Cormorants were not observed.

Adult midge flies did not appear to produce any nuisance issues to lakeside residents or visitors.

No submerged weeds were observed. The phytoplankton was dominated by blue-green algae filaments of *Oscillatoria*. The alga can make the water appear turbid and olive green in color and form surface scum. Golden algae were not observed.

Coming up:

Lakes 5-8 are scheduled for comprehensive monitoring in August. All lakes will be visually inspected and field data collected two times during the month.

Respectfully:

Aquatic Consulting & Testing, Inc.



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



SUPPORTING DOCUMENTATION

- Laboratory reports
- Field Inspection Sheets
- Pesticide application documents

DOBSON RANCH REPORT CARD

DATE OF EVALUATION:

Jul-25 CONDITION **EXCELLENT**

SCORE **52** **53** **50** **51**

PREVIOUS EVALUATION:

Last complete

May-25 CONDITION **EXCELLENT**

SCORE **52** **50** **54** **51**

CONDITION	RATIONALE	4 pts	3 pts	2 pts	1 pt	SCORE	SCORE	SCORE	SCORE
		EXCELLENT	GOOD	FAIR	POOR	Lake 1	Lake 2	Lake 3	Lake 4
Transparency - SDz (m) avg.	aesthetics	1.5-2.0	1.0-1.4	0.5-0.9	<0.5	4	4	4	4
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	3	3	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	3	3	3	3
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	4	4	2	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	4	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	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: 01-Jul-25

	LAKE	LAKE	LAKE	LAKE			
PARAMETER	1	2	3	4			
Secchi Disk Depth (m)	1.40	1.40	1.42	1.09			
Phosphorus, total (ug/L)	16	16	21	30			
Chlorophyll-a (ug/L)	1.6	2.1	5.3	7.5			
	LAKE	LAKE	LAKE	LAKE			
TSI VALUES	1	2	3	4			
Secchi Disk Depth	55	55	55	59			
Phosphorus, total	44	44	48	53			
Chlorophyll-a	35	38	47	50			
AVERAGE	45	46	50	54	49		

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.



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: 07/09/25
Date Reported: 08/12/25

Attn: Fran Pawlak, Executive Director

Project: Monthly Lake 1-4 Monitoring

RESULTS

Client ID: Lake 1
ACT Lab No.: CH04003

Sample Type: Surface Water
Sample Time: 07/09/25 14:30

<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	07/21/25	07/21/25	SM 10200 F	See Attached	cells/mL
Algae Identification	07/21/25	07/21/25		See Attached	
Chl/Pheo Ratio	08/06/25	08/06/25	SM10200 H	1.60	
Chlorophyll a	08/06/25	08/06/25	SM10200 H	1.60	ug/L
Golden Algae	07/09/25	07/09/25	P/C Microscopy	Absent	Pres/Abs
Pheophytin a	08/11/25	08/11/25	SM10200 H	0.27	ug/L
Oxygen, Dissolved Field	07/09/25	07/09/25	SM4500 O G	10.8	mg/L as O ₂
pH, Field	07/09/25	07/09/25	SM4500H+ B	8.2	SU
Secchi Disk Depth	07/09/25	07/09/25	NALMS	>1.0	meters
Temperature, Field	07/09/25	07/09/25	SM2550 B	33.8	C
Alkalinity, Total	07/16/25	07/16/25	SM 2320 B	122	mg/L as CaCO ₃
Ammonia - N	07/13/25	07/13/25	SM4500NH ₃ D	0.13	mg/L as N
Nitrate + Nitrite - N	08/11/25	08/11/25	SM4500NO ₃ E	<0.05	mg/L as N
Phosphorus, Total	08/02/25	08/04/25	365.3	0.016	mg/L as P
Total Hardness	08/06/25	08/06/25	SM2340C	161	mg/L as CaCO ₃
Total Kjeldahl Nitrogen	07/24/25	07/25/25	SMNorg C,NH ₃ C/D	1.0	mg/L as N
E. coli, Colilert	07/09/25	07/10/25	SM 9223 B	152	MPN/100 mL
Total Dissolved Solids	07/14/25	07/16/25	SM2540 C	548	mg/L
Turbidity	07/09/25	07/09/25	180.1	6.6	NTU

RESULTS

Client ID: Lake 2
ACT Lab No.: CH04004

Sample Type: Surface Water
Sample Time: 07/09/25 14:45

<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	07/21/25	07/21/25	SM 10200 F	See Attached	cells/mL
Algae Identification	07/21/25	07/21/25		See Attached	
Chl/Pheo Ratio	08/06/25	08/06/25	SM10200 H	1.67	
Chlorophyll a	08/06/25	08/06/25	SM10200 H	2.14	ug/L
Golden Algae	07/09/25	07/09/25	P/C Microscopy	Absent	Pres/Abs
Pheophytin a	08/11/25	08/11/25	SM10200 H	0.11	ug/L
Oxygen, Dissolved Field	07/09/25	07/09/25	SM4500 O G	9.1	mg/L as O2
pH, Field	07/09/25	07/09/25	SM4500H+ B	8.2	SU
Secchi Disk Depth	07/09/25	07/09/25	NALMS	>1.0	meters
Temperature, Field	07/09/25	07/09/25	SM2550 B	35.6	C
Alkalinity, Total	07/16/25	07/16/25	SM 2320 B	122	mg/L as CaCO3
Ammonia - N	07/13/25	07/13/25	SM4500NH3 D	0.12	mg/L as N
Nitrate + Nitrite - N	08/11/25	08/11/25	SM4500NO3 E	<0.05	mg/L as N
Phosphorus, Total	08/02/25	08/04/25	365.3	0.016	mg/L as P
Total Hardness	08/06/25	08/06/25	SM2340C	173	mg/L as CaCO3
Total Kjeldahl Nitrogen	07/24/25	07/25/25	SMNorg C,NH3 C/D	0.8	mg/L as N
E. coli, Colilert	07/09/25	07/10/25	SM 9223 B	40	MPN/100 mL
Total Dissolved Solids	07/14/25	07/16/25	SM2540 C	704	mg/L
Turbidity	07/09/25	07/09/25	180.1	5.7	NTU

RESULTS

Client ID: Lake 3
ACT Lab No.: CH04005

Sample Type: Surface Water
Sample Time: 07/09/25 15:00

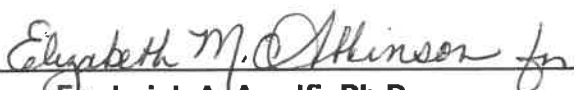
<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>Result</u>	<u>Unit</u>
	<u>Start</u>	<u>End</u>			
Algae Count	07/21/25	07/21/25	SM 10200 F	See Attached	cells/mL
Algae Identification	07/21/25	07/21/25		See Attached	
Chl/Pheo Ratio	08/06/25	08/06/25	SM10200 H	1.59	
Chlorophyll a	08/06/25	08/06/25	SM10200 H	5.34	ug/L
Golden Algae	07/09/25	07/09/25	P/C Microscopy	Absent	Pres/Abs
Pheophytin a	08/11/25	08/11/25	SM10200 H	1.01	ug/L
Oxygen, Dissolved Field	07/09/25	07/09/25	SM4500 O G	12.1	mg/L as O2
pH, Field	07/09/25	07/09/25	SM4500H+ B	8.2	SU
Secchi Disk Depth	07/09/25	07/09/25	NALMS	>1.0	meters
Temperature, Field	07/09/25	07/09/25	SM2550 B	35.2	C
Alkalinity, Total	07/16/25	07/16/25	SM 2320 B	122	mg/L as CaCO3
Ammonia - N	07/13/25	07/13/25	SM4500NH3 D	0.07	mg/L as N
Nitrate + Nitrite - N	08/11/25	08/11/25	SM4500NO3 E	<0.05	mg/L as N
Phosphorus, Total	08/02/25	08/04/25	365.3	0.021	mg/L as P
Total Hardness	08/06/25	08/06/25	SM2340C	180	mg/L as CaCO3
Total Kjeldahl Nitrogen	07/24/25	07/25/25	SMNorg C,NH3 C/D	0.9	mg/L as N
E. coli, Colilert	07/09/25	07/10/25	SM 9223 B	2	MPN/100 mL
Total Dissolved Solids	07/14/25	07/16/25	SM2540 C	640	mg/L
Turbidity	07/09/25	07/09/25	180.1	9.0	NTU

RESULTS

Client ID: Lake 4
ACT Lab No.: CH04006

Sample Type: Surface Water
Sample Time: 07/09/25 15:20

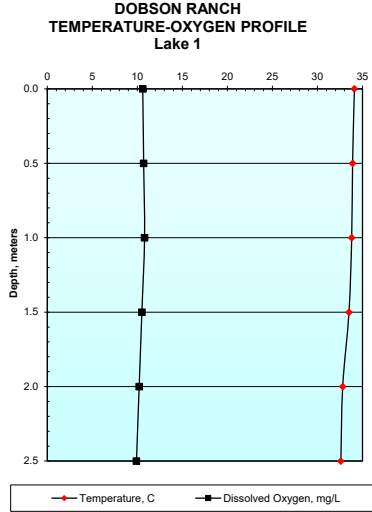
<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>Result</u>	<u>Unit</u>
	<u>Start</u>	<u>End</u>			
Algae Count	07/21/25	07/21/25	SM 10200 F	See Attached	cells/mL
Algae Identification	07/21/25	07/21/25		See Attached	
Chl/Pheo Ratio	08/06/25	08/06/25	SM10200 H	1.50	
Chlorophyll a	08/06/25	08/06/25	SM10200 H	7.51	ug/L
Golden Algae	07/09/25	07/09/25	P/C Microscopy	Absent	Pres/Abs
Pheophytin a	08/11/25	08/11/25	SM10200 H	3.00	ug/L
Oxygen, Dissolved Field	07/09/25	07/09/25	SM4500 O G	8.1	mg/L as O ₂
pH, Field	07/09/25	07/09/25	SM4500H+ B	8.3	SU
Secchi Disk Depth	07/09/25	07/09/25	NALMS	>1.0	meters
Temperature, Field	07/09/25	07/09/25	SM2550 B	33.7	C
Alkalinity, Total	07/16/25	07/16/25	SM 2320 B	128	mg/L as CaCO ₃
Ammonia - N	07/13/25	07/13/25	SM4500NH3 D	0.13	mg/L as N
Nitrate + Nitrite - N	08/11/25	08/11/25	SM4500NO3 E	<0.05	mg/L as N
Phosphorus, Total	08/02/25	08/04/25	365.3	0.030	mg/L as P
Total Hardness	08/06/25	08/06/25	SM2340C	169	mg/L as CaCO ₃
Total Kjeldahl Nitrogen	07/24/25	07/25/25	SMNorg C,NH3 C/D	1.0	mg/L as N
E. coli, Colilert	07/09/25	07/10/25	SM 9223 B	58	MPN/100 mL
Total Dissolved Solids	07/14/25	07/16/25	SM2540 C	668	mg/L
Turbidity	07/09/25	07/09/25	180.1	9.5	NTU

Reviewed by: 
Frederick A. Amalfi, Ph.D.
Laboratory Director

Field Data for 07-09-25 Sampling Event
 Aquatic Consulting & Testing, Inc.

DOBSON RANCH LAKE 1

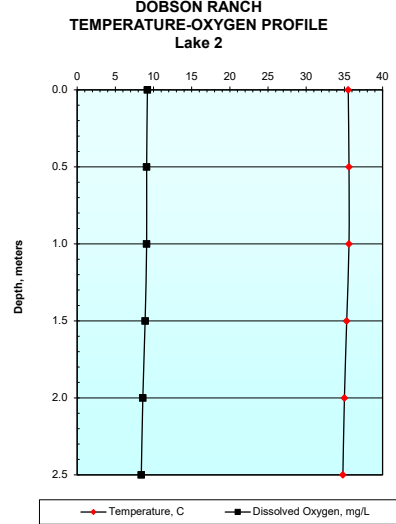
Depth, m	Temp, C	Oxygen, mg/L
0.0	34.1	10.6
0.5	33.9	10.7
1.0	33.8	10.8
1.5	33.5	10.5
2.0	32.8	10.2
2.5	32.6	9.9



Field Data for 07-09-25 Sampling Event
 Aquatic Consulting & Testing, Inc.

DOBSON RANCH LAKE 2

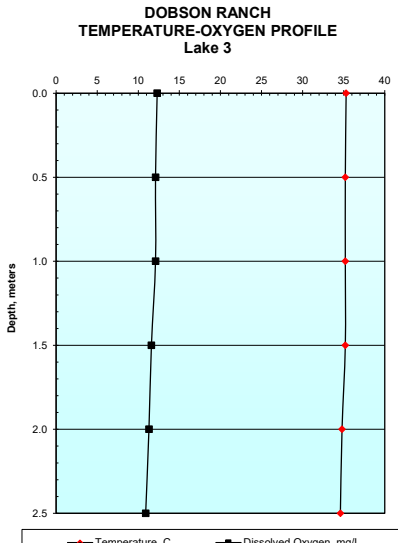
Depth, m	Temp, C	Oxygen, mg/L
0.0	35.5	9.2
0.5	35.6	9.1
1.0	35.6	9.1
1.5	35.3	8.9
2.0	35.0	8.6
2.5	34.8	8.4



Field Data for 07-09-25 Sampling Event
 Aquatic Consulting & Testing, Inc.

DOBSON RANCH LAKE 3

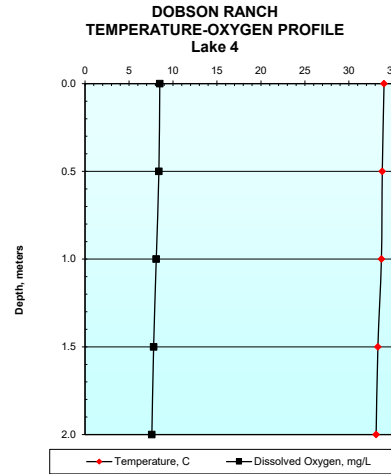
Depth, m	Temp, C	Oxygen, mg/L
0.0	35.3	12.3
0.5	35.2	12.1
1.0	35.2	12.1
1.5	35.2	11.6
2.0	34.8	11.3
2.5	34.6	10.9



Field Data for 07-09-25 Sampling Event
 Aquatic Consulting & Testing, Inc.

DOBSON RANCH LAKE 4

Depth, m	Temp, C	Oxygen, mg/L
0.0	34.0	8.5
0.5	33.8	8.4
1.0	33.7	8.1
1.5	33.3	7.8
2.0	33.1	7.6



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:		Chain of Custody													AC&T Laboratory Sample Identification								
Sample Location ID:	Date:	Time:	Matrix:	P-1	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 (Stavile)	HNO3 (Nitric)	H2SO4 (Sulfuric)	Lugols	Other	
Lake 1	07-09-25	1430	SW	X	X	X	X	X	X	X	X	X	X	X	X	X	3	1	1	1	1		C104003
Lake 2		1445	SW	X	X	X	X	X	X	X	X	X	X	X	X	X	3	1	1	1	1		9009
Lake 3		1500	SW	X	X	X	X	X	X	X	X	X	X	X	X	X	3	1	1	1	1		4005
Lake 4		1520	SW	X	X	X	X	X	X	X	X	X	X	X	X	X	3	1	1	1	1		4006
Lake 5		1600	SW													X	2						4007
Lake 6		1610	SW													X	2						4008
Lake 7		1620	SW													X	2						4009
Lake 8		1630	SW													X	2	1					4010

Project Location:	A C & T Sample Receipt:		1. RELINQUISHED BY:		2. RECEIVED BY:		3. RELINQUISHED BY:		4. RECEIVED BY:	
Dobson Ranch	Total # Containers:	24	YES	NO	Signature:	[Signature]		Signature:		
PO#: Lakes Contract	Received Intact:	8	Non:	16	Print Name:	Amaral		Print Name:		
Notes:	# Bottles Preserved:	8	YES	NO	Date:	07-09-25		Date:		
	Samples On Ice:	WET	WET	DRY	Time:	14:30-16:30		Time:		
	Ice Type:	33°C			Signature:	BA		Signature:		
	Sample Receipt Temperature:				Print Name:	Brandon		Print Name:		
					Date:	7/9/25		Date:		

-026

DOBSON RANCH LAKES
Bi-Monthly Lake Inspection

Date: 7/9/25

By: JAD

Lake	Temp	Dis. oxygen	pH	Clarity	Algae	Submerged weeds	Fish behavior	Waterfowl density	Insect activity	Mechanical issues
1	<u>33.8</u> C	<u>10.8</u> mg/L	<u>8.2</u> SU	SDz <u>6.7</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>0</u> No/A	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input checked="" type="checkbox"/> Operating <input type="checkbox"/> No service
2	<u>35.6</u> C	<u>9.1</u> mg/L	<u>8.2</u> SU	SDz <u>5.1</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>0</u> No/A	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input checked="" type="checkbox"/> Operating <input type="checkbox"/> No service
3	<u>35.2</u> C	<u>12.1</u> mg/L	<u>8.2</u> SU	SDz <u>9.0</u> NTU	<input checked="" type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input checked="" type="checkbox"/> Attached	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent <i>FA edge</i>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>0</u> No/A	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input type="checkbox"/> Operating <input checked="" type="checkbox"/> No service
4	<u>30.7</u> C	<u>8.1</u> mg/L	<u>8.3</u> SU	SDz <u>9.5</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>0</u> No/A	<input type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input type="checkbox"/> Operating <input type="checkbox"/> No service
5	<u>34.9</u> C	<u>9.7</u> mg/L	<u>8.1</u> SU	SDz <u>9.0</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>0</u> No/A	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	
6	<u>34.4</u> C	<u>10.0</u> mg/L	<u>8.4</u> SU	SDz <u>20.5</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 checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>3</u> No/A	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	
7	<u>32.8</u> C	<u>10.4</u> mg/L	<u>8.7</u> SU	SDz <u>7.6</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>0</u> No/A	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input checked="" type="checkbox"/> Operating <input type="checkbox"/> No service
8	<u>35.7</u> C	<u>10.5</u> mg/L	<u>8.8</u> SU	SDz <u>7.3</u> NTU	<input checked="" type="checkbox"/> Suspended <input 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>0</u> No/A	<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:

8 perm weeds - *Charta*

DOBSON RANCH LAKES Bi-Monthly Lake Inspection

Date: 07.27.23

By: JAA

Lake	Temp	Dis. oxygen	pH	Clarity	Algae	Submerged weeds	Fish behavior	Waterfowl density	Insect activity	Mechanical issues
1	31.1 C	6.8 mg/L	8.5 SU	0.8 SDZ ___ 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>< 1</u> No/A <u>< 1</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input checked="" type="checkbox"/> Operating <input type="checkbox"/> No service
2	31.8 C	6.2 mg/L	8.5 SU	0.7 SDZ ___ 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>< 1</u> No/A <u>< 1</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input checked="" type="checkbox"/> Operating <input type="checkbox"/> No service
3	30.9 C	5.6 mg/L	8.5 SU	0.7 SDZ ___ 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>< 1</u> No/A <u>< 1</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input type="checkbox"/> Operating <input checked="" type="checkbox"/> No service
4	31.9 C	8.3 mg/L	8.8 SU	0.6 SDZ ___ 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>< 1</u> No/A <u>< 1</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input type="checkbox"/> Operating <input checked="" type="checkbox"/> No service
5	33.5 C	7.2 mg/L	8.2 SU	0.6 SDZ ___ 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>6</u> No/A <u>___</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	
6	34.5 C	6.7 mg/L	8.6 SU	0.5 SDZ ___ 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>4</u> No/A <u>___</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	
7	33.0 C	7.8 mg/L	9.0 SU	0.5 SDZ ___ 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>< 1</u> No/A <u>< 1</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input type="checkbox"/> Operating <input checked="" type="checkbox"/> No service
8	38.0 C	6.3 mg/L	8.4 SU	0.7 SDZ ___ 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>< 1</u> No/A <u>< 1</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:

Water levels down for repairs. Filling now. 1-2 normal 3-partial