AQUATIC CONSULTING & TESTING, INC.

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06 November 2023

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

**October 2023 Lake Report**

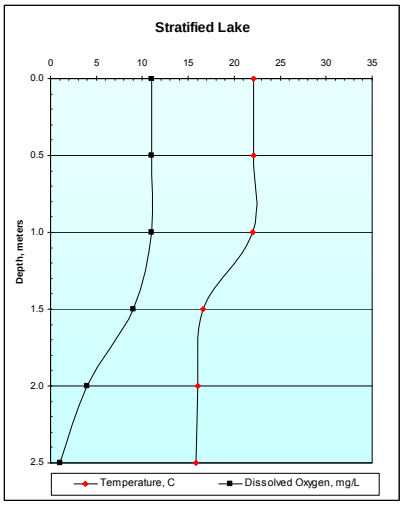
The following report presents the results of field inspections on the Dobson Ranch lakes for the month of October 2023. This report summarizes data collected under the updated program started in 2019 and expanded in 2020 that includes comprehensive testing of one-half of the lakes on a monthly basis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

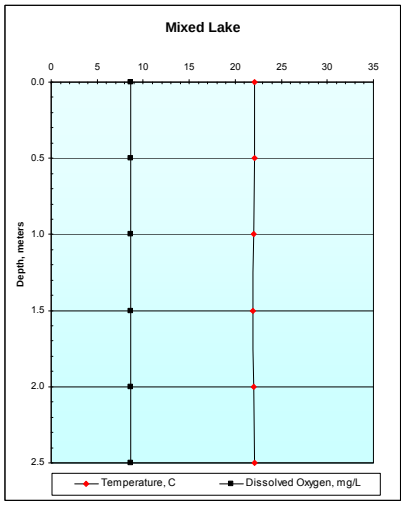
A number of tools have been used to evaluate and quantify the water quality of each lake. These include: Arizona Department of Environmental Quality Numeric Targets for Urban Lakes, the Carlson Trophic Status Index (TSI), and a Lake Report Card based on that used by Arizona Game and Fish Department that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

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

<u>Temperature and Oxygen</u>

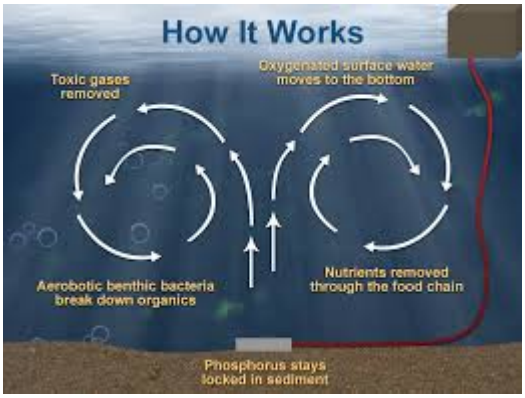
Density differences in water caused by temperature produce a physical barrier to the exchange of gases and nutrients between water layers. Typically warmer (less dense) water rests above deeper, cooler (more dense) water. Deep waters can become anoxic (oxygen poor) and cause the formation and release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



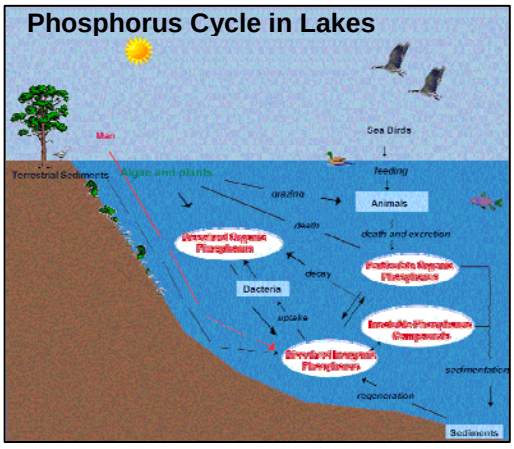
toxic gases as hydrogen sulfide and ammonia, and the release of plant nutrients as phosphates. A vertically mixed lake rarely suffers from such issues.

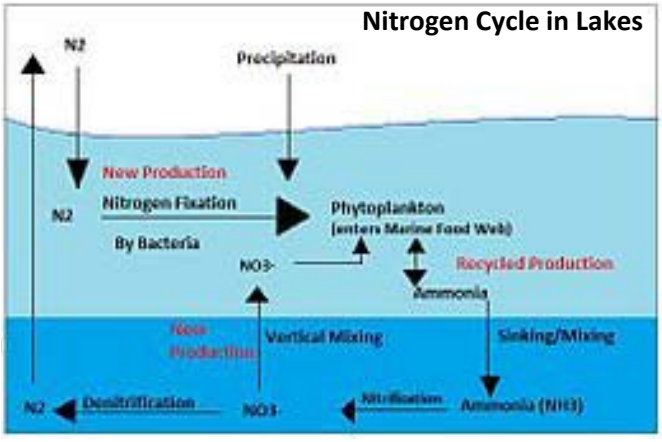
Aeration systems are designed to circulate and distribute oxygen vertically in the water column. Circulation is necessary for two primary purposes: (1) to deliver oxygen to the deeper waters for fish survival and (2) to maintain an aerobic environment throughout the lake to prevent the release and distribution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



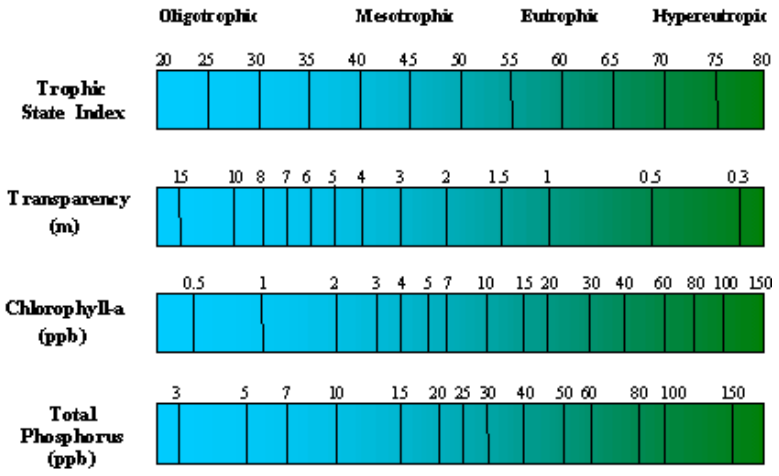
Algae and Aquatic Weeds

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.



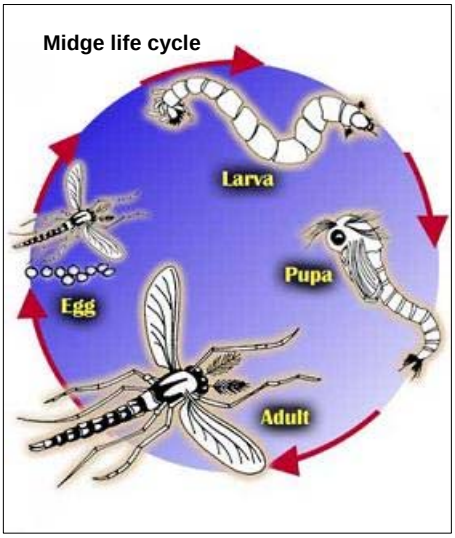

The Trophic Status report addendum provides each of these values for the sampling sites. For southern Arizona, a TSI of less than 60 is the target for reasonable aesthetic quality. Fisheries often flourish when TSI values are in the 55 to 65 range. Severe aesthetic and recreational problems occur when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

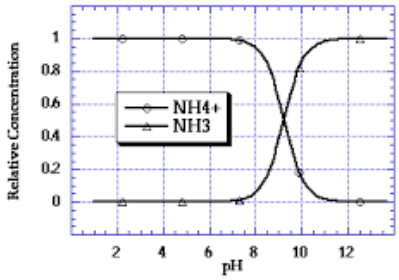
## October 2023 Report Narrative Summary

The following pages provide a summary of the monthly survey results. Comprehensive analyses were conducted on Lakes 5-8 on 03 August 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 03 and 17 August 2023.

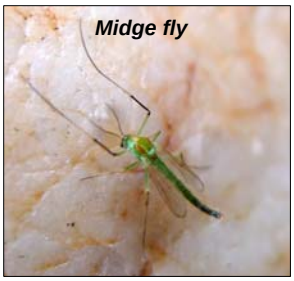
**Lakes 5-8**

**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 (6.5-7.4 mg/L) was slightly above the target 6.0 mg/L concentration desired to protect the fishery, and no fish stress was observed. Water pH was moderate at 8.0 SU and indicated a low to moderate suspended algae density. Low pH is advantageous because it prevents conversion of ammonium ions ($NH_4^+$) to toxic (to aquatic animals) ammonia ($NH_3$) gas (see figure below). Transparency (Secchi disk depth) decreased slightly to 1.19 m (3.9 ft) and turbidity remained low at 4.7-6.0 NTU.




Alkalinity (177 mg/L as $CaCO_3$) and hardness (221 mg/L as $CaCO_3$) were slightly elevated. Values are typical and expected from most waters in central Arizona. The total dissolved solids (mineral) concentration of the lake decreased, and remained acceptable at 592 mg/L.

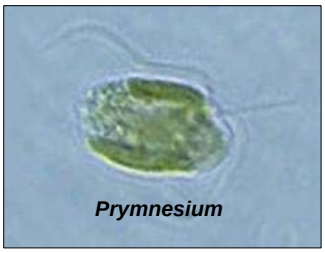



Waterfowl density ranged from four (4) to five (5) birds per acre which is considered in the range of good to fair (Arizona Game & Fish Department rating system). No cormorants were observed.

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

Bio-available nitrogen and total nitrogen decreased slightly to 0.11 mg/L and 1.30 mg/L, respectively. Phosphorus concentration decreased to 0.007 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, was stable at 2.75 ug/L. Algae density was moderate-high (1.02 x $10^5$ cells/mL). The dominant alga was *Oscillatoria*

(Cyanophyta filament). This alga can cause stringy and mat-like growths, but this was not observed. The golden alga, *Prymnesium parvum*, was not observed during the reporting period. *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 55 to 43 (range 32-57), with the lake moving into the mesotrophic category. Decreased phosphorus and increased transparency were the responsible factors for the TSI decrease.

The *E. coli* concentration was 24 MPN/100 mL. The maximum bacteria level for full body contact (FBC=swimming) and partial body contact (PBC=fishing and boating) recreation, is 126/100 mL (30-day geometric mean). The single sample maxima are 235 and 575 for FBC and PBC recreation (Dec 2022).

The Lake Report Card value for October 2023 was 48; up one (1) units from August, and remained in the "good" category. Low phosphorus and good transparency 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 (9.1-9.7 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 8.2-8.5 SU, and indicated a possible reduction in suspended (planktonic) algae density. Low pH is advantageous because it prevents conversion of ammonium ions ($NH_4^+$) to toxic (to aquatic animals) ammonia ($NH_3$) gas. Transparency (Secchi disk depth) improved to 0.66 m (2.2 ft) and turbidity ranged from 6.6 to 8.1 NTU.

Alkalinity (167 mg/L as $CaCO_3$) and hardness (235 mg/L as $CaCO_3$) increased slightly and remained moderate, as would be expected from most waters in central Arizona. The total dissolved solids (mineral) concentration increased slightly to 720 mg/L.

Midge fly density remained quite low (<40/$m^2$) and should produce no issues to lakeside residents or visitors. Maximum waterfowl density was 3-4.8 birds per acre which is considered in the good range (Arizona Game & Fish Department rating system). No cormorants were noted.

Bio-available nitrogen concentration decreased to 0.07 mg/L. Total nitrogen decreased slightly to 1.47 mg/L. Phosphorus concentration decreased to 0.022 mg/L; a slightly

elevated value. Ammonia concentration was 0.07 mg/L. At ambient temperature and pH, no toxicity issues would result.


Chlorophyll concentration, indicative of algal biomass, increased to 5.81 ug/L. Algae density increased to 3.42 x $10^2$ cells/mL. *Chlorella,* a green (Chlorophyta) unicell was the dominant form. No potentially-toxic golden algae (*Prymnesium parvum* or related species) were found. *P. parvum* can produce a toxin that destroys exposed cells in the gill tissue of fish, causing asphyxiation and death. No submerged weeds were observed, including horned pondweed (*Zannichellia palustris*) and brittle naiad (*Najas marina*) that have been problematic in other lakes in the past.

The mean TSI value was 54 (range 48-66), moving the lake into the mesotrophic category. Mesotrophic lakes are desirable for an urban lake in terms of aesthetics, and reasonably supportive of a robust fishery. They sometimes are prone to anoxic hypolimnion during the summer.

The *E. coli* concentration was 41 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 October 2023 was 49, consistent when compared to August 2023 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 (7.0-7.9 mg/L) at all depths met the minimum target of 6.0 mg/L desired to protect the fishery. No fish stress was observed. Water pH ranged from 8.2 to 8.5 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) decreased to 0.56 m (1.8 ft). Turbidity was moderate (3.8-5.5 NTU) during the month.

Waterfowl density was less than one bird per acre (<1/A) which is considered excellent (Arizona Game & Fish Department rating system). No cormorants were observed.

Midge fly density was low (80/$m^2$) and should produce no issues to lakeside residents or visitors.

Alkalinity (177 mg/L as $CaCO_3$) and hardness (283 mg/L as $CaCO_3$) were fairly stable and remained slightly elevated as typical and expected from most waters in central Arizona. The total dissolved solids (mineral) concentration of the lake increased to 952 mg/L.

Bio-available nitrogen concentration decreased to 0.07 mg/L, and total nitrogen increased to 1.37 mg/L. Phosphorus concentration decreased to 0.020 mg/L. The ammonia concentration was 0.08 mg/L and would not create any toxicity issues at ambient temperature and pH.

Chlorophyll concentration, indicative of algal biomass, increased to 26.4 ug/L. Algae density increased slightly to 3.62 x $10^5$ cells/mL. The dominant alga, as with lake 6 was *Oscillatoria,* a blue-green (Cyanophyta) filament form. No significant issues with the alga or other than minor surface scum occurred. Golden algae were absent.

The mean TSI value increased slightly to 59 (range 47-68), with the lake remaining in the slightly-eutrophic category.

The *E. coli* concentration was 31 MPN/100 mL and met partial body contact recreation limits.

The Lake Report Card value for October 2023 was 45, down two units compared to August 2023 and maintaining the lake in the "good" category.

**Lake 8**

Lake 8 was vertically mixed with little loss of oxygen in the deep water (see attached profiles). The dissolved oxygen concentrations were reduced at 6.7-7.8 mg/L through the water column. Concentrations were satisfactory for the fishery and fish activity appeared normal. Water pH was 8.5 SU and indicated a low moderate algae density and a significant change in water quality. Water transparency decreased to 0.91 m (3.0 ft). Turbidity was low at 3.9 to 4.2 NTU.

Waterfowl density was 4.2-4.8 birds per acre which is considered fair by the Arizona Game & Fish Department rating system. No cormorants were noted. Midge fly density was quite moderate (120/$m^2$) and should produce no issues to lakeside residents or visitors.

Bio-available nitrogen concentrations decreased to 0.07 mg/L, while total nitrogen was stable at 1.47 mg/L. Phosphorus concentration decreased to 0.022 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 to 1.22 x $10^5$ cells/mL. The dominant alga was *Microcystis*. These algae can cause surface scum and turbidity, but this was not the case as water clarity was good. The chlorophyll-a concentration (biomass indicator) increased to 13.7 ug/L; a significant drop. No *Botryococcus* was found. The potentially toxic golden alga (*Prymnesium parvum*) was not present during the month.

The mean TSI value decreased three (3) units to 55 (range 56-61) and maintaining the lake in the slightly eutrophic category.

The *E. coli* concentrations were 4 and 10 MPN/100 mL. The measurements met the bacteria maximum for partial body contact recreation (fishing and boating).

The Lake Report Card value for October 2023 was 46, a one unit increase from August, and kept the lake within the "good" category.

**Lakes 1-4**

## Lake 1

The Lake 1 temperature remained moderate and was observed at 25.1 C (77 F). Water pH was 8.1-8.2 SU indicating low to moderate algae density. Dissolved oxygen (7.6-8.2 mg/L) was satisfactory for the fishery and fish activity appeared normal. Increases in dissolved oxygen concentration often occur during the fall and winter because of reduced respiration and decomposition rates at lower temperatures and the ability of cold water to hold more dissolved oxygen than warm water. Transparency was over one meter and turbidity ranged from 3.3-4.7 NTU. Fountains were in service throughout the reporting period.

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

**Waterfowl Density Ranking System (AZG&FD)**

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

No abnormal algae growths or submerged weeds were observed. No golden algae (*Prymnesium parvum* or related species) were detected.

## Lake 2

The water temperature of Lake 2 was 24.5-25.2 C (76-77 F). Water pH was 8.2 SU indicating probable decreasing algae density. Dissolved oxygen (7.9-8.9 mg/L) was satisfactory for the fishery and fish activity appeared normal. Transparency was approximately one meter and turbidity was typical at 5.1-5.7 NTU. The fountain was in service at the beginning of the reporting period.

One - two birds per acre were observed and the density is considered excellent 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. No golden algae (*Prymnesium parvum* or related species) were detected.

**Lake 3**

Lake temperature range was 24.7-25.3 C (76-78 F). Water pH was 8.2 SU. Dissolved oxygen concentration ranged from 7.2 to 8.3 mg/L and remained satisfactory for the fishery. Fish activity appeared normal. Transparency was stable at about one meter. Turbidity ranged at 8.0-13.1 NTU. The fountain was operating throughout the reporting period.

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

No abnormal algae growth or submerged weeds were observed. No golden algae (*Prymnesium parvum* or related species) were detected.

**Lake 4**

The temperature of Lake 4 ranged from 24.5-25.5 C (76-78 F). Water pH was moderate and ranged between 8.2-8.3 SU, an indication a low algae density. Dissolved oxygen (7.7-8.0 mg/L) was satisfactory for the fishery and fish activity appeared normal. Transparency was slightly less than one meter and turbidity remained low (6.8-11.7 NTU). Fountains were in operation.

Waterfowl density was about 2 per acre which is considered excellent. 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. No golden algae (*Prymnesium parvum* or related species) were detected.

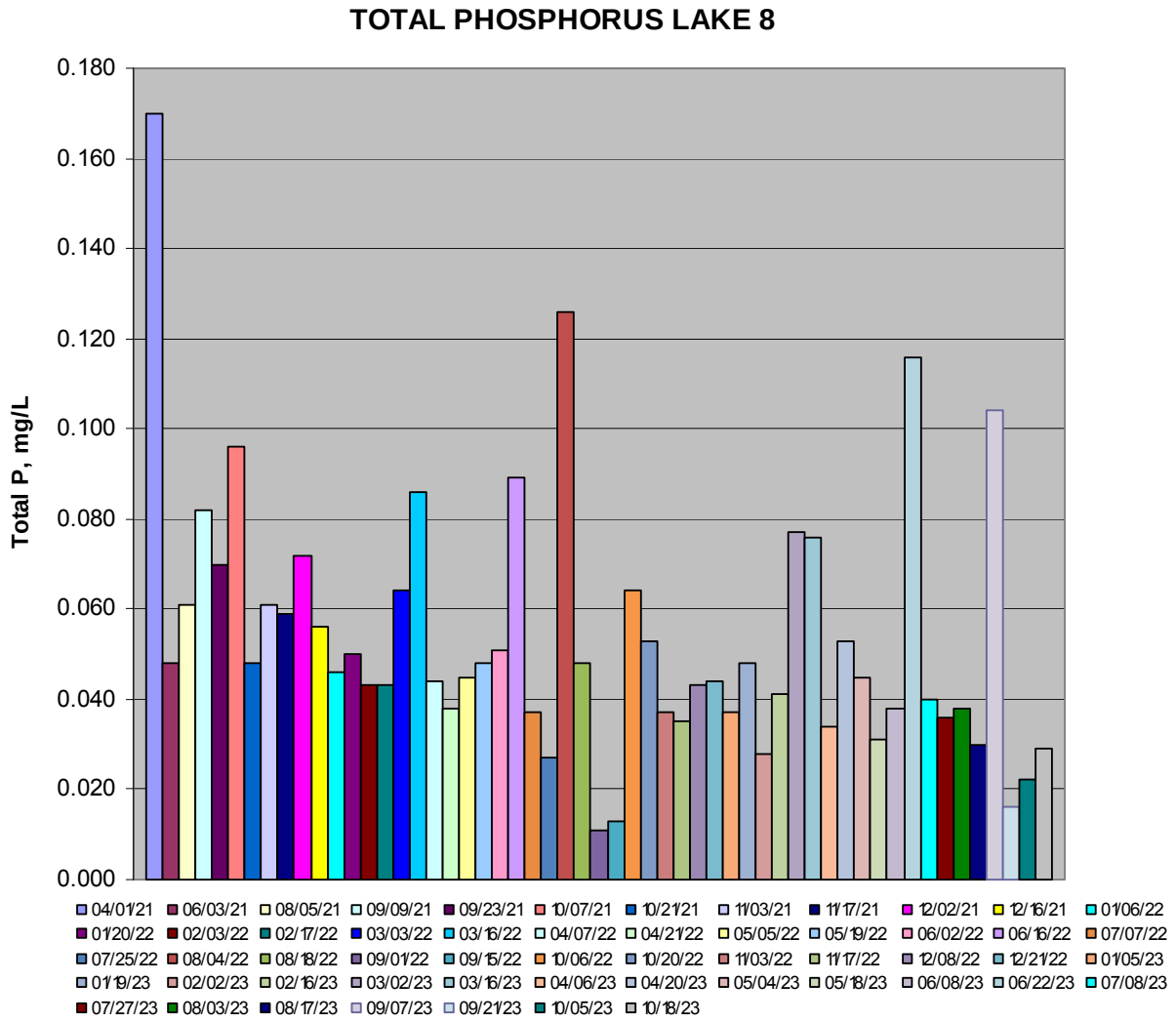
Special Testing

*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 |
|---|---|---|
| 10/05/23 | 4 | 0.022 |
| 10/18/23 | 10 | 0.029 |

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

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



**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.

## SUPPORTING DOCUMENTATION

- Laboratory reports
- Field Inspection Sheets
- Pesticide application documents

# AQUATIC CONSULTING & TESTING, INC.

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Lic. No. AZ0003


## LABORATORY REPORT

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

**Date Submitted:** 10/05/23
**Date Reported:** 11/06/23

**Attn:** Fran Pawlak, Executive Director

**Project:** Monthly Lake 5-8 Monitoring

### RESULTS

**Client ID:** Lake 1
**ACT Lab No.:** CF07086

**Sample Type:** Surface Water
**Sample Time:** 10/05/23 10:45

| Parameter | Analysis Date Start | Analysis Date End | Method No. | Result | Unit |
|---|---|---|---|---|---|
| Golden Algae | 10/05/23 | 10/05/23 | P/C Microscopy | Absent | Pres/Abs |
| Oxygen, Dissolved Field | 10/05/23 | 10/05/23 | SM4500 O G | 8.2 | mg/L as O2 |
| pH, Field | 10/05/23 | 10/05/23 | SM4500H+ B | 8.2 | SU |
| Temperature, Field | 10/05/23 | 10/05/23 | SM2550 B | 25.1 | C |
| Turbidity | 10/05/23 | 10/05/23 | 180.1 | 4.7 | NTU |

**Client ID:** Lake 2
**ACT Lab No.:** CF07087

**Sample Type:** Surface Water
**Sample Time:** 10/05/23 10:30

| Parameter | Analysis Date Start | Analysis Date End | Method No. | Result | Unit |
|---|---|---|---|---|---|
| Golden Algae | 10/05/23 | 10/05/23 | P/C Microscopy | Absent | Pres/Abs |
| Oxygen, Dissolved Field | 10/05/23 | 10/05/23 | SM4500 O G | 8.9 | mg/L as O2 |
| pH, Field | 10/05/23 | 10/05/23 | SM4500H+ B | 8.2 | SU |
| Temperature, Field | 10/05/23 | 10/05/23 | SM2550 B | 25.2 | C |
| Turbidity | 10/05/23 | 10/05/23 | 180.1 | 5.1 | NTU |

## RESULTS

**Client ID:** Lake 3
**ACT Lab No.:** CF07088

**Sample Type:** Surface Water
**Sample Time:** 10/05/23 10:20

| Parameter | Analysis Date Start | Analysis Date End | Method No. | Result | Unit |
|---|---|---|---|---|---|
| Golden Algae | 10/05/23 | 10/05/23 | P/C Microscopy | Absent | Pres/Abs |
| Oxygen, Dissolved Field | 10/05/23 | 10/05/23 | SM4500 O G | 8.3 | mg/L as O2 |
| pH, Field | 10/05/23 | 10/05/23 | SM4500H+ B | 8.2 | SU |
| Temperature, Field | 10/05/23 | 10/05/23 | SM2550 B | 25.3 | C |
| Turbidity | 10/05/23 | 10/05/23 | 180.1 | 8.0 | NTU |

**Client ID:** Lake 4
**ACT Lab No.:** CF07089

**Sample Type:** Surface Water
**Sample Time:** 10/05/23 10:00

| Parameter | Analysis Date Start | Analysis Date End | Method No. | Result | Unit |
|---|---|---|---|---|---|
| Golden Algae | 10/05/23 | 10/05/23 | P/C Microscopy | Absent | Pres/Abs |
| Oxygen, Dissolved Field | 10/05/23 | 10/05/23 | SM4500 O G | 8.0 | mg/L as O2 |
| pH, Field | 10/05/23 | 10/05/23 | SM4500H+ B | 8.3 | SU |
| Temperature, Field | 10/05/23 | 10/05/23 | SM2550 B | 25.5 | C |
| Turbidity | 10/05/23 | 10/05/23 | 180.1 | 6.8 | NTU |

## RESULTS

**Client ID:** Lake 5
**ACT Lab No.:** CF07090

**Sample Type:** Surface Water
**Sample Time:** 10/05/23 09:45

| Parameter | Analysis Date Start | Analysis Date End | Method No. | Result | Unit |
|---|---|---|---|---|---|
| Algae Count | 10/20/23 | 10/20/23 | SM 10200 F | See Attached | cells/mL |
| Algae Identification | 10/20/23 | 10/20/23 | | See Attached | |
| Chl/Pheo Ratio | 11/03/23 | 11/03/23 | SM10200 H | 1.67 | |
| Chlorophyll a | 11/03/23 | 11/03/23 | SM10200 H | 2.75 | ug/L |
| Golden Algae | 10/05/23 | 10/05/23 | P/C Microscopy | Absent | Pres/Abs |
| Midge count | 10/05/23 | 10/05/23 | SM10500 C | <40 | #/sq. meter |
| Pheophytin a | 11/03/23 | 11/03/23 | SM10200 H | 0.14 | ug/L |
| Oxygen, Dissolved Field | 10/05/23 | 10/05/23 | SM4500 O G | 7.4 | mg/L as O2 |
| pH, Field | 10/05/23 | 10/05/23 | SM4500H+ B | 8.0 | SU |
| Secchi Disk Depth | 10/05/23 | 10/05/23 | NALMS | 1.19 | meters |
| Temperature, Field | 10/05/23 | 10/05/23 | SM2550 B | 25.1 | C |
| Alkalinity, Total | 10/10/23 | 10/10/23 | SM 2320 B | 177. | mg/L as CaCO3 |
| Ammonia - N | 10/12/23 | 10/12/23 | SM4500NH3 D | 0.08 | mg/L as N |
| Nitrate + Nitrite - N | 10/22/23 | 10/22/23 | SM4500NO3 E | 0.11 | mg/L as N |
| Phosphorus, Total | 10/27/23 | 10/29/23 | 365.3 | 0.007 | mg/L as P |
| Total Hardness | 10/10/23 | 10/10/23 | SM2340C | 221. | mg/L as CaCO3 |
| Total Kjeldahl Nitrogen | 10/13/23 | 10/13/23 | SMNorg C,NH3 C/D | 1.3 | mg/L as N |
| E. coli, Colilert | 10/05/23 | 10/06/23 | SM 9223 B | 24 | MPN/100 mL |
| Total Dissolved Solids | 10/09/23 | 10/11/23 | SM2540 C | 592 | mg/L |
| Turbidity | 10/05/23 | 10/05/23 | 180.1 | 4.7 | NTU |

## RESULTS

**Client ID:** Lake 6
**ACT Lab No.:** CF07091

**Sample Type:** Surface Water
**Sample Time:** 10/05/23 09:20

| Parameter | Analysis Date Start | Analysis Date End | Method No. | Result | Unit |
|---|---|---|---|---|---|
| Algae Count | 10/20/23 | 10/20/23 | SM 10200 F | See Attached | cells/mL |
| Algae Identification | 10/20/23 | 10/20/23 | | See Attached | |
| Chl/Pheo Ratio | 11/03/23 | 11/03/23 | SM10200 H | 1.70 | |
| Chlorophyll a | 11/03/23 | 11/03/23 | SM10200 H | 5.81 | ug/L |
| Golden Algae | 10/05/23 | 10/05/23 | P/C Microscopy | Absent | Pres/Abs |
| Midge count | 10/05/23 | 10/05/23 | SM10500 C | <40 | #/sq. meter |
| Pheophytin a | 11/03/23 | 11/03/23 | SM10200 H | <0.10 | ug/L |
| Oxygen, Dissolved Field | 10/05/23 | 10/05/23 | SM4500 O G | 9.7 | mg/L as O2 |
| pH, Field | 10/05/23 | 10/05/23 | SM4500H+ B | 8.2 | SU |
| Secchi Disk Depth | 10/05/23 | 10/05/23 | NALMS | 0.66 | meters |
| Temperature, Field | 10/05/23 | 10/05/23 | SM2550 B | 27.9 | C |
| Alkalinity, Total | 10/10/23 | 10/10/23 | SM 2320 B | 167. | mg/L as CaCO3 |
| Ammonia - N | 10/12/23 | 10/12/23 | SM4500NH3 D | 0.07 | mg/L as N |
| Nitrate + Nitrite - N | 10/22/23 | 10/22/23 | SM4500NO3 E | 0.07 | mg/L as N |
| Phosphorus, Total | 10/27/23 | 10/29/23 | 365.3 | 0.022 | mg/L as P |
| Total Hardness | 10/10/23 | 10/10/23 | SM2340C | 235. | mg/L as CaCO3 |
| Total Kjeldahl Nitrogen | 10/13/23 | 10/13/23 | SMNorg C,NH3 C/D | 1.4 | mg/L as N |
| E. coli, Colilert | 10/05/23 | 10/06/23 | SM 9223 B | 41 | MPN/100 mL |
| Total Dissolved Solids | 10/09/23 | 10/11/23 | SM2540 C | 720 | mg/L |
| Turbidity | 10/05/23 | 10/05/23 | 180.1 | 8.1 | NTU |

## RESULTS

**Client ID:** Lake 7
**ACT Lab No.:** CF07092

**Sample Type:** Surface Water
**Sample Time:** 10/05/23 08:40

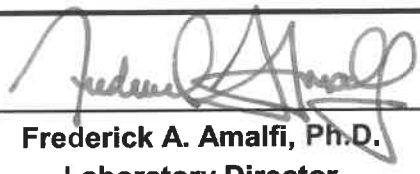
| Parameter | Analysis Date Start | Analysis Date End | Method No. | Result | Unit |
|---|---|---|---|---|---|
| Algae Count | 10/20/23 | 10/20/23 | SM 10200 F | See Attached | cells/mL |
| Algae Identification | 10/20/23 | 10/20/23 | | See Attached | |
| Chl/Pheo Ratio | 11/03/23 | 11/03/23 | SM10200 H | 1.71 | |
| Chlorophyll a | 11/03/23 | 11/03/23 | SM10200 H | 26.4 | ug/L |
| Golden Algae | 10/05/23 | 10/05/23 | P/C Microscopy | Absent | Pres/Abs |
| Midge count | 10/05/23 | 10/05/23 | SM10500 C | 80 | #/sq. meter |
| Pheophytin a | 11/03/23 | 11/03/23 | SM10200 H | <0.10 | ug/L |
| Oxygen, Dissolved Field | 10/05/23 | 10/05/23 | SM4500 O G | 7.9 | mg/L as O2 |
| pH, Field | 10/05/23 | 10/05/23 | SM4500H+ B | 8.2 | SU |
| Secchi Disk Depth | 10/05/23 | 10/05/23 | NALMS | 0.56 | meters |
| Temperature, Field | 10/05/23 | 10/05/23 | SM2550 B | 25.0 | C |
| Alkalinity, Total | 10/10/23 | 10/10/23 | SM 2320 B | 177. | mg/L as CaCO3 |
| Ammonia - N | 10/12/23 | 10/12/23 | SM4500NH3 D | 0.08 | mg/L as N |
| Nitrate + Nitrite - N | 10/22/23 | 10/22/23 | SM4500NO3 E | 0.07 | mg/L as N |
| Phosphorus, Total | 10/27/23 | 10/29/23 | 365.3 | 0.020 | mg/L as P |
| Total Hardness | 10/10/23 | 10/10/23 | SM2340C | 283. | mg/L as CaCO3 |
| Total Kjeldahl Nitrogen | 10/13/23 | 10/13/23 | SMNorg C,NH3 C/D | 1.3 | mg/L as N |
| E. coli, Colilert | 10/05/23 | 10/06/23 | SM 9223 B | 31 | MPN/100 mL |
| Total Dissolved Solids | 10/09/23 | 10/11/23 | SM2540 C | 952 | mg/L |
| Turbidity | 10/05/23 | 10/05/23 | 180.1 | 5.5 | NTU |

## RESULTS

**Client ID:** Lake 8
**ACT Lab No.:** CF07093

**Sample Type:** Surface Water
**Sample Time:** 10/05/23 08:10

| Parameter | Analysis Date Start | Analysis Date End | Method No. | Result | Unit |
|---|---|---|---|---|---|
| Algae Count | 10/20/23 | 10/20/23 | SM 10200 F | See Attached | cells/mL |
| Algae Identification | 10/20/23 | 10/20/23 | | See Attached | |
| Chl/Pheo Ratio | 11/03/23 | 11/03/23 | SM10200 H | 1.58 | |
| Chlorophyll a | 11/03/23 | 11/03/23 | SM10200 H | 13.7 | ug/L |
| Golden Algae | 10/05/23 | 10/05/23 | P/C Microscopy | Absent | Pres/Abs |
| Midge count | 10/05/23 | 10/05/23 | SM10500 C | 120 | #/sq. meter |
| Pheophytin a | 11/03/23 | 11/03/23 | SM10200 H | 2.87 | ug/L |
| Oxygen, Dissolved Field | 10/05/23 | 10/05/23 | SM4500 O G | 7.8 | mg/L as O2 |
| pH, Field | 10/05/23 | 10/05/23 | SM4500H+ B | 8.1 | SU |
| Secchi Disk Depth | 10/05/23 | 10/05/23 | NALMS | 0.91 | meters |
| Temperature, Field | 10/05/23 | 10/05/23 | SM2550 B | 24.5 | C |
| Alkalinity, Total | 10/10/23 | 10/10/23 | SM 2320 B | 186. | mg/L as CaCO3 |
| Ammonia - N | 10/12/23 | 10/12/23 | SM4500NH3 D | 0.06 | mg/L as N |
| Nitrate + Nitrite - N | 10/22/23 | 10/22/23 | SM4500NO3 E | 0.07 | mg/L as N |
| Phosphorus, Total | 10/27/23 | 10/29/23 | 365.3 | 0.022 | mg/L as P |
| Total Hardness | 10/10/23 | 10/10/23 | SM2340C | 389. | mg/L as CaCO3 |
| Total Kjeldahl Nitrogen | 10/13/23 | 10/13/23 | SMNorg C,NH3 C/D | 1.4 | mg/L as N |
| E. coli, Colilert | 10/05/23 | 10/06/23 | SM 9223 B | 4 | MPN/100 mL |
| Total Dissolved Solids | 10/09/23 | 10/11/23 | SM2540 C | 1300 | mg/L |
| Turbidity | 10/05/23 | 10/05/23 | 180.1 | 3.9 | NTU |

**Reviewed by:** 

**Frederick A. Amalfi, Ph.D.**
**Laboratory Director**

## DOBSON RANCH REPORT CARD

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| DATE OF EVALUATION: | | **Oct-23** | CONDITION | **GOOD** | SCORE | **48** | **49** | **45** | **46** |
| PREVIOUS EVALUATION: | ***Last complete analysis*** | **Aug-23** | CONDITION | **GOOD** | SCORE | **49** | **42** | **45** | **44** |

| | | 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 | **4** | **4** | **4** | **4** |
| Turbidity (NTU) avg. | aesthetics, State std | <5 | 5-10 | 11-20 | >20 | **4** | **3** | **3** | **4** |
| Chlorophyll-a (ug/L) avg. | aesthetics, oxygen balance | <10 | 11-20 | 21-30 | >30 | **4** | **4** | **3** | **3** |
| Algae density (no./mL) | aesthetics | $<5 \times 10^4$ | $5x10^4$ - $9x10^4$ | $1 \times 10^5$ -$5x\ 10^5$ | $>5 \times 10^5$ | **2** | **4** | **3** | **3** |
| Midge larvae (# per sq m) | aesthetics | <200 | 200-400 | 500-800 | >800 | **4** | **4** | **4** | **4** |
| Algae form (dominant) | aesthetics, treatability | greens; no floating mats | diatoms; no floating mats | blue-greens; no floating mats | blue-greens; floating mats common | **2** | **4** | **2** | **2** |
| pH (SU) avg. | swimming, fishery, ammonia toxicity | 6.5-8.0 | 8.1-8.5 | 8.6-9.0 | >9.0 | **3** | **3** | **3** | **3** |
| Carlson Trophic Status | eutrophication | <50 | 50-60 | 61-70 | >70 | **4** | **3** | **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:** 05-Oct-23

| | LAKE | LAKE | LAKE | LAKE | | | |
|---|---|---|---|---|---|---|---|
| **PARAMETER** | 5 | 6 | 7 | 8 | | | |
| Secchi Disk Depth (m) | 1.19 | 0.66 | 0.56 | 0.91 | | | |
| Phosphorus, total (ug/L) | 7 | 22 | 20 | 22 | | | |
| Chlorophyll-a (ug/L) | 2.8 | 5.8 | 26.4 | 13.7 | | | |

| | LAKE | LAKE | LAKE | LAKE | | | |
|---|---|---|---|---|---|---|---|
| **TSI VALUES** | 1 | 2 | 3 | 4 | | | |
| Secchi Disk Depth | 57 | 66 | 68 | 61 | | | |
| Phosphorus, total | 32 | 49 | 47 | 49 | | | |
| Chlorophyll-a | 41 | 48 | 63 | 56 | | | |
| | | | | | average | | |
| **AVERAGE** | **43** | **54** | **59** | **55** | **53** | | |

SYNOPSIS OF TROPHIC STATUS RESULTS:

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

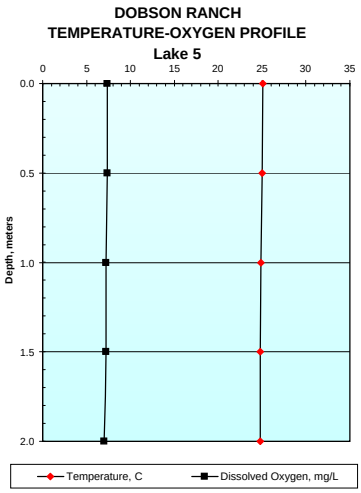
| | |
|---|---|
| TSI<30 | **Classic Oligotrophic**; clear water, oxygenated hypolimnion throughout the year; suitable for cold water fishery in deep lakes. |
| TSI 30-40 | **Oligotrophic**; shallow lakes may exhibit anoxic hypolimnion in summer. |
| TSI 41-50 | **Mesotrophic**; moderately clear water, 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 10-05-23 Sampling Event

**Aquatic Consulting & Testing, Inc.**

**DOBSON RANCH LAKE 5**

| Depth, m | Temp, C | Oxygen, mg/L |
|---|---|---|
| 0.0 | 25.1 | 7.4 |
| 0.5 | 25.0 | 7.4 |
| 1.0 | 24.9 | 7.2 |
| 1.5 | 24.8 | 7.2 |
| 2.0 | 24.8 | 7.0 |

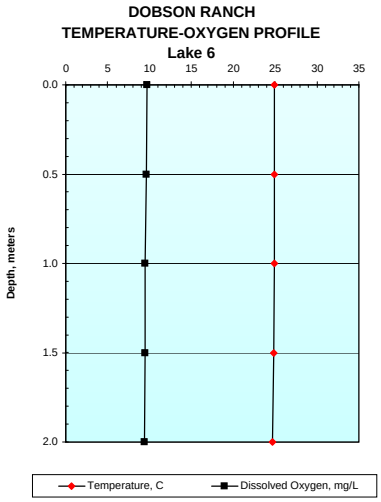



## Field Data for 10-05-23 Sampling Event

**Aquatic Consulting & Testing, Inc.**

**DOBSON RANCH LAKE 6**

| Depth, m | Temp, C | Oxygen, mg/L |
|---|---|---|
| 0.0 | 24.9 | 9.7 |
| 0.5 | 24.9 | 9.6 |
| 1.0 | 24.9 | 9.5 |
| 1.5 | 24.8 | 9.5 |
| 2.0 | 24.7 | 9.4 |

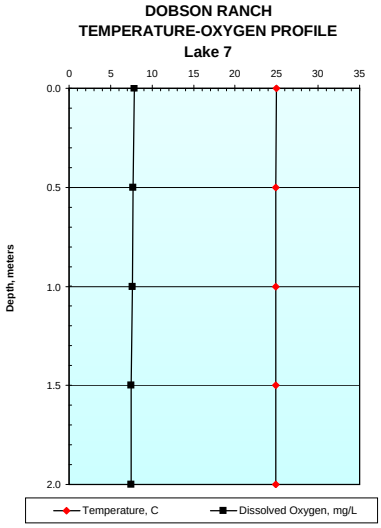



## Field Data for 10-05-23 Sampling Event

**Aquatic Consulting & Testing, Inc.**

**DOBSON RANCH LAKE 7**

| Depth, m | Temp, C | Oxygen, mg/L |
|---|---|---|
| 0.0 | 25.0 | 7.9 |
| 0.5 | 24.9 | 7.7 |
| 1.0 | 24.9 | 7.6 |
| 1.5 | 24.9 | 7.5 |
| 2.0 | 24.9 | 7.5 |

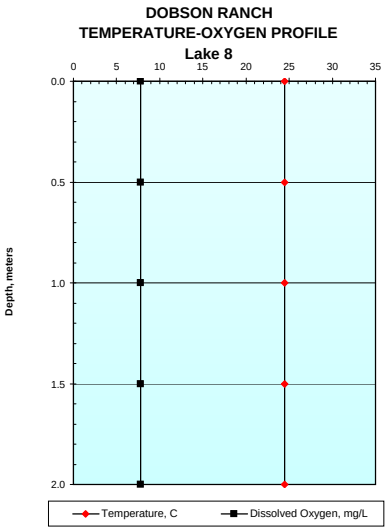



## Field Data for 10-05-23 Sampling Event

**Aquatic Consulting & Testing, Inc.**

**DOBSON RANCH LAKE 8**

| Depth, m | Temp, C | Oxygen, mg/L |
|---|---|---|
| 0.0 | 24.5 | 7.8 |
| 0.5 | 24.5 | 7.8 |
| 1.0 | 24.5 | 7.8 |
| 1.5 | 24.5 | 7.8 |
| 2.0 | 24.5 | 7.8 |



# ALGAE IDENTIFICATION

| | | | |
|---|---|---|---|
| AC&T Lab No. | CF-07090 | Date Collected | 10/05/23 |
| Client I.D. | Lake 5 | Collected By | AC&T |

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

| Genus | Div.-Form | Rel. Count | Total per mL | Comp. | Genus | Div.-Form | Rel. Count | Total per mL. | Comp |
|---|---|---|---|---|---|---|---|---|---|
| *Achnanthes* | bac-u | | | | *Microcystis* | cyn-c | | | |
| *Anabaena* | cyn-f | | | | *Microspora* | chl-f | | | |
| *Ankistrodesmus* | chl-u | | | | *Nanochloris* | chl-u | | | |
| *Aphanothece* | cyn-c | | | | ***Navicula*** | bac-u | 1 | 920 | 0.90% |
| *Asterionella* | bac-c | | | | *Nitzschia* | bac-u | | | |
| *Botryococcus* | chl-c | | | | *Oocystis* | chl-c | | | |
| *Carteria* | chl-ug | | | | ***Oscillatoria*** | cyn-f | 90 | 82839 | 81.08% |
| *Cephalomonas* | chl-ug | | | | *Pandorina* | chl-cg | | | |
| *Ceratium* | pyr-ug | | | | ***Pediastrum*** | chl-c | 8 | 7363 | 7.21% |
| ***Chlamydomonas*** | chl-ug | 1 | 920 | 0.90% | *Peridinium* | pyr-ug | | | |
| ***Chlorella*** | chl-u | 1 | 920 | 0.90% | *Phacotus* | chl-ug | | | |
| *Chlorogonium* | chl-ug | | | | *Phacus* | chl-ug | | | |
| *Chodatella* | chl-u | | | | *Pinnularia* | bac-u | | | |
| ***Chroomonas*** | crp-ug | 1 | 920 | 0.90% | *Pithophora* | chl-f | | | |
| *Closterium* | chl-u | | | | *Planktosphaeria* | chl-c | | | |
| *Cocconeis* | bac-u | | | | *Rhizoclonium* | chl-f | | | |
| *Coelastrum* | chl-c | | | | *Rhoicosphenia* | bac-u | | | |
| *Cosmarium* | chl-u | | | | *Rhopalodia* | bac-u | | | |
| *Cosmocladium* | chl-c | | | | *Scenedesmus* | chl-c | | | |
| *Crucigenia* | chl-c | | | | *Schroederia* | chl-u | | | |
| *Cryptomonas* | crp-ug | | | | *Selanastrum* | chl-u | | | |
| ***Cyclotella*** | bac-u | 2 | 1841 | 1.80% | *Sphaerocystis* | chl-c | | | |
| *Cymbella* | bac-u | | | | *Spondylumorum* | chl-c | | | |
| *Denticula* | bac-u | | | | ***Spirulina*** | cyn-f | 6 | 5523 | 5.41% |
| *Dinobryon* | bac-c | | | | *Staurastrum* | chl-u | | | |
| *Dysmorphococcus* | chl-ug | | | | *Stephanodiscus* | bac-u | | | |
| *Eremosphaeria* | chl-u | | | | *Stigeoclonium* | chl-f | | | |
| *Euglena* | eug-ug | | | | *Surirella* | bac-u | | | |
| *Fragilaria* | bac-u | | | | *Synechococcus* | cyn-u | | | |
| *Frustulia* | bac-u | | | | *Synechocystis* | cyn-c | | | |
| *Glenodinium* | pyr-ug | | | | *Synedra* | bac-u | | | |
| *Golenkinia* | chl-c | | | | *Synura* | cry-cg | | | |
| *Gomphonema* | bac-u | | | | ***Tetraedron*** | chl-u | 1 | 920 | 0.90% |
| *Gonium* | chl-cg | | | | *Thoracomonas* | chl-u | | | |
| *Gonyaulax* | pyr-ug | | | | *Trachelomonas* | eug-ug | | | |
| *Gymnodinium* | bac-u | | | | *Vaucheria* | chl-f | | | |
| *Holopedium* | cyn-u | | | | *Volvox* | chl-cg | | | |
| *Lyngbya* | cyn-f | | | | *Zygnema* | chl-f | | | |
| *Mastogloia* | bac-u | | | | | | | | |
| *Meridion* | bac-u | | | | | | | | |
| *Merismopedia* | cyn-c | | | | | | | | |

check 100.00%

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

Count (cells/mL) 1.02E+05

# ALGAE IDENTIFICATION

| | | | |
|---|---|---|---|
| AC&T Lab No. | CF-07091 | Date Collected | 10/05/23 |
| Client I.D. | Lake 6 | Collected By | AC&T |

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

| Genus | Div.-Form | Rel. Count | Total per mL | Comp. | Genus | Div.-Form | Rel. Count | Total per mL. | Comp |
|---|---|---|---|---|---|---|---|---|---|
| *Achnanthes* | bac-u | | | | *Microcystis* | cyn-c | | | |
| *Anabaena* | cyn-f | | | | *Microspora* | chl-f | | | |
| *Ankistrodesmus* | chl-u | | | | *Nanochloris* | chl-u | | | |
| *Aphanothece* | cyn-c | | | | ***Navicula*** | bac-u | 1 | 29 | 8.33% |
| *Asterionella* | bac-c | | | | *Nitzschia* | bac-u | | | |
| *Botryococcus* | chl-c | | | | *Oocystis* | chl-c | | | |
| *Carteria* | chl-ug | | | | *Oscillatoria* | cyn-f | | | |
| *Cephalomonas* | chl-ug | | | | *Pandorina* | chl-cg | | | |
| *Ceratium* | pyr-ug | | | | *Pediastrum* | chl-c | | | |
| ***Chlamydomonas*** | chl-ug | 1 | 29 | 8.33% | *Peridinium* | pyr-ug | | | |
| ***Chlorella*** | chl-u | 3 | 86 | 25.00% | *Phacotus* | chl-ug | | | |
| ***Chlorogonium*** | chl-ug | 2 | 57 | 16.67% | *Phacus* | chl-ug | | | |
| ***Chodatella*** | chl-u | 1 | 29 | 8.33% | *Pinnularia* | bac-u | | | |
| ***Chroomonas*** | crp-ug | 3 | 86 | 25.00% | *Pithophora* | chl-f | | | |
| *Closterium* | chl-u | | | | *Planktosphaeria* | chl-c | | | |
| *Cocconeis* | bac-u | | | | *Rhizoclonium* | chl-f | | | |
| *Coelastrum* | chl-c | | | | *Rhoicosphenia* | bac-u | | | |
| *Cosmarium* | chl-u | | | | *Rhopalodia* | bac-u | | | |
| *Cosmocladium* | chl-c | | | | *Scenedesmus* | chl-c | | | |
| *Crucigenia* | chl-c | | | | *Schroederia* | chl-u | | | |
| *Cryptomonas* | crp-ug | | | | *Selanastrum* | chl-u | | | |
| ***Cyclotella*** | bac-u | 1 | 29 | 8.33% | *Sphaerocystis* | chl-c | | | |
| *Cymbella* | bac-u | | | | *Spondylumorum* | chl-c | | | |
| *Denticula* | bac-u | | | | *Spirulina* | cyn-f | | | |
| *Dinobryon* | bac-c | | | | *Staurastrum* | chl-u | | | |
| *Dysmorphococcus* | chl-ug | | | | *Stephanodiscus* | bac-u | | | |
| *Eremosphaeria* | chl-u | | | | *Stigeoclonium* | chl-f | | | |
| *Euglena* | eug-ug | | | | *Surirella* | bac-u | | | |
| *Fragilaria* | bac-u | | | | *Synechococcus* | cyn-u | | | |
| *Frustulia* | bac-u | | | | *Synechocystis* | cyn-c | | | |
| *Glenodinium* | pyr-ug | | | | *Synedra* | bac-u | | | |
| *Golenkinia* | chl-c | | | | *Synura* | cry-cg | | | |
| *Gomphonema* | bac-u | | | | *Tetraedron* | chl-u | | | |
| *Gonium* | chl-cg | | | | *Thoracomonas* | chl-u | | | |
| *Gonyaulax* | pyr-ug | | | | *Trachelomonas* | eug-ug | | | |
| *Gymnodinium* | bac-u | | | | *Vaucheria* | chl-f | | | |
| *Holopedium* | cyn-u | | | | *Volvox* | chl-cg | | | |
| *Lyngbya* | cyn-f | | | | *Zygnema* | chl-f | | | |
| *Mastogloia* | bac-u | | | | | | | | |
| *Meridion* | bac-u | | | | | | | | |
| *Merismopedia* | cyn-c | | | | | | | | |

check 100.00%

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

Count (cells/mL) 3.42E+02

# ALGAE IDENTIFICATION

| | | | |
|---|---|---|---|
| AC&T Lab No. | CF-07092 | Date Collected | 10/05/23 |
| Client I.D. | Lake 7 | Collected By | AC&T |

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

| Genus | Div.-Form | Rel. Count | Total per mL | Comp. | Genus | Div.-Form | Rel. Count | Total per mL. | Comp |
|---|---|---|---|---|---|---|---|---|---|
| *Achnanthes* | bac-u | | | | *Microcystis* | cyn-c | | | |
| *Anabaena* | cyn-f | | | | *Microspora* | chl-f | | | |
| *Ankistrodesmus* | chl-u | | | | *Nanochloris* | chl-u | | | |
| *Aphanothece* | cyn-c | | | | ***Navicula*** | bac-u | 1 | 920 | 0.25% |
| *Asterionella* | bac-c | | | | *Nitzschia* | bac-u | | | |
| *Botryococcus* | chl-c | | | | *Oocystis* | chl-c | | | |
| *Carteria* | chl-ug | | | | ***Oscillatoria*** | cyn-f | 385 | 354368 | 97.96% |
| *Cephalomonas* | chl-ug | | | | *Pandorina* | chl-cg | | | |
| *Ceratium* | pyr-ug | | | | *Pediastrum* | chl-c | | | |
| ***Chlamydomonas*** | chl-ug | 1 | 920 | 0.25% | *Peridinium* | pyr-ug | | | |
| ***Chlorella*** | chl-u | 1 | 920 | 0.25% | *Phacotus* | chl-ug | | | |
| *Chlorogonium* | chl-ug | | | | *Phacus* | chl-ug | | | |
| *Chodatella* | chl-u | | | | *Pinnularia* | bac-u | | | |
| ***Chroomonas*** | crp-ug | 3 | 2761 | 0.76% | *Pithophora* | chl-f | | | |
| *Closterium* | chl-u | | | | *Planktosphaeria* | chl-c | | | |
| *Cocconeis* | bac-u | | | | *Rhizoclonium* | chl-f | | | |
| *Coelastrum* | chl-c | | | | *Rhoicosphenia* | bac-u | | | |
| *Cosmarium* | chl-u | | | | *Rhopalodia* | bac-u | | | |
| *Cosmocladium* | chl-c | | | | *Scenedesmus* | chl-c | | | |
| *Crucigenia* | chl-c | | | | *Schroederia* | chl-u | | | |
| *Cryptomonas* | crp-ug | | | | *Selanastrum* | chl-u | | | |
| *Cyclotella* | bac-u | | | | *Sphaerocystis* | chl-c | | | |
| *Cymbella* | bac-u | | | | *Spondylumorum* | chl-c | | | |
| *Denticula* | bac-u | | | | ***Spirulina*** | cyn-f | 1 | 920 | 0.25% |
| *Dinobryon* | bac-c | | | | *Staurastrum* | chl-u | | | |
| *Dysmorphococcus* | chl-ug | | | | *Stephanodiscus* | bac-u | | | |
| *Eremosphaeria* | chl-u | | | | *Stigeoclonium* | chl-f | | | |
| *Euglena* | eug-ug | | | | *Surirella* | bac-u | | | |
| *Fragilaria* | bac-u | | | | *Synechococcus* | cyn-u | | | |
| *Frustulia* | bac-u | | | | *Synechocystis* | cyn-c | | | |
| *Glenodinium* | pyr-ug | | | | *Synedra* | bac-u | | | |
| *Golenkinia* | chl-c | | | | *Synura* | cry-cg | | | |
| *Gomphonema* | bac-u | | | | *Tetraedron* | chl-u | | | |
| *Gonium* | chl-cg | | | | *Thoracomonas* | chl-u | | | |
| *Gonyaulax* | pyr-ug | | | | *Trachelomonas* | eug-ug | | | |
| *Gymnodinium* | bac-u | 1 | 920 | 0.25% | *Vaucheria* | chl-f | | | |
| *Holopedium* | cyn-u | | | | *Volvox* | chl-cg | | | |
| *Lyngbya* | cyn-f | | | | *Zygnema* | chl-f | | | |
| *Mastogloia* | bac-u | | | | | | | | |
| *Meridion* | bac-u | | | | | | | | |
| *Merismopedia* | cyn-c | | | | | | | | |

check 100.00%

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

Count (cells/mL) 3.62E+05

# ALGAE IDENTIFICATION

| | | | |
|---|---|---|---|
| AC&T Lab No. | CF-07093 | Date Collected | 10/05/23 |
| Client I.D. | Lake 8 | Collected By | AC&T |

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

| Genus | Div.-Form | Rel. Count | Total per mL | Comp. | Genus | Div.-Form | Rel. Count | Total per mL. | Comp |
|---|---|---|---|---|---|---|---|---|---|
| *Achnanthes* | bac-u | | | | ***Microcystis*** | cyn-c | 90 | 82839 | 67.67% |
| *Anabaena* | cyn-f | | | | *Microspora* | chl-f | | | |
| *Ankistrodesmus* | chl-u | | | | *Nanochloris* | chl-u | | | |
| *Aphanothece* | cyn-c | | | | ***Navicula*** | bac-u | 1 | 920 | 0.75% |
| *Asterionella* | bac-c | | | | *Nitzschia* | bac-u | | | |
| *Botryococcus* | chl-c | | | | *Oocystis* | chl-c | | | |
| *Carteria* | chl-ug | | | | ***Oscillatoria*** | cyn-f | 30 | 27613 | 22.56% |
| *Cephalomonas* | chl-ug | | | | *Pandorina* | chl-cg | | | |
| *Ceratium* | pyr-ug | | | | *Pediastrum* | chl-c | | | |
| *Chlamydomonas* | chl-ug | | | | *Peridinium* | pyr-ug | | | |
| *Chlorella* | chl-u | | | | *Phacotus* | chl-ug | | | |
| *Chlorogonium* | chl-ug | | | | *Phacus* | chl-ug | | | |
| ***Chroococcus*** | cyn-c | 4 | 3682 | 3.01% | *Pinnularia* | bac-u | | | |
| ***Chroomonas*** | crp-ug | 1 | 920 | 0.75% | *Pithophora* | chl-f | | | |
| *Closterium* | chl-u | | | | *Planktosphaeria* | chl-c | | | |
| *Cocconeis* | bac-u | | | | *Rhizoclonium* | chl-f | | | |
| *Coelastrum* | chl-c | | | | *Rhoicosphenia* | bac-u | | | |
| *Cosmarium* | chl-u | | | | *Rhopalodia* | bac-u | | | |
| *Cosmocladium* | chl-c | | | | *Scenedesmus* | chl-c | | | |
| *Crucigenia* | chl-c | | | | *Schroederia* | chl-u | | | |
| *Cryptomonas* | crp-ug | | | | ***Selanastrum*** | chl-u | 1 | 920 | 0.75% |
| ***Cyclotella*** | bac-u | 1 | 920 | 0.75% | *Sphaerocystis* | chl-c | | | |
| *Cymbella* | bac-u | | | | *Spondylumorum* | chl-c | | | |
| *Denticula* | bac-u | | | | *Spirulina* | cyn-f | | | |
| *Dinobryon* | bac-c | | | | *Staurastrum* | chl-u | | | |
| *Dysmorphococcus* | chl-ug | | | | *Stephanodiscus* | bac-u | | | |
| *Eremosphaeria* | chl-u | | | | *Stigeoclonium* | chl-f | | | |
| *Euglena* | eug-ug | | | | *Surirella* | bac-u | | | |
| *Fragilaria* | bac-u | | | | *Synechococcus* | cyn-u | | | |
| *Frustulia* | bac-u | | | | *Synechocystis* | cyn-c | | | |
| *Glenodinium* | pyr-ug | | | | *Synedra* | bac-u | | | |
| *Golenkinia* | chl-c | | | | *Synura* | cry-cg | | | |
| *Gomphonema* | bac-u | | | | *Tetraedron* | chl-u | | | |
| *Gonium* | chl-cg | | | | *Thoracomonas* | chl-u | | | |
| *Gonyaulax* | pyr-ug | | | | *Trachelomonas* | eug-ug | | | |
| *Gymnodinium* | bac-u | | | | *Vaucheria* | chl-f | | | |
| *Holopedium* | cyn-u | | | | *Volvox* | chl-cg | | | |
| ***Lyngbya*** | cyn-f | 5 | 4602 | 3.76% | *Zygnema* | chl-f | | | |
| *Mastogloia* | bac-u | | | | | | | | |
| *Meridion* | bac-u | | | | | | | | |
| *Merismopedia* | cyn-c | | | | | | | | |

check 100.00%

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

Count (cells/mL) 1.22E+05

**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:**

| 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 | 10-5-23 | 1045 | SW | | | | | | | | | | | X | X | X | 2 | | | | | | CF07086 |
| Lake 2 | | 1030 | SW | | | | | | | | | | | X | X | X | 2 | | | | | | 7087 |
| Lake 3 | | 1010 | SW | | | | | | | | | | | X | X | X | 2 | | | | | | 7088 |
| Lake 4 | | 1000 | SW | | | | | | | | | | | X | X | X | 2 | | | | | | 7089 |
| Lake 5 | | 945 | SW | | X | X | X | X | X | X | X | X | X | X | X | X | X | 4 | 1 | | 1 | 1 | | 7090 |
| Lake 6 | | 920 | SW | | X | X | X | X | X | X | X | X | X | X | X | X | X | 4 | 1 | | 1 | 1 | | 7091 |
| Lake 7 | | 840 | SW | | X | X | X | X | X | X | X | X | X | X | X | X | X | 4 | 1 | | 1 | 1 | | 7092 |
| Lake 8 | | 810 | SW | | X | X | X | X | X | X | X | X | X | X | X | X | X | 4 | 1 | | 1 | 1 | | 7093 |
| | | | | | | | | | | | | | | | | | | | | | | | | — |
| | | | | | | | | | | | | | | | | | | | | | | | | |

| Project Location: | A C & T Sample Receipt: | | | | 1. RELINQUISHED BY: | 3. RELINQUISHED BY: |
|---|---|---|---|---|---|---|
| Dobson Ranch | Total # Containers: | 36 | | | Signature: Andrew Murrett | Signature: |
| PO#: | Received Intact: | YES | NO | | Print Name: Andrew Murrett | Print Name: |
| Lakes Contract | # Bottles Preserved: 12 | # Non: | 24 | | Date: 10-5-23 Time: 1330 | Date: Time: |
| Notes: | Samples On Ice: | YES | NO | | 2. RECEIVED BY: | 4. RECEIVED BY: |
| | Ice Type: | WET | BLUE | | Signature: M | Signature: |
| | Sample Receipt Temperature: | 26°C | | | Print Name: MJ | Print Name: |
| | | | | | Date: 10/5/23 Time: 1330 | 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:** 10/18/23
**Date Reported:** 11/06/23

**Attn:** Fran Pawlak, Executive Director

**Project:** Monthly Lake 1-8 Monitoring

### RESULTS

**Client ID:** Lake 1
**ACT Lab No.:** CF07357

**Sample Type:** Surface Water
**Sample Time:** 10/18/23 10:00

| Parameter | Analysis Date Start | Analysis Date End | Method No. | Result | Unit |
|---|---|---|---|---|---|
| Golden Algae | 10/18/23 | 10/18/23 | P/C Microscopy | Absent | Pres/Abs |
| Oxygen, Dissolved Field | 10/18/23 | 10/18/23 | SM4500 O G | 7.6 | mg/L as O2 |
| pH, Field | 10/18/23 | 10/18/23 | SM4500H+ B | 8.1 | SU |
| Temperature, Field | 10/18/23 | 10/18/23 | SM2550 B | 25.1 | C |
| Turbidity | 10/18/23 | 10/18/23 | 180.1 | 3.3 | NTU |

**Client ID:** Lake 2
**ACT Lab No.:** CF07358

**Sample Type:** Surface Water
**Sample Time:** 10/18/23 10:10

| Parameter | Analysis Date Start | Analysis Date End | Method No. | Result | Unit |
|---|---|---|---|---|---|
| Golden Algae | 10/18/23 | 10/18/23 | P/C Microscopy | Absent | Pres/Abs |
| Oxygen, Dissolved Field | 10/18/23 | 10/18/23 | SM4500 O G | 7.9 | mg/L as O2 |
| pH, Field | 10/18/23 | 10/18/23 | SM4500H+ B | 8.2 | SU |
| Temperature, Field | 10/18/23 | 10/18/23 | SM2550 B | 24.5 | C |
| Turbidity | 10/18/23 | 10/18/23 | 180.1 | 5.7 | NTU |

## RESULTS

**Client ID:** Lake 3
**ACT Lab No.:** CF07359

**Sample Type:** Surface Water
**Sample Time:** 10/18/23 10:20

| Parameter | Analysis Date Start | Analysis Date End | Method No. | Result | Unit |
|---|---|---|---|---|---|
| Golden Algae | 10/18/23 | 10/18/23 | P/C Microscopy | Absent | Pres/Abs |
| Oxygen, Dissolved Field | 10/18/23 | 10/18/23 | SM4500 O G | 7.2 | mg/L as O2 |
| pH, Field | 10/18/23 | 10/18/23 | SM4500H+ B | 8.2 | SU |
| Temperature, Field | 10/18/23 | 10/18/23 | SM2550 B | 24.7 | C |
| Turbidity | 10/18/23 | 10/18/23 | 180.1 | 13. | NTU |

**Client ID:** Lake 4
**ACT Lab No.:** CF07360

**Sample Type:** Surface Water
**Sample Time:** 10/18/23 10:30

| Parameter | Analysis Date Start | Analysis Date End | Method No. | Result | Unit |
|---|---|---|---|---|---|
| Golden Algae | 10/18/23 | 10/18/23 | P/C Microscopy | Absent | Pres/Abs |
| Oxygen, Dissolved Field | 10/18/23 | 10/18/23 | SM4500 O G | 7.7 | mg/L as O2 |
| pH, Field | 10/18/23 | 10/18/23 | SM4500H+ B | 8.8 | SU |
| Temperature, Field | 10/18/23 | 10/18/23 | SM2550 B | 24.5 | C |
| Turbidity | 10/18/23 | 10/18/23 | 180.1 | 12. | NTU |

**Client ID:** Lake 5
**ACT Lab No.:** CF07361

**Sample Type:** Surface Water
**Sample Time:** 10/18/23 10:40

| Parameter | Analysis Date Start | Analysis Date End | Method No. | Result | Unit |
|---|---|---|---|---|---|
| Golden Algae | 10/18/23 | 10/18/23 | P/C Microscopy | Absent | Pres/Abs |
| Oxygen, Dissolved Field | 10/18/23 | 10/18/23 | SM4500 O G | 6.5 | mg/L as O2 |
| pH, Field | 10/18/23 | 10/18/23 | SM4500H+ B | 8.0 | SU |
| Temperature, Field | 10/18/23 | 10/18/23 | SM2550 B | 25.4 | C |
| Turbidity | 10/18/23 | 10/18/23 | 180.1 | 6.0 | NTU |

## RESULTS

**Client ID:** Lake 6
**ACT Lab No.:** CF07362

**Sample Type:** Surface Water
**Sample Time:** 10/18/23 10:50

| Parameter | Analysis Date Start | Analysis Date End | Method No. | Result | Unit |
|---|---|---|---|---|---|
| Golden Algae | 10/18/23 | 10/18/23 | P/C Microscopy | Absent | Pres/Abs |
| Oxygen, Dissolved Field | 10/18/23 | 10/18/23 | SM4500 O G | 9.1 | mg/L as O2 |
| pH, Field | 10/18/23 | 10/18/23 | SM4500H+ B | 8.5 | SU |
| Temperature, Field | 10/18/23 | 10/18/23 | SM2550 B | 25.4 | C |
| Turbidity | 10/18/23 | 10/18/23 | 180.1 | 6.6 | NTU |

**Client ID:** Lake 7
**ACT Lab No.:** CF07363

**Sample Type:** Surface Water
**Sample Time:** 10/18/23 11:00

| Parameter | Analysis Date Start | Analysis Date End | Method No. | Result | Unit |
|---|---|---|---|---|---|
| Golden Algae | 10/18/23 | 10/18/23 | P/C Microscopy | Absent | Pres/Abs |
| Oxygen, Dissolved Field | 10/18/23 | 10/18/23 | SM4500 O G | 7.0 | mg/L as O2 |
| pH, Field | 10/18/23 | 10/18/23 | SM4500H+ B | 8.5 | SU |
| Temperature, Field | 10/18/23 | 10/18/23 | SM2550 B | 25.6 | C |
| Turbidity | 10/18/23 | 10/18/23 | 180.1 | 3.8 | NTU |

**Client ID:** Lake 8
**ACT Lab No.:** CF07364

**Sample Type:** Surface Water
**Sample Time:** 10/18/23 11:10

| Parameter | Analysis Date Start | Analysis Date End | Method No. | Result | Unit |
|---|---|---|---|---|---|
| Golden Algae | 10/18/23 | 10/18/23 | P/C Microscopy | Absent | Pres/Abs |
| Oxygen, Dissolved Field | 10/18/23 | 10/18/23 | SM4500 O G | 6.7 | mg/L as O2 |
| pH, Field | 10/18/23 | 10/18/23 | SM4500H+ B | 8.5 | SU |
| Temperature, Field | 10/18/23 | 10/18/23 | SM2550 B | 24.5 | C |
| Phosphorus, Total | 10/27/23 | 10/29/23 | 365.3 | 0.029 | mg/L as P |
| E. coli, Colilert | 10/18/23 | 10/19/23 | SM 9223 B | 10 | MPN/100 mL |
| Turbidity | 10/18/23 | 10/18/23 | 180.1 | 4.2 | NTU |

**Reviewed by:** Frederick A. Amalfi

**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:

**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 | 10/18/23 | 1000 | SW | | | | | | | X | X | X | X | 1 | | | | | | CF07357 |
| Lake 2 | | 1010 | SW | | | | | | | x | X | X | X | 1 | | | | | | 358 |
| Lake 3 | | 1020 | SW | | | | | | | x | X | X | X | 1 | | | | | | 359 |
| Lake 4 | | 1030 | SW | | | | | | | x | X | X | X | 1 | | | | | | 360 |
| Lake 5 | | 1040 | SW | | | | | | | x | X | X | X | 1 | | | | | | 361 |
| Lake 6 | | 1050 | SW | | | | | | | x | X | X | X | 1 | | | | | | 362 |
| Lake 7 | | 1100 | SW | | | | | | | x | X | X | X | 1 | | | | | | 363 |
| Lake 8 | ↓ | 1110 | SW | X | | | | X | | x | X | X | X | 12 | 1 | | | | | 364 |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |

Page 1 of 1

| Project Location: | A C & T Sample Receipt: | | | 1. RELINQUISHED BY: | 3. RELINQUISHED BY: |
|---|---|---|---|---|---|
| Dobson Ranch | Total # Containers: | 10 | | Signature: | Signature: |
| PO#: | Received Intact: | (YES) | NO | Print Name: | Print Name: |
| Lakes Contract | # Bottles Preserved: 2 | # Non: | 8 | Date: 10/18/23 Time: 1146 | Date: Time: |
| Notes: | Samples On Ice: | YES | (NO) | 2. RECEIVED BY: | 4. RECEIVED BY: |
| | Ice Type: | WET | BLUE | Signature: | Signature: |
| | Sample Receipt Temperature: | 25°C | | Print Name: MJ | Print Name: |
| | | | | Date: 10/18/23 Time: 1146 | Date: Time: |

**DOBSON RANCH LAKES**
**Bi-Monthly Lake Inspection**

Date: 10/5/23
By: [signature]

| Lake | Temp | Dis. oxygen | pH | Clarity | Algae | Submerged weeds | Fish behavior | Waterfowl density | Insect activity | Mechanical issues |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 25.2 C | 8.2 mg/L | 8.2 SU | 4.7 SDz NTU | ☐ Suspended ☐ Floating ☐ Bottom ☐ Attached | ☐ Present ☑ Absent | ☑ Normal ☐ Distress ☐ Dead ___ | No. 12 No/A ___ | ☑ Normal ☐ Infestation | Fountain ☑ Operating ☐ No service |
| 2 | 25.7 C | 8.9 mg/L | 8.2 SU | 3.1 SDz NTU | ☐ Suspended ☐ Floating ☐ Bottom ☐ Attached | ☐ Present ☑ Absent | ☑ Normal ☐ Distress ☐ Dead ___ | No. 11 No/A ___ | ☑ Normal ☐ Infestation | Fountain ☑ Operating ☐ No service |
| 3 | 25.3 C | 8.3 mg/L | 8.7 SU | 8.0 SDz NTU | ☐ Suspended ☐ Floating ☐ Bottom ☐ Attached | ☐ Present ☑ Absent | ☑ Normal ☐ Distress ☐ Dead ___ | No. 5 No/A ___ | ☑ Normal ☐ Infestation | Fountain ☑ Operating ☐ No service |
| 4 | 25.5 C | 8.0 mg/L | 8.3 SU | 6.8 SDz NTU | ☐ Suspended ☐ Floating ☐ Bottom ☐ Attached | ☐ Present ☑ Absent | ☑ Normal ☐ Distress ☐ Dead ___ | No. 8 No/A ___ | ☑ Normal ☐ Infestation | Fountain ☐ Operating ☐ No service |
| 5 | 25.1 C | 7.4 mg/L | 8.0 SU | 47" SDz 4.7 NTU | ☐ Suspended ☐ Floating ☐ Bottom ☐ Attached | ☐ Present ☑ Absent | ☑ Normal ☐ Distress ☐ Dead ___ | No. 17 No/A ___ | ☑ Normal ☐ Infestation | |
| 6 | 24.9 C | 9.7 mg/L | 8.2 SU | 26" SDz 8.1 NTU | ☐ Suspended ☑ Floating ☐ Bottom ☐ Attached | ☐ Present ☑ Absent | ☑ Normal ☐ Distress ☐ Dead ___ | No. 29 No/A ___ | ☑ Normal ☐ Infestation | |
| 7 | 25.0 C | 7.9 mg/L | 8.2 SU | 27" SDz 5.5 NTU | ☐ Suspended ☐ Floating ☐ Bottom ☐ Attached | ☐ Present ☑ Absent | ☑ Normal ☐ Distress ☐ Dead ___ | No. 28 No/A ___ | ☑ Normal ☐ Infestation | Fountain ☑ Operating ☐ No service |
| 8 | 24.5 C | 7.8 mg/L | 8.1 SU | 36" SDz 3.9 NTU | ☐ Suspended ☐ Floating ☐ Bottom ☐ Attached | ☐ Present ☑ Absent | ☑ Normal ☐ Distress ☐ Dead ___ | No. 12 No/A ___ | ☑ Normal ☐ Infestation | Aerators ☑ Operating ☐ No service |

Notes and recommendations for treatment/operation:

6) Floating Algae snot balls

**DOBSON RANCH LAKES**
**Bi-Monthly Lake Inspection**

Date: 10-18-23
By: FAK

| Lake | Temp | Dis. oxygen | pH | Clarity | Algae | Submerged weeds | Fish behavior | Waterfowl density | Insect activity | Mechanical issues |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 25.1 C | 7.6 mg/L | 8.1 SU | 33 SDz NTU | ☒ Suspended ☐ Floating ☐ Bottom ☐ Attached | ☐ Present ☒ Absent FA shallows | ☒ Normal ☐ Distress ☐ Dead ___ | No. 10 No/A ___ | ☒ Normal ☐ Infestation | Fountain ☐ Operating ☐ No service |
| 2 | 24.5 C | 7.9 mg/L | 8.2 SU | 57 SDz NTU | ☒ Suspended ☐ Floating ☐ Bottom ☐ Attached | ☐ Present ☒ Absent | ☒ Normal ☐ Distress ☐ Dead ___ | No. 7 No/A ___ | ☐ Normal ☐ Infestation midges | Fountain ☒ Operating ☐ No service |
| 3 | 24.7 C | 7.2 mg/L | 8.2 SU | 13.1 SDz NTU | ☒ Suspended ☐ Floating ☐ Bottom ☐ Attached | ☐ Present ☒ Absent | ☒ Normal ☐ Distress ☐ Dead ___ | No. 3 No/A ___ | ☒ Normal ☐ Infestation | Fountain ☒ Operating ☐ No service |
| 4 | 24.5 C | 7.7 mg/L | 8.0 SU | 11.7 SDz NTU | ☒ Suspended ☐ Floating ☐ Bottom ☐ Attached | ☐ Present ☒ Absent | ☒ Normal ☐ Distress ☐ Dead ___ | No. 6 No/A ___ | ☒ Normal ☐ Infestation | Fountain ☒ Operating ☐ No service |
| 5 | 25.4 C | 6.5 mg/L | 8.0 SU | 60 SDz NTU | ☒ Suspended ☐ Floating ☐ Bottom ☐ Attached | ☐ Present ☒ Absent | ☒ Normal ☐ Distress ☐ Dead ___ | No. 13 No/A ___ | ☐ Normal ☐ Infestation | |
| 6 | 25.4 C | 9.1 mg/L | 8.5 SU | 6.6 SDz NTU | ☒ Suspended ☐ Floating ☐ Bottom ☐ Attached | ☐ Present ☒ Absent | ☒ Normal ☐ Distress ☐ Dead ___ | No. 18 No/A ___ | ☒ Normal ☐ Infestation | |
| 7 | 25.6 C | 7.0 mg/L | 8.5 SU | 38 SDz NTU | ☒ Suspended ☐ Floating ☐ Bottom ☐ Attached | ☐ Present ☒ Absent | ☒ Normal ☐ Distress ☐ Dead ___ | No. 20 No/A ___ | ☐ Normal ☐ Infestation midges | Fountain ☒ Operating ☐ No service |
| 8 | 24.5 C | 6.7 mg/L | 8.5 SU | 7.2 SDz NTU | ☒ Suspended ☐ Floating ☐ Bottom ☐ Attached | ☐ Present ☒ Absent | ☒ Normal ☐ Distress ☐ Dead ___ | No. 10 No/A ___ | ☒ Normal ☐ Infestation | Aerators ☒ Operating ☐ No service |

Notes and recommendations for treatment/operation: