

SeSCRIPT Analysis Report: *Springdale Estates- Lower*

Company: SOLitude Lake Management
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Project Name: Springdale Estates- Lower
Surface Area: NA
Average depth: NA
Date Sample Received: 10/28/2020
SeSCRIPT Analysis Performed: Algae and
 WQ Baseline Plus

Algae ID Results
Springdale Estates- Lower

Identification	Classification	Description	Density/Biomass (cells/mL)
<i>Aphanizomenon</i> sp.	Cyanophyta- Blue-green algae	Filamentous, scum-former, planktonic, potential toxin and taste/odor producer	403,000 ★★★★

Other algae in the sample at densities lower than 100 cells/mL include: *Chromulina* (Chrysoophyceae); *Anabaenopsis*, *Aphanocapsa*, *Dolichospermum*, *Microcystis*, *Woronichinia* (Cyanophyta); *Trachelomonas* (Euglenophyta); *Staurastrum* (Streptophyta)

SeSCRIPT* ALERT INDEX	EXPOSURE RISK	CYANOBACTERIA LEVELS (cells/mL)
★	Low	<20,000
★★	Moderate	20,000 to 100,000
★★★	High	>100,000
★★★★	Extreme	>100,000 with scums/mats
<i>See the following Cyanobacteria Alert Guide for additional information</i>		

Water Quality Results
Springdale Estates- Lower

Analysis	Measurements	Description
pH (SU)	7.8	Near neutral
Dissolved Oxygen (mg/L)	7.2	Acceptable for freshwaters
Conductivity ($\mu\text{S}/\text{cm}$)	73.7	Acceptable for freshwaters
Alkalinity (mg/L as CaCO_3)	26.9	Low buffered
Hardness (mg/L as CaCO_3)	25.9	Soft
Turbidity (NTU)	10.5	Moderate

Nutrient Results
Springdale Estates- Lower

Analysis	Measurements	Description
Total Phosphorus ($\mu\text{g}/\text{L}$)	33.5	High amount: Eutrophic
Free Reactive Phosphorus ($\mu\text{g}/\text{L}$)	< 5	Low
Total Kjeldahl Nitrogen (mg/L)	1.4	Moderate
Nitrates & Nitrites (mg/L)	< 0.02	Low
Total Nitrogen (mg/L)	1.4	Moderate
Chlorophyll a ($\mu\text{g}/\text{L}$)	50.7	Low

SeSCRIPT Discussion

The algae and water sample collected from **Springdale Estates- Lower** was received on **10/28/2020**. Based on results from the water quality and algae analyses, proposed treatment recommendations for algae and nutrient management at **Springdale Estates- Lower** were determined (see below).

Follow all product label instructions. Check with local and state agencies for product restrictions and permit regulations prior to use.

SeSCRIPT Treatment Guidance

Springdale Estates- Lower

ALGAE MANAGEMENT

In order to control the targeted algae at this site, apply:

SeClear algaecide and water quality enhancer at a rate range of 1.3 to 2.6 gallons/acre foot (0.2 to 0.4 mg Cu/L).

Contact the certified professionals at SOLitude for further guidance on final application rate selection, technique and frequency based on project objectives, site conditions, algae location and density at treatment time. Take caution with fish, treat partial system at a time.

PHOSPHORUS MANAGEMENT

Analysis of the water quality parameters in this pond revealed this system is **eutrophic**. Based on these site-specific water parameters, consider implementing one of the following Phoslock phosphorus removal solutions to restore water quality in your water body.

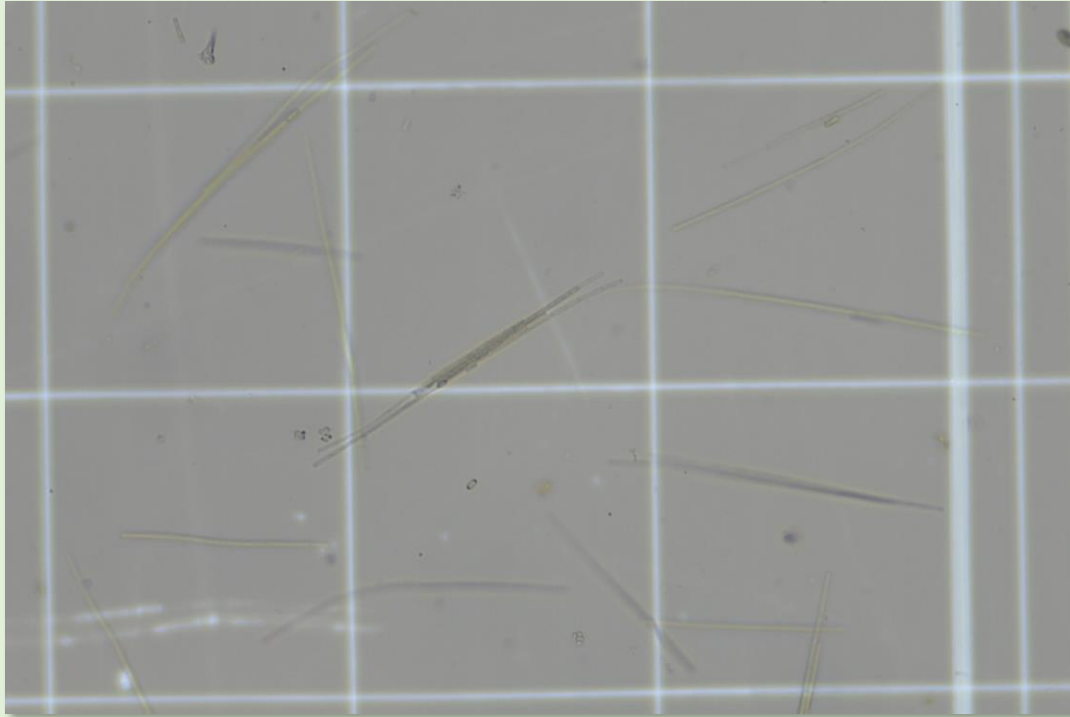
Recovery Solution: Improve water quality by incorporating strategic applications of Phoslock to remove free reactive phosphorus from the water column. Integrate with SePRO algaecide applications as needed to control algae and achieve desired water quality objectives.

Reset Solution: A more comprehensive solution to water quality restoration. Reset the ecological clock and restore water quality in your pond by implementing a Reset application strategy customized by water body. This Phoslock solution targets and permanently removes free reactive phosphorus in the water column and accumulated in water body sediments over time. A sediment sample is ideal for this prescription.

Contact your SOLitude representative for further guidance on choosing the most effective management approach based on site conditions and objectives.

SOLitude Lake Management,
Phone: 888-480-5253 Email: Ktucker@solitudelake.com

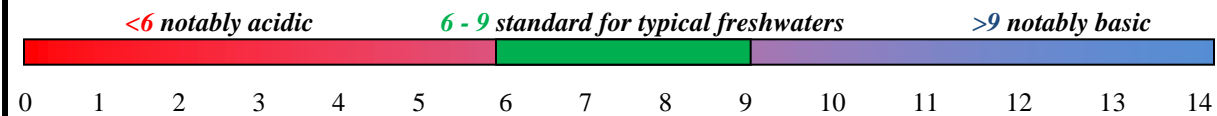
Algae Pictures
Springdale Estates- Lower



Water Quality Analysis Explanation

These water quality parameters are essential to document the condition of a water body and design custom treatment prescriptions to achieve desired management objectives.

pH: Measure of how acidic or basic the water is (pH 7 is considered neutral).



Hardness: Measure of the concentration of divalent cations, primarily consisting of calcium and magnesium in typical freshwaters. *0-60 mg/L as CaCO₃ soft; 61-120 moderately hard; 121-180 hard; > 181 very hard*

Alkalinity- Measure of the buffering capacity of water, primarily consisting of carbonate, bicarbonate and hydroxide in typical freshwaters. Waters with lower levels are more susceptible to pH shifts.
≤ 50 mg/L as CaCO₃ low buffered; 51-100 moderately buffered; 101-200 buffered; > 200 high buffered

Conductivity- Measure of the water's ability to transfer an electrical current, increases with more dissolved ions.
< 50 uS/cm relatively low concentration may not provide sufficient dissolved ions for ecosystem health; 50-1500 typical freshwaters; > 1500 may be stressful to some freshwater organisms, though not uncommon in many areas

Dissolved Oxygen- amount of diatomic oxygen dissolved in the water.
< 2 mg/L likely toxicity with sufficient exposure duration; < 5 stressful to many aquatic organisms; ≥ 5 able to support most fish and invertebrates

Phosphorus: Essential nutrient often correlating to growth of algae in freshwaters.

Total Phosphorus (TP) is the measure of all phosphorus in a sample as measured by persulfate strong digestion and includes: inorganic, oxidizable organic and polyphosphates. This includes what is readily available, potential to become available and stable forms.
<12 µg/L oligotrophic; 12-24 µg/L mesotrophic; 25-96 µg/L eutrophic; > 96 µg/L hypereutrophic

Free Reactive Phosphorus (FRP) is the measure of inorganic dissolved reactive phosphorus (PO₄⁻³, HPO₄⁻², etc.). This form is readily available in the water column for algae growth.

Nitrogen: Essential nutrient that can enhance growth of algae.

Total N is all nitrogen in the sample (organic N⁺ and Ammonia) determined by the sum of the measurements for Total Kjeldahl Nitrogen (TKN) and ionic forms.

Nitrites and Nitrates are the sum of total oxidized nitrogen, often readily free for algae uptake.
< 1 mg/L typical freshwater; 1-10 potentially harmful; >10 possible toxicity, above many regulated guidelines

Chlorophyll a: primary light-harvesting pigment found in algae and a measure of the algal productivity and water quality in a system.
0-2.6µg/L oligotrophic; 2.7-20 µg/L mesotrophic; 21-56 µg/L eutrophic; > 56 µg/L hypereutrophic

Turbidity- Measurement of water clarity. Suspended particulates (algae, clay, silt, dead organic matter) are the common constituents impacting turbidity.
< 10 NTU drinking water standards and typical trout waters; 10-50 NTU moderate; > 50 NTU potential impact to aquatic life.