

Inspection Report

Service Date: (Inspection and Water Sample)	July 3, 2024
Service Technician:	Corey James
Contract Information:	(804) 516-5482 corey@edgewater-aes.com
Areas Inspected: (Entire Waterbody)	1) Small Pond (141 Little Jon Rd.) 2) Large Lake (231 W Queens Dr.)
Property Name:	Queens Lake
Property Contact:	Douglas Ellis (Lake Director) (757) 817-4151 qlcapresident24@gmail.com

Inspection Schedule

	March	June	Sept	Dec	Total (annually)
Inspection Visits / Reports	1	1	1	1	4 visits
Water Quality Sampling	4 Samples (3 Lake Samples and 1 Pond Sample)	4 Samples (3 Lake Samples and 1 Pond Sample)	4 Samples (3 Lake Samples and 1 Pond Sample)	4 Samples (3 Lake Samples and 1 Pond Sample)	16 Samples

Large Lake Inspection Report Summary

Item Number	Description	Inspection Notes
1	3 Water Samples Collected:	1) See Laboratory Report Below
2	Water Quality and Aquatic Vegetation: (Visual Inspection by boat)	1) Overall in good condition 2) Minor Planktonic Algae Growth 3) Minor Duckweed and Watermeal present on the surface 4) Water Pennywort present in several locations along the shoreline <ul style="list-style-type: none"> a) Majority of growth is located at the far end of the lake behind 143 Little John rd.) b) Several mats had broken loose and were floating in the middle of the lake 5) There is a large amount of Aquatic and woody vegetation growing around the dock and two outlet pipes at the base of the small pond dam
3	Shoreline Condition	1) Several fallen trees in the water along the shoreline 2) No major areas of erosion 3) Natural vegetation is helping to hold the shoreline and prevent erosion
4	Floating Trash	1) Minimal trash was collected from body of water

Important Note:

- Inspection Pictures and Recommendations are provided below for items that may need to be addressed.
- Items will be classified as Urgent or Not Urgent
 - Urgent - Items that need immediate attention
 - Not Urgent - Items that may need to be addressed but do NOT require immediate attention

Item 1 (Laboratory Results):



SePRO Lab
Water Diagnostics for Lakes & Ponds



16013 Watson Seed Farm Road, Whitakers, NC 27891

LABORATORY REPORT

Chain of Custody: COC20039

Customer Contact Information

Company Name: Edgewater LLC	Contact Person: Corey James
Address: PO Box 8186, Virginia Beach, VA 23450	E-mail Address: corey@edgewater-AES.com
	Phone: 804-516-5482

Waterbody Information

Waterbody:	Queens Lake - VA
Waterbody size:	70
Depth Average:	6

Sample ID	Sample Location	Test	Method	Results	Sampling Date / Time
CTM54417-1	Queens Lake 1	Turbidity (NTU)	EPA 180.1	5.5	07/03/2024
		Conductivity (µS/cm)	EPA 120.1	266.0	
		Free Reactive Phosphorus (µg/L)	EPA 365.3	5.9	
		Total Phosphorus (µg/L)	EPA 365.3	51.4	
		Alkalinity (mg/L as CaCO3)	EPA 310.2	124	
		Total Hardness (mg/L as CaCO3)	EPA 130.2	117.0	
		pH	EPA 150.1	7.8	
CTM54418-1	Queens Lake 2	Turbidity (NTU)	EPA 180.1	5.3	07/03/2024
		Conductivity (µS/cm)	EPA 120.1	269.4	
		Free Reactive Phosphorus (µg/L)	EPA 365.3	5.6	
		Total Phosphorus (µg/L)	EPA 365.3	48	
		Alkalinity (mg/L as CaCO3)	EPA 310.2	121.7	
		Total Hardness (mg/L as CaCO3)	EPA 130.2	116.9	
		pH	EPA 150.1	7.7	
CTM54419-1	Queens Lake 3	Turbidity (NTU)	EPA 180.1	5.6	07/03/2024
		Conductivity (µS/cm)	EPA 120.1	265.3	
		Free Reactive Phosphorus (µg/L)	EPA 365.3	5.2	
		Total Phosphorus (µg/L)	EPA 365.3	52.8	
		Alkalinity (mg/L as CaCO3)	EPA 310.2	120.2	
		Total Hardness (mg/L as CaCO3)	EPA 130.2	114.7	
		pH	EPA 150.1	9.1	



SePRO Lab

Water Diagnostics for Lakes & Ponds

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 the desired management objective.

<p>pH: Measure of how acidic or basic the water is (pH 7 is considered neutral).</p> <p><6 Notably Acidic 6 - 9 Standard for Typical Freshwaters >9 Notably Basic</p> <p>1 2 3 4 5 6 7 8 9 10 11 12 13 14</p>													
<p>Hardness: Measure of the concentration of divalent cations, primarily consisting of calcium and magnesium in typical freshwaters. <i>0-60 mg/L as CaCO3 soft; 61-120 mg/L as CaCO3 moderately hard; 121-180 mg/L as CaCO3 hard; > 181 mg/L as CaCO3 very hard</i></p>													
<p>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. <i>< 50 mg/L as CaCO3 low buffered; 51-100 mg/L as CaCO3 moderately buffered; 101-200 mg/L as CaCO3 buffered; > 200 mg/L as CaCO3 high buffered</i></p>													
<p>Conductivity: Measure of the waters ability to transfer an electrical current, increases with more dissolved ions. <i>< 50 µS/cm relatively low concentration may not provide sufficient dissolved ions for ecosystem health; 50-1500 µS/cm typical freshwaters; > 1500 µS/cm may be stressful to some freshwater organisms, though not uncommon in many areas</i></p>													
<p>Phosphorus: Essential nutrient often correlating to growth of algae in freshwaters.</p> <p>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. <i><12 µg/L oligotrophic; 12-24 µg/L mesotrophic; 25-96 µg/L eutrophic; > 96 µg/L hypereutrophic</i></p> <p>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.</p>													
<p>Nitrogen: Essential nutrient that can enhance growth of algae.</p> <p>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.</p> <p>Nitrites and Nitrates are the sum of total oxidized nitrogen, often readily free for algae uptake. <i>< 1 mg/L typical freshwater; 1-10 mg/L potentially harmful; >10 mg/L possible toxicity, above many regulated guidelines</i></p>													
<p>Chlorophyll a: primary light-harvesting pigment found in algae and a measure of the algal productivity and water quality in a system. <i>0-2.6µg/L oligotrophic; 2.7-20 µg/L mesotrophic; 21-56 µg/L eutrophic; > 56 µg/L hypereutrophic</i></p>													
<p>Turbidity: Measurement of water clarity. Suspended particulates (algae, clay, silt, dead organic matter) are the common constituents impacting turbidity. <i>< 10 NTU drinking water standards and typical trout waters; 10-50 NTU moderate; > 50 NTU potential impact to aquatic life.</i></p>													

Item 1 (Laboratory Results):



SePRO Lab
Water Diagnostics for Lakes & Ponds



16013 Watson Seed Farm Road, Whitakers, NC 27891

LABORATORY REPORT

Chain of Custody: eCOC14099

Customer Contact Information

Company Name: Edgewater LLC	Contact Person: Corey James
Address: PO Box 8186, Virginia Beach, VA 23450	E-mail Address: corey@edgewater-AES.com
	Phone: 804-516-5482

Waterbody Information

Waterbody:	Queens Lake - VA
Waterbody size:	62
Depth Average:	6

Sample ID	Sample Location	Test	Method	Results	Sampling Date / Time
CTM55588-1	Queens Large Lake 1	E. coli (CFU/100mL)	EPA 9223B	6.3	07/29/2024
		Total Coliforms (CFU/100mL)	EPA 9223B	2419.6	
CTM55589-1	Queens Large Lake 2	E. coli (CFU/100mL)	EPA 9223B	14.6	07/29/2024
		Total Coliforms (CFU/100mL)	EPA 9223B	2419.6	

ANALYSIS STATEMENTS:
SAMPLE RECEIPT /HOLDING TIMES: All samples arrived in an acceptable condition and were analyzed within prescribed holding times in accordance with the SRTC Laboratory Sample Receipt Policy unless otherwise noted in the report.
PRESERVATION: Samples requiring preservation were verified prior to sample analysis and any qualifiers will be noted in the report.
QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.
COMMENTS: No significant observations were made unless noted in the report.
MEASUREMENT UNCERTAINTY: Uncertainty of measurement has been determined and is available upon request.

Laboratory Information
Date / Time Received: 07/30/24 12:00 PM
Date Results Sent: Friday, August 2, 2024

Disclaimer: The results listed within this Laboratory Report relate only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a dry weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the exclusive use of SRTC Laboratory and its client. This report shall not be reproduced, except in full, without written permission from SRTC Laboratory. The Chain of Custody is included and is an essential component of this report.

Item 1 (Laboratory Results):



SePRO Lab
Water Diagnostics for Lakes & Ponds



16013 Watson Seed Farm Road, Whitakers, NC 27891

LABORATORY REPORT

Chain of Custody: eCOC14101

Customer Contact Information

Company Name: Edgewater LLC	Contact Person: Corey James
Address: PO Box 8186, Virginia Beach, VA 23450	E-mail Address: corey@edgewater-AES.com
	Phone: 804-516-5482

Waterbody Information

Waterbody:	Queens Lake - VA
Waterbody size:	62
Depth Average:	6

Sample ID	Sample Location	Test	Method	Results	Sampling Date / Time
CTM55590-1	Queens Large Lake 3	E. coli (CFU/100mL)	EPA 9223B	16.0	07/29/2024
		Total Coliforms (CFU/100mL)	EPA 9223B	2419.6	

ANALYSIS STATEMENTS:

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Laboratory Information

Date / Time Received: 07/30/24 12:00 PM

Date Results Sent: Friday, August 2, 2024

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Item 2 (Note 4):

<p>Recommendation: (Not Urgent)</p>	<ol style="list-style-type: none">1) Mats are not negatively impacting the lake other than being aesthetically unpleasing and they could potentially relocate to another area and establish along the shoreline2) A quote can be provided for removing the mats mechanically using an amphibious machine.<ol style="list-style-type: none">a) Quotes will only be provided at the clients request.
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Item 2 (Note 5)

<p>Recommendations: (Not Urgent)</p>	<p>1) Build up of aquatic plants, woody vegetation, and muck in front of the two discharge pipes coming from the pond should be removed and relocated away from the discharge pipes using an amphibious machine a) Quotes will only be provided at the clients request.</p>
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Item 3 (Note 1):

<p>Recommendation: (Not Urgent)</p>	<ol style="list-style-type: none">1) Fallen trees are not causing major erosion or impacting the ability to use the water.2) Trees could be cut up and relocated to the shoreline using an amphibious machine.<ol style="list-style-type: none">a) Quotes will only be provided at the clients request.3) The picture below is an example of what the majority of the trees look like. There are approximately 7-10 areas where large trees have fallen and are protruding into the lake.
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Small Pond Inspection Report Summary

Item Number	Description	Inspection Notes
1	1 Water Sample Collected:	1) See Laboratory Report Below
2	Water Quality and Aquatic Vegetation: (Visual Inspection from shoreline)	1) Water quality was not as good as the lake which should be expected 2) Planktonic Algae was more prevalent than the large lake 3) Aquatic Vegetation was under control
3	Shoreline Condition	1) The shoreline was well vegetated with minimal erosion 2) There are several limbs and trees in the water and the woody vegetation is starting to encroach
4	Floating Trash	1) Minimal trash was present on the pond at the time of the inspection
5	Aeration System	1) The compressor on the shore was operating properly at the time of the inspection 2) 6 diffusers were visible from the shoreline and operating properly 3) Debris was found inside the compressor cabinet 4) The grass surrounding the cabinet is starting to grow into the ventilation grates

Important Note:

- Inspection Pictures and Recommendations are provided below for items that may need to be addressed.
- Items will be classified as Urgent or Not Urgent
 - Urgent - Items that need immediate attention
 - Not Urgent - Items that may need to be addressed but do NOT require immediate attention

Item 1 (Laboratory Results): Queens Lake Pond



SePRO Lab
Water Diagnostics for Lakes & Ponds



16013 Watson Seed Farm Road, Whitakers, NC 27891

LABORATORY REPORT

Chain of Custody: COC20035

Customer Contact Information

Company Name: Edgewater LLC	Contact Person: Corey James
Address: PO Box 8186, Virginia Beach, VA 23450	E-mail Address: corey@edgewater-AES.com
	Phone: 804-516-5482

Waterbody Information

Waterbody:	Queens Lake - VA
Waterbody size:	1.5
Depth Average:	4

Sample ID	Sample Location	Test	Method	Results	Sampling Date / Time
CTM54420-1	Queens Lake 4	Turbidity (NTU)	EPA 180.1	40.7	07/03/2024
		Conductivity (µS/cm)	EPA 120.1	304.3	
		Free Reactive Phosphorus (µg/L)	EPA 365.3	5.2	
		Total Phosphorus (µg/L)	EPA 365.3	139.7	
		Alkalinity (mg/L as CaCO ₃)	EPA 310.2	143	
		Total Hardness (mg/L as CaCO ₃)	EPA 130.2	135.8	
		pH	EPA 150.1	8.5	

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COMMENTS: No significant observations were made unless noted in the report.
MEASUREMENT UNCERTAINTY: Uncertainty of measurement has been determined and is available upon request.

Laboratory Information
 Date / Time Received: 07/09/24 12:00 PM
 Date Results Sent: Friday, July 12, 2024

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Item 1 (Laboratory Results): Analysis Explanation



SePRO Lab

Water Diagnostics for Lakes & Ponds

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 the desired management objective.

<p>pH: Measure of how acidic or basic the water is (pH 7 is considered neutral).</p> <p style="text-align: center;"> <6 Notably Acidic 6 - 9 Standard for Typical Freshwaters >9 Notably Basic </p> <p style="text-align: center;">1 2 3 4 5 6 7 8 9 10 11 12 13 14</p>
<p>Hardness: Measure of the concentration of divalent cations, primarily consisting of calcium and magnesium in typical freshwaters.</p> <p><i>0-60 mg/L as CaCO3 soft; 61-120 mg/L as CaCO3 moderately hard; 121-180 mg/L as CaCO3 hard; > 181 mg/L as CaCO3 very hard</i></p>
<p>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.</p> <p><i>< 50 mg/L as CaCO3 low buffered; 51-100 mg/L as CaCO3 moderately buffered; 101-200 mg/L as CaCO3 buffered; > 200 mg/L as CaCO3 high buffered</i></p>
<p>Conductivity: Measure of the waters ability to transfer an electrical current, increases with more dissolved ions.</p> <p><i>< 50 µS/cm relatively low concentration may not provide sufficient dissolved ions for ecosystem health; 50-1500 µS/cm typical freshwaters; > 1500 µS/cm may be stressful to some freshwater organisms, though not uncommon in many areas</i></p>
<p>Phosphorus: Essential nutrient often correlating to growth of algae in freshwaters.</p> <p>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. <i><12 µg/L oligotrophic; 12-24 µg/L mesotrophic; 25-96 µg/L eutrophic; > 96 µg/L hypereutrophic</i></p> <p>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.</p>
<p>Nitrogen: Essential nutrient that can enhance growth of algae.</p> <p>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.</p> <p>Nitrites and Nitrates are the sum of total oxidized nitrogen, often readily free for algae uptake. <i>< 1 mg/L typical freshwater; 1-10 mg/L potentially harmful; >10 mg/L possible toxicity, above many regulated guidelines</i></p>
<p>Chlorophyll a: primary light-harvesting pigment found in algae and a measure of the algal productivity and water quality in a system.</p> <p><i>0-2.6µg/L oligotrophic; 2.7-20 µg/L mesotrophic; 21-56 µg/L eutrophic; > 56 µg/L hypereutrophic</i></p>
<p>Turbidity: Measurement of water clarity. Suspended particulates (algae, clay, silt, dead organic matter) are the common constituents impacting turbidity.</p> <p><i>< 10 NTU drinking water standards and typical trout waters; 10-50 NTU moderate; > 50 NTU potential impact to aquatic life.</i></p>

Item 1 (E. coli Laboratory Results): Queens Lake Pond



SePRO Lab
Water Diagnostics for Lakes & Ponds



16013 Watson Seed Farm Road, Whitakers, NC 27891

LABORATORY REPORT

Chain of Custody: COC20502

Customer Contact Information

Company Name: Edgewater LLC	Contact Person: Corey James
Address: PO Box 8186, Virginia Beach, VA 23450	E-mail Address: corey@edgewater-AES.com
	Phone: 804-516-5482

Waterbody Information

Waterbody:	Small Pond - VA
Waterbody size:	
Depth Average:	

Sample ID	Sample Location	Test	Method	Results	Sampling Date / Time
CTM55591-1	Queens Small Lake 4	E. coli (CFU/100mL)	EPA 9223B	59.1	07/29/2024
		Total Coliforms (CFU/100mL)	EPA 9223B	2419.6	

ANALYSIS STATEMENTS:
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COMMENTS: No significant observations were made unless noted in the report.
MEASUREMENT UNCERTAINTY: Uncertainty of measurement has been determined and is available upon request.

Laboratory Information
 Date / Time Received: 07/30/24 12:00 PM
 Date Results Sent: Friday, August 2, 2024

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Items 2, 3, & 4 (all notes):

<p>Recommendation: (Not Urgent)</p>	<ol style="list-style-type: none">1) Fallen trees could be removed from the lake and placed on the dam to be disposed off2) Woody vegetation that is overhanging the water could be cut back and debris relocated to the dam<ol style="list-style-type: none">a) Quotes will only be provided at the clients request.
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Item 5 (Notes 1-4):

<p>Recommendation: (Not Urgent)</p>	<p>1) Grass surrounding the cabinet should be cut to ground level and a 12" ring of 3-5" River Rock should be installed around the cabinet to protect it from landscape equipment and eliminate the risk of grass clogging the air intake</p> <p>a) Quotes will only be provided at the clients request.</p>
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