Brawley Consulting Group, LLC

Land Conservation and Management Services

Memo

Date: April 30, 2026

To: Bantam Lake Protective Association

From: Brawley Consulting Group

Re: Results of Cyanobacteria Monitoring of April 27, 2026

Summary

Based on cell concentrations in samples collected from the lake and other water quality characteristics measured at the lake on April 27, 2026, the risk to the public from cyanobacteria and harmful algal blooms was low. Cyanobacteria cell concentrations at the three sampling sites, and the lake average were consistent with the State's Visual Rank Category 1 conditions. No public interventions for Category 1 are recommended under these conditions (CT DPH & CT DEEP 2024).

Methods and Conditions

On Monday, April 27th, the Brawley Consulting Group collected samples from the lake and analyzed those over the next several days as part of the biweekly Cyanobacteria Monitoring Program. Detailed methods have been described in past summaries. Data and samples were collected at the North Bay, Center Lake, and South Bay sites.

Arrival at the Lake was at approximately 12:30 PM. Lake water clarity was good. Visible surface blooms were not observed. The skies were clear and sunny and winds were light (Weather Underground 2026).

Cyanobacteria and Algae Community

A total of 31 genera were identified in the plankton net or whole water samples. The taxonomic group with the greatest richness (number of individual genera) was the Chlorophyta (aka green algae) with 11 genera identified. Bacillariophyta (aka diatoms) had the next highest richness at 7 genera. Cyanophyta (aka cyanobacteria or blue-green algae) and Chrysophyta (aka golden algae) were represented by 5 and 4 genera, respectively. Three other algal groups were represented by 1 or 2 genera.

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Total cell concentrations were low and between 1,200 and 3,200 cells/mL among the three sites. Cyanobacteria only comprised 6.1%, 38.7%, and 44.9% of the total cell concentrations at the South Bay, North Bay and Center Lake sites, respectively. Respective cyanobacteria cell concentrations were 76 cells/mL, 1,264 cells/mL, and 1,373 cells/mL. For comparative purposes, the CT DEEP recommends using a threshold of 20,000 cells/mL as the cut off between low public risk and moderate public risk from harmful algal blooms.

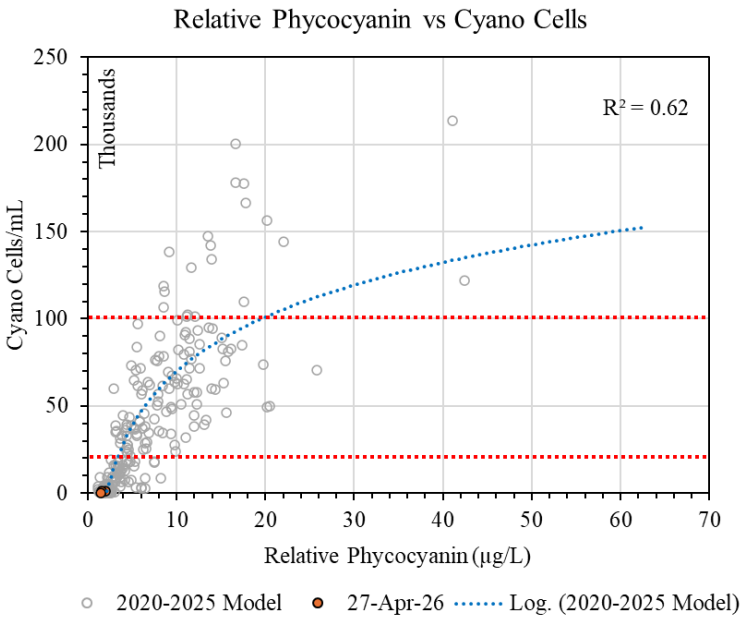

Figure 1. Regression of cyanobacteria cell concentrations and corresponding relative phycocyanin concentrations from 2020 to 2025. The April 27, 2026 data was added as a separate dataset (in red). The dotted red lines represent the threshold between Visual Rank Category 1 and 2 (20,000 cyanobacteria cells/mL, and between Categories 2 and 3 (100,000 cyanobacteria cells/mL.

The most abundant cyanobacteria genera in all samples were the filamentous *Aphanizomenon spp*. and *Planktothrix spp*. Other cyanobacteria genera observed *included Woronichinia* spp., *Microcystis spp*., and *Aphanocapsa spp*.

Water Quality

Several other indicators of cyanobacteria productivity and water quality measured as part of this monitoring program were Secchi disk transparency and relative phycocyanin concentration. Secchi transparency is a measurement indicating how far light transmits through the water column. The more algae and other particulate matter suspended in the water column, the less Secchi disk transparency will be and vice versa. Secchi transparencies on April 27th were between 2.9 and 3.3 meters at the 4 sites (Table 1). The lake average was 3.15 meters which is considered good for Bantam Lake.

Phycocyanin is a photosynthetic pigment mostly unique to freshwater cyanobacteria. It is measured throughout the water column with the fluorimeter in the scientific instrumentation used in the monitoring program. Measures are relative in that the meter was not calibrated with a primary standard. Although relative, they are useful in that they are

comparable to measurements collected at different depths and dates. The average for the top three meters of the water column was used here, as they have in the past.

Relative phycocyanin levels on April 27th were very low and consistent with the low cyanobacteria cell concentrations. For comparative purposes, we regressed relative phycocyanin concentrations against corresponding cyanobacteria cell concentrations from 2020 to 2025 to create a simple model of Bantam Lake. April 27, 2026 data was added as a separate dataset (Fig. 1) and was at the extreme end of the model where water quality is considered at its best.

Table 1. Table 1. Site characteristics and cyanobacteria cell concentrations at Bantam Lake on April 27, 2026.

Sites	Cyanobacteria cells (cells/mL)	Total Depth (m)	Secchi Transparency (m)	Temperature Top/Bottom (°C)	Oxygen Top/Bottom (mg/L)
North Bay	1,264	6.25	3.10	13.4 / 12.0	10.2 / 5.8
Center Lake	1,373	8.20	3.27	13.1/ 12.4	10.6 / 8.8
South Bay	76	4.44	2.97	13.6 / 13.1	10.1 / 10.0
Folly Point	---	6.73	3.27	13.7 / 12.3	10.6 / 8.5

Site Condition

The water columns at all sites visited were cold and mixed (Table 1). Oxygen concentrations were high throughout the water column at all sites with one exception. Oxygen concentrations at the bottom of the North Bay water column was lower than observed elsewhere, which is a trend observed in April of 2025.

Conclusions

The public risk from cyanobacteria at Bantam Lake on April 27, 2026, was low. Cyanobacteria cell concentrations were low. Concentrations at all three sites and the lake average were within the Visual Rank Category 1 level. Secchi transparency was good and relative phycocyanin levels were low.

Analysis by

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Literature Cited

Connecticut Department of Public Health and Connecticut Department of Energy and Environmental Protection. 2023. Guidance to Local Health Departments for Blue–Green Algae Blooms in Recreational Freshwaters. See https://portal.ct.gov/-/media/DPH/EHDW/Blue-Green-Algae-Blooms/Guidance-to-LHD-for-Blue-Green-AlgaeBlooms.pdf