

Silver Lake Water Quality Monitoring Program

Update on Recent Project Findings

Central Plymouth County Water District Commission

November 28, 2023

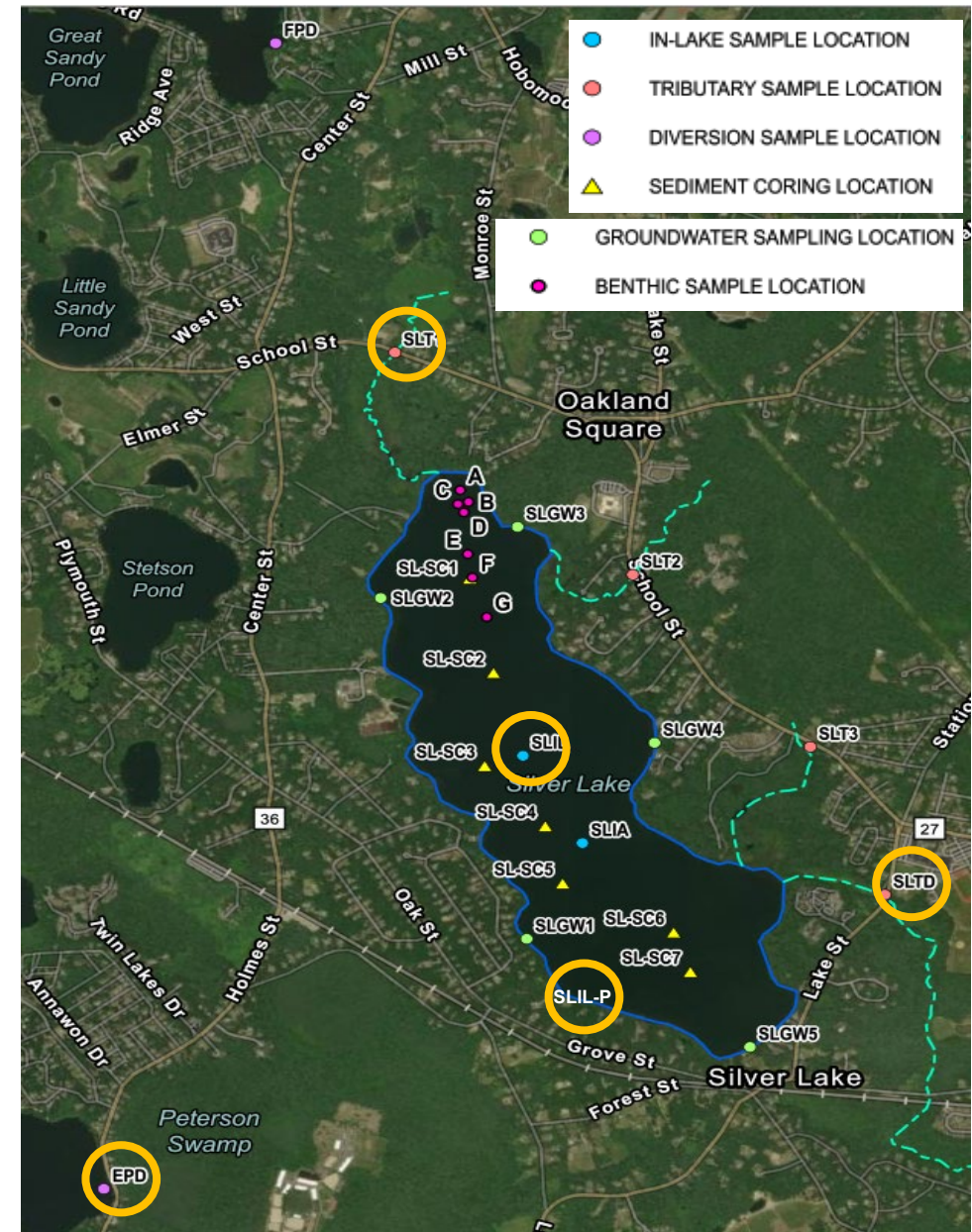
SUPPORTING

[DOING]

LEADING

2023 Monitoring Program – Locations

- Focus on key surface water sampling locations
- Based on results of the 2021-2022 SLWQ Monitoring Program and observations from the Monponsett emergency diversion in September
- 7 total sampling locations
- 4 in-lake surface water locations – includes new location adjacent to diversion inlet for September
- 2 tributary and outlet surface water locations
- 1 diversion source surface water locations





**Photo of Monponsett Diversion flow into
Silver Lake - September 14, 2023.
Source: JRWA**

TRC

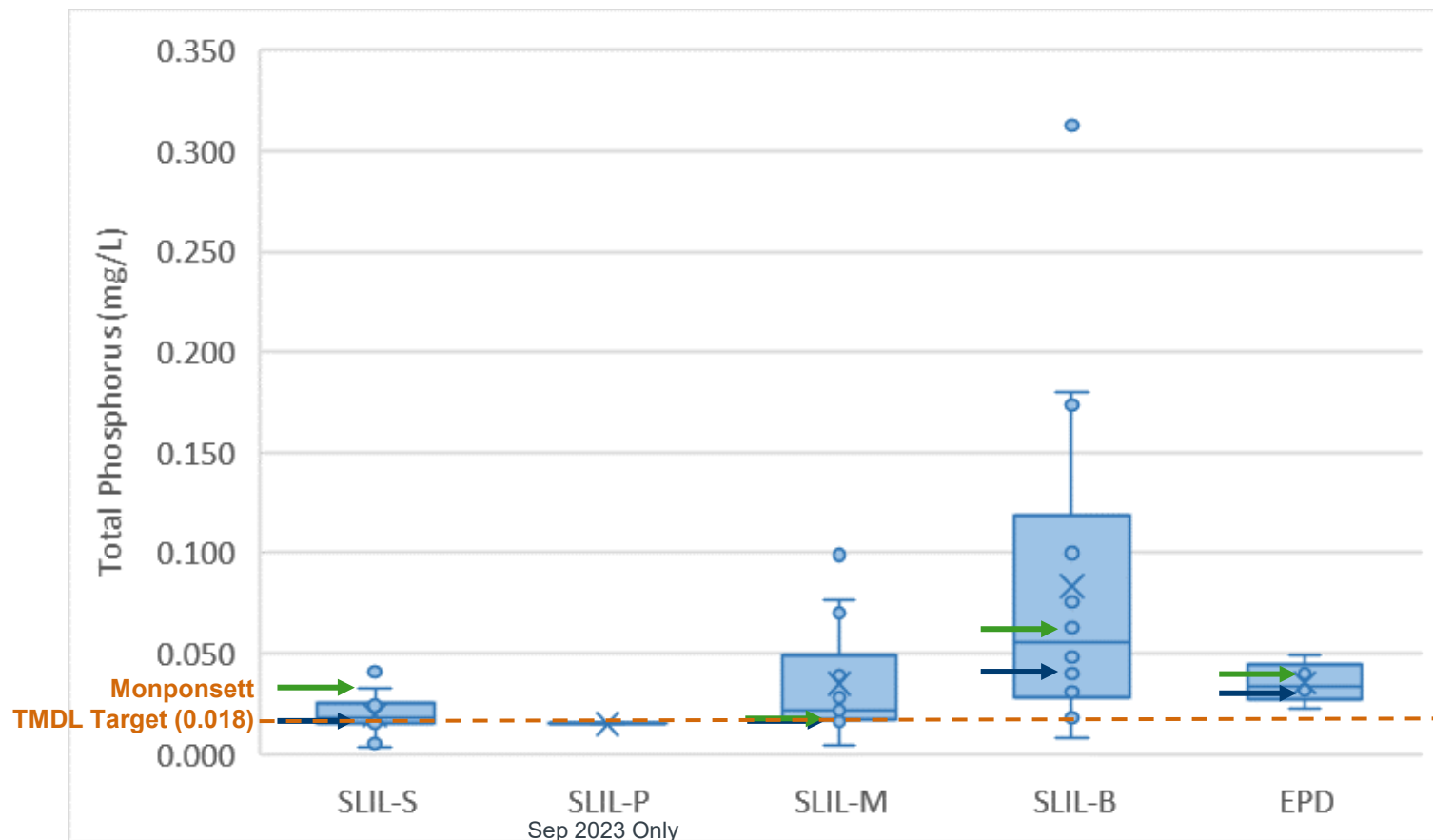
**Water diverted from September 13 to
September 17.**

**First round of sampling completed on
September 20.**

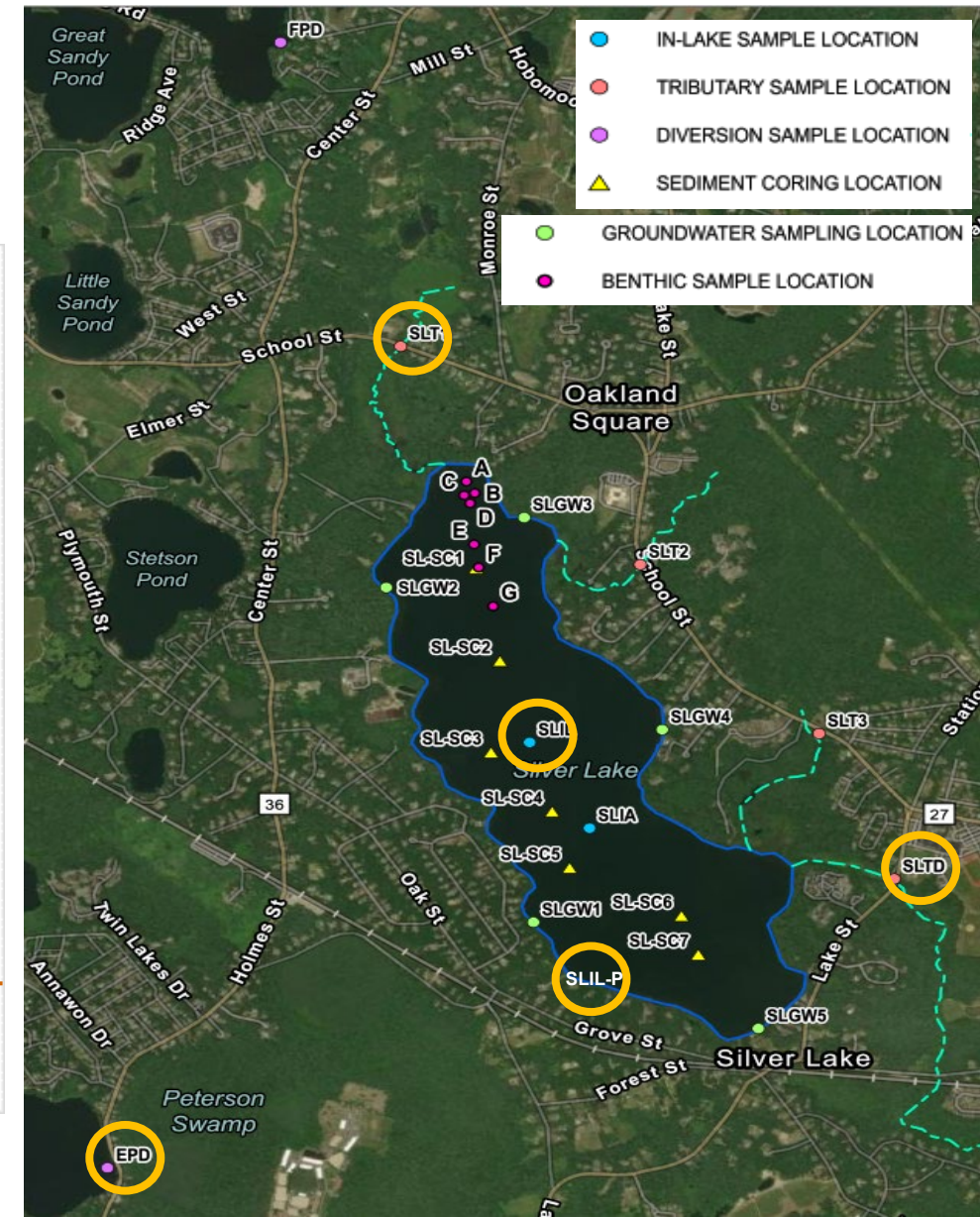
**Second round of sampling completed on
October 24.**

2023 Monitoring Program – Results

- Sep total phosphorus near or slightly below median values for full CPCWDC dataset
- Oct near or above median values

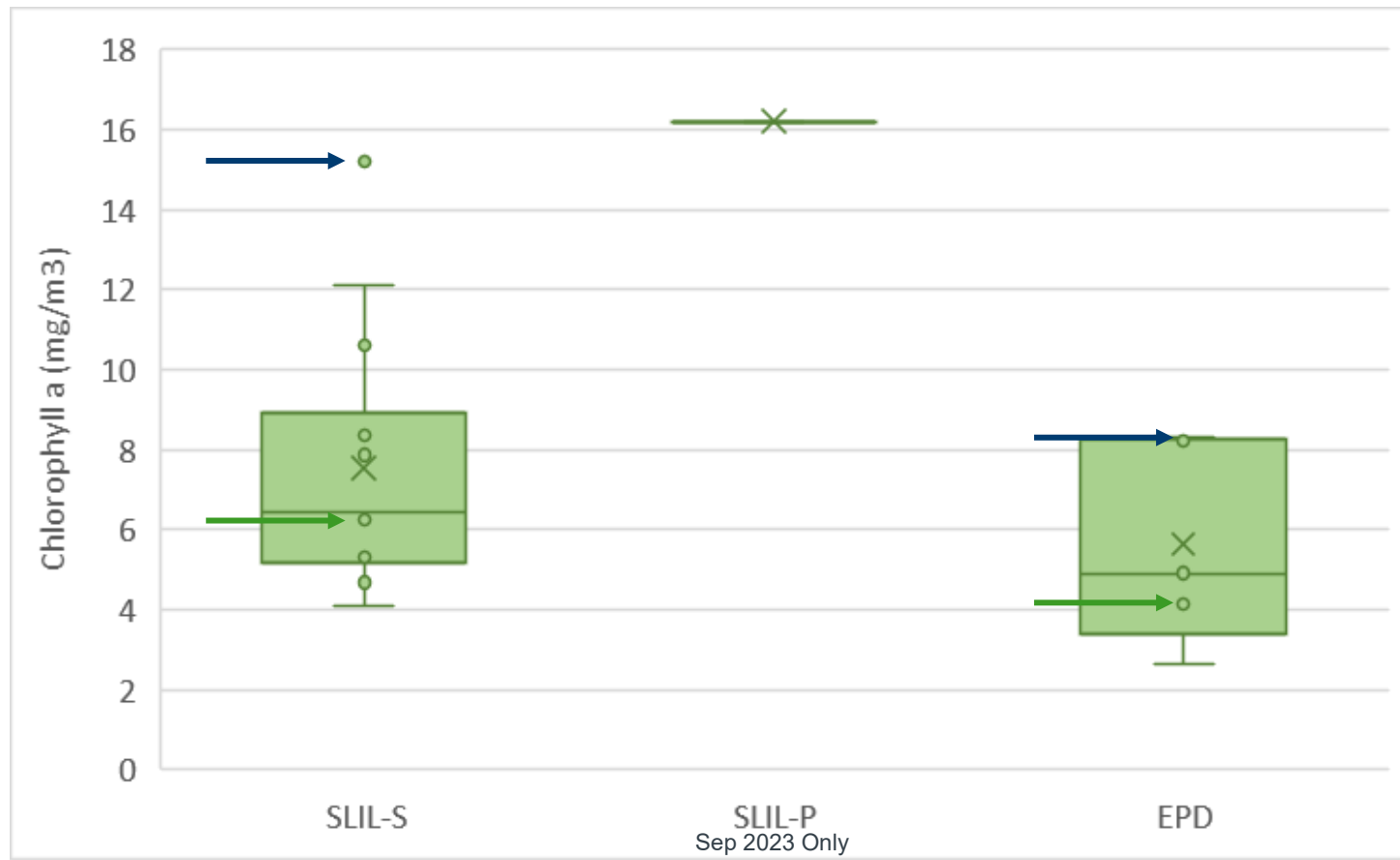


September 2023
 October 2023

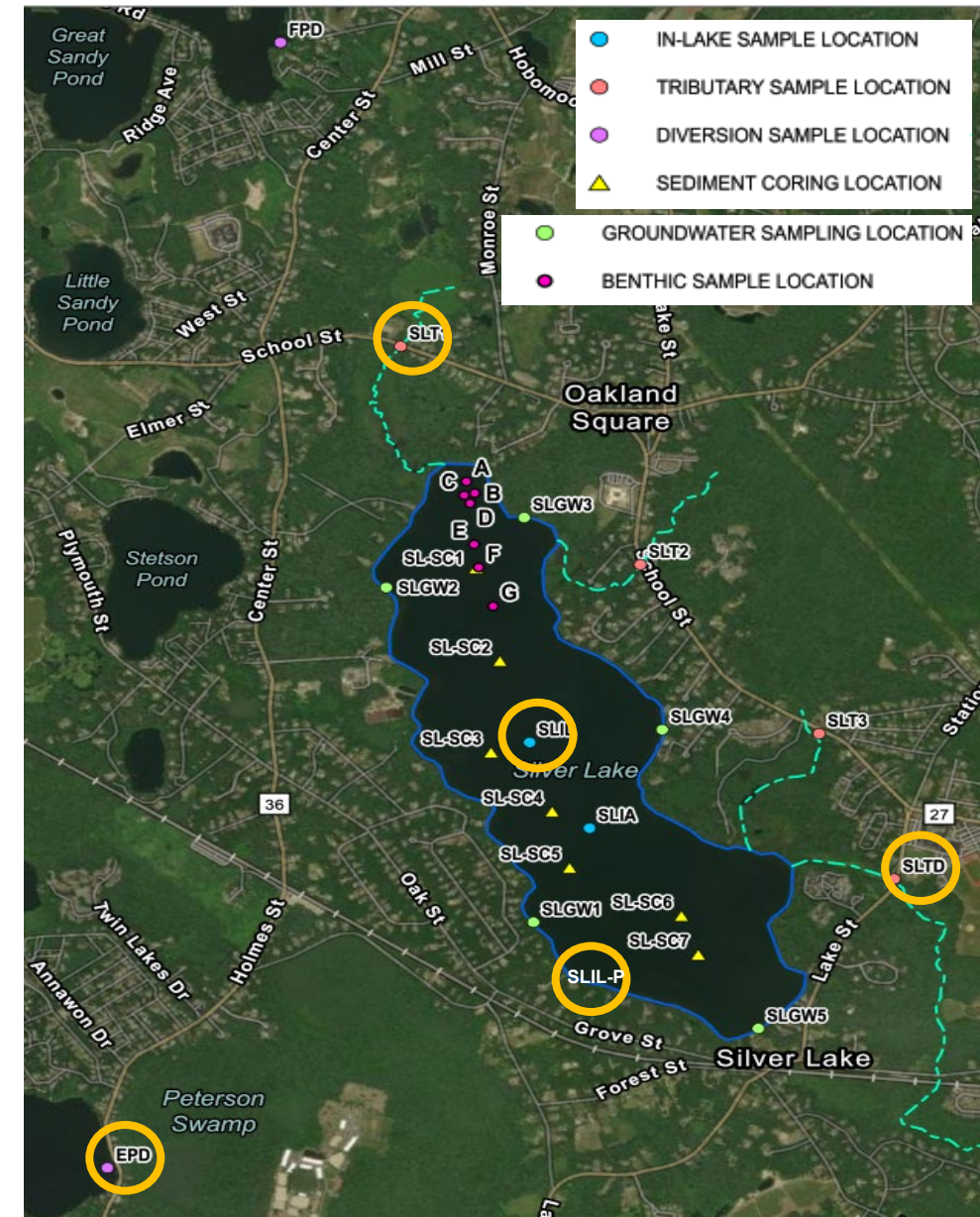


2023 Monitoring Program – Results

- Sep chlorophyll a at record highs compared to full CPCWDC dataset
- Oct chlorophyll a closer to typical



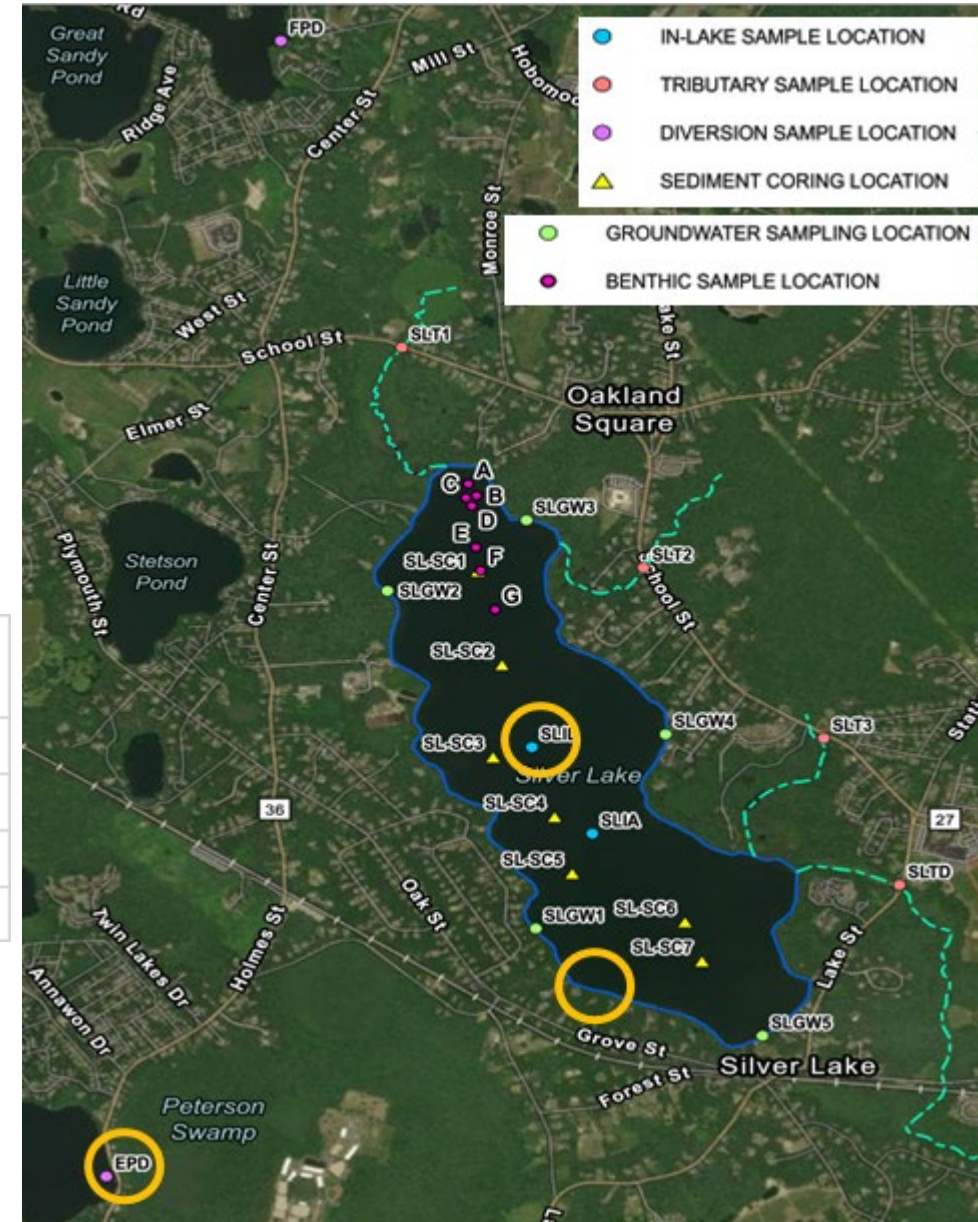
September 2023
 October 2023



2023 Monitoring Program – Results

- Cyanobacteria cell counts declined from Sep to Oct but remained dominant in Silver Lake
- All results below 70,000 cell/mL “bloom” threshold
- Toxins (microcystins) only detected in two samples – both were low-level detections at station EPD (Monponsett)

Location	Cyano Cell Count		% of Total Phytoplankton Biovolume		Microcystins (µg/L)	
	September	October	September	October	September	October
SLIL-S	32,177	2,494	91%	64%	<0.30	<0.30
SLIL-P	19,479	NS	89%	NS	<0.30	NS
EPD	3,918	292	17%	8%	0.87	0.30



Thanks!

Questions?



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