



CENTRAL UTAH WATER

Cyanobacteria in Deer Creek Reservoir





UDOH/UDEQ HAB Public Health Advisory Tiers

	Tier 1: None	Tier 2: Warning	Tier 3: Danger
Relative Probability of Acute Health Risk ¹	Low	Moderate	High
Cyanobacterial Cell Density (cells/mL) ¹	< 20,000	20,000 - 10,000,000	> 10,000,000
Microcystins (µg/L) ^{1,2}	< 4	4 - 2,000	> 2,000
Cylindrospermopsin (µg/L) ²	< 8	> 8 *	
Anatoxin-a (µg/L) ³	Non-detect	Detection - 90	> 90
Additional Factors	None	Reports of animal illness or death	Reports of human illness
Health Risks ¹	Negligible	Potential for long-term illness Short-term effects (e.g., skin and eye irritation, nausea, vomiting, diarrhea)	Potential for acute poisoning Potential for long-term illness Short-term effects (e.g., skin and eye irritation, nausea, vomiting, diarrhea)
Recommended Actions	None	Issue WARNING advisory Post WARNING signs Sampling recommended at least weekly	Issue DANGER advisory Post DANGER signs Consider CLOSURE Sampling recommended at least weekly

Guidance sources

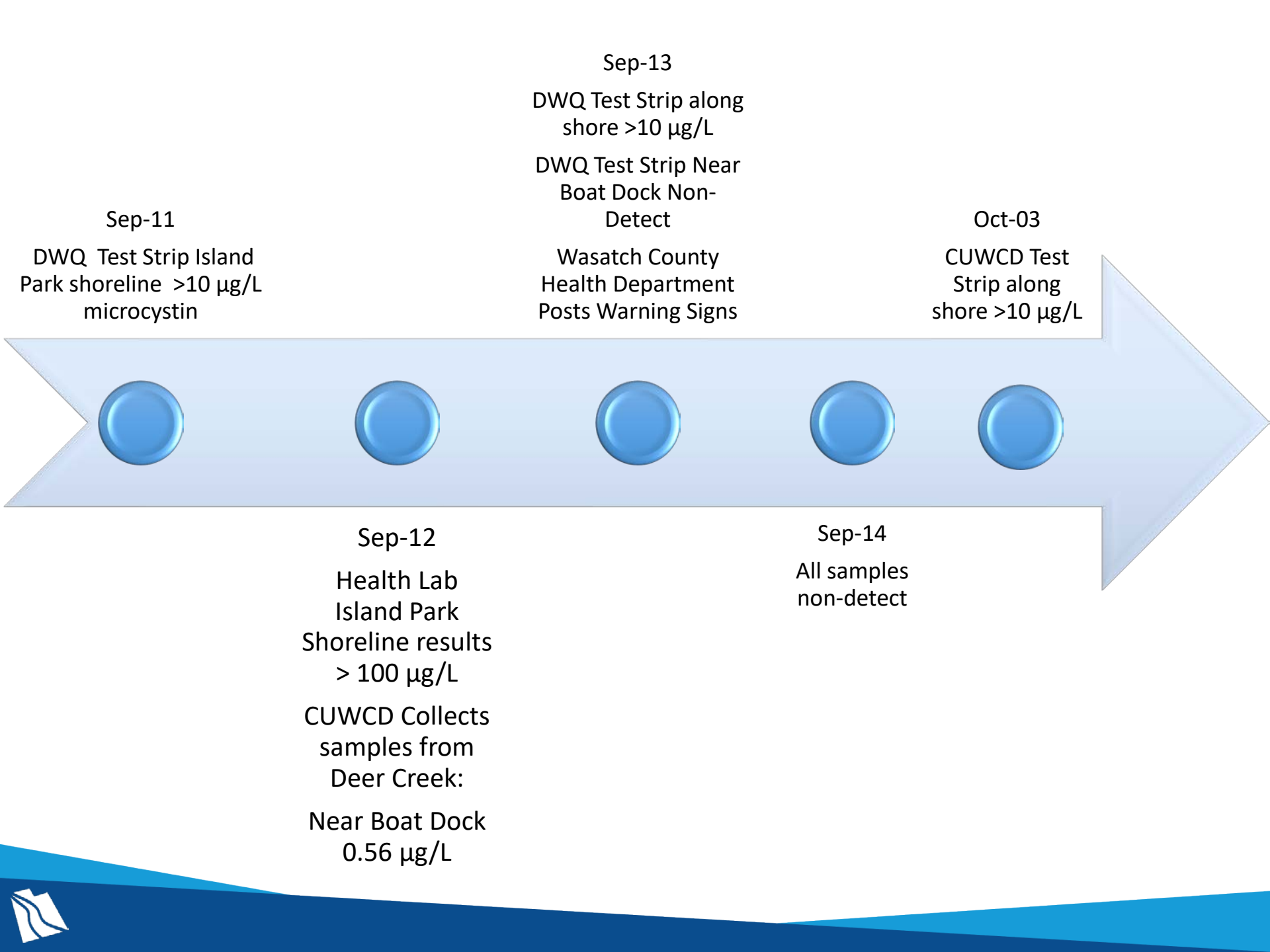
¹ WHO, 2003. Guidelines for safe recreational water environments, Volume 1, Chapter 8: Algae and cyanobacteria in fresh water.

² EPA, 2016. Human health recreational ambient water quality criteria or swimming advisories for microcystins and cylindrospermopsin (Draft).

³ CSWB, 2016. California State Water Board: Cyanobacteria guidance for recreational and related water uses (2016 updates).

* Data are sparse on where cylindrospermopsin advisory break points should be. Consult with UDEQ and UDOH as needed on this issue.





Sep-11

DWQ Test Strip Island
Park shoreline >10 µg/L
microcystin

Sep-13

DWQ Test Strip along
shore >10 µg/L

DWQ Test Strip Near
Boat Dock Non-
Detect

Wasatch County
Health Department
Posts Warning Signs

Oct-03

CUWCD Test
Strip along
shore >10 µg/L

Sep-12

Health Lab
Island Park
Shoreline results
> 100 µg/L

CUWCD Collects
samples from
Deer Creek:

Near Boat Dock
0.56 µg/L

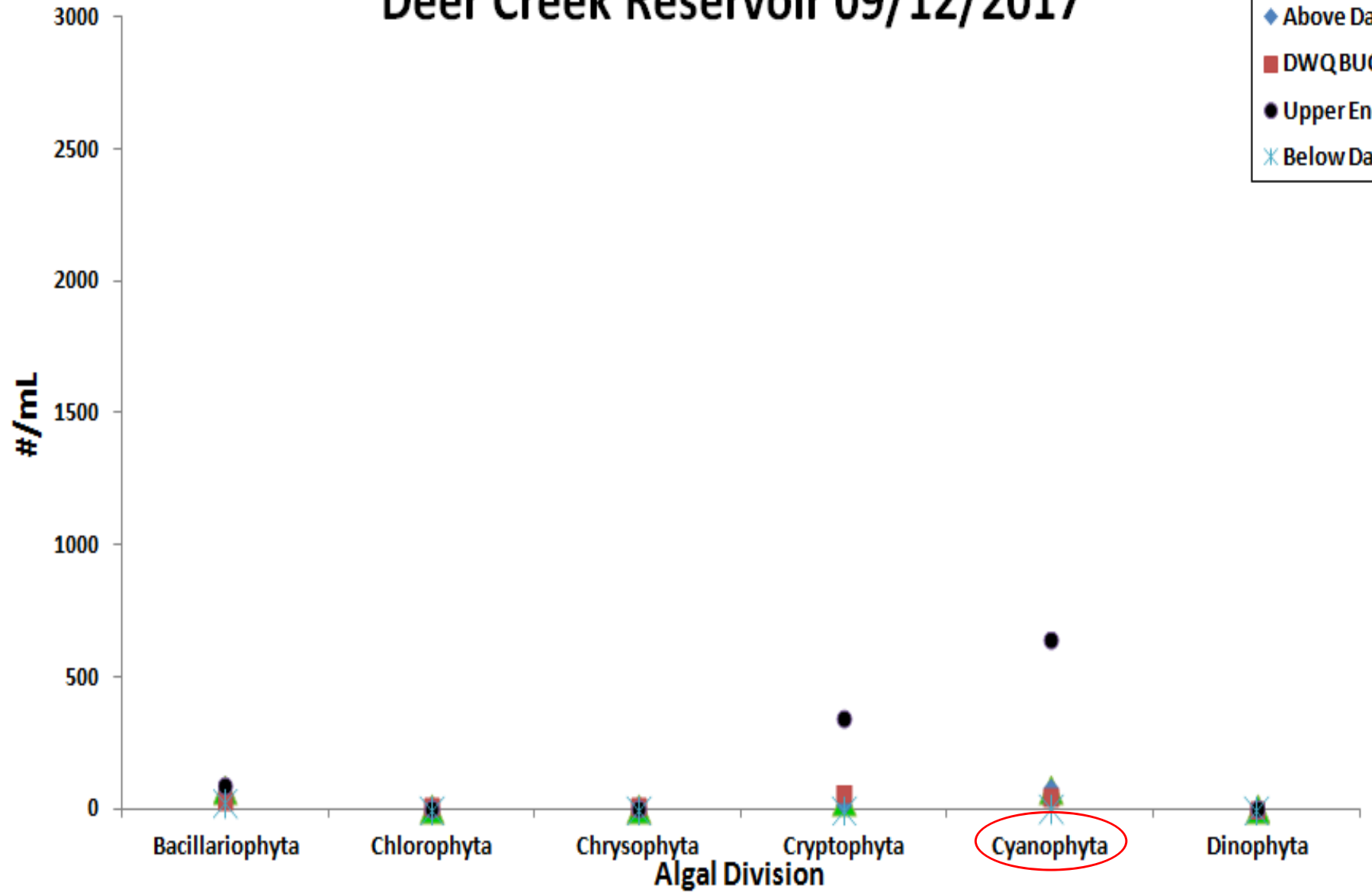
Sep-14

All samples
non-detect

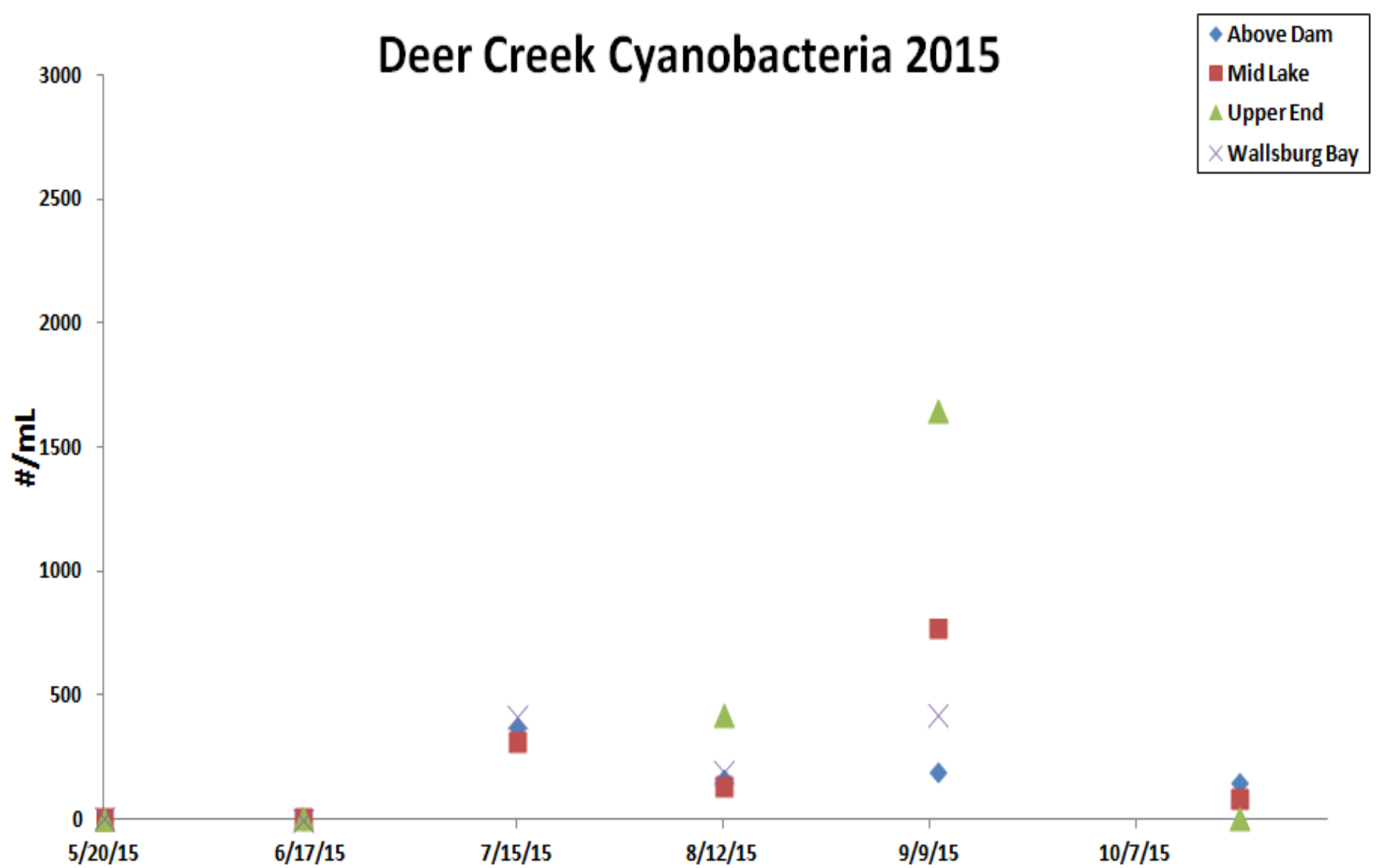


Deer Creek Reservoir 09/12/2017

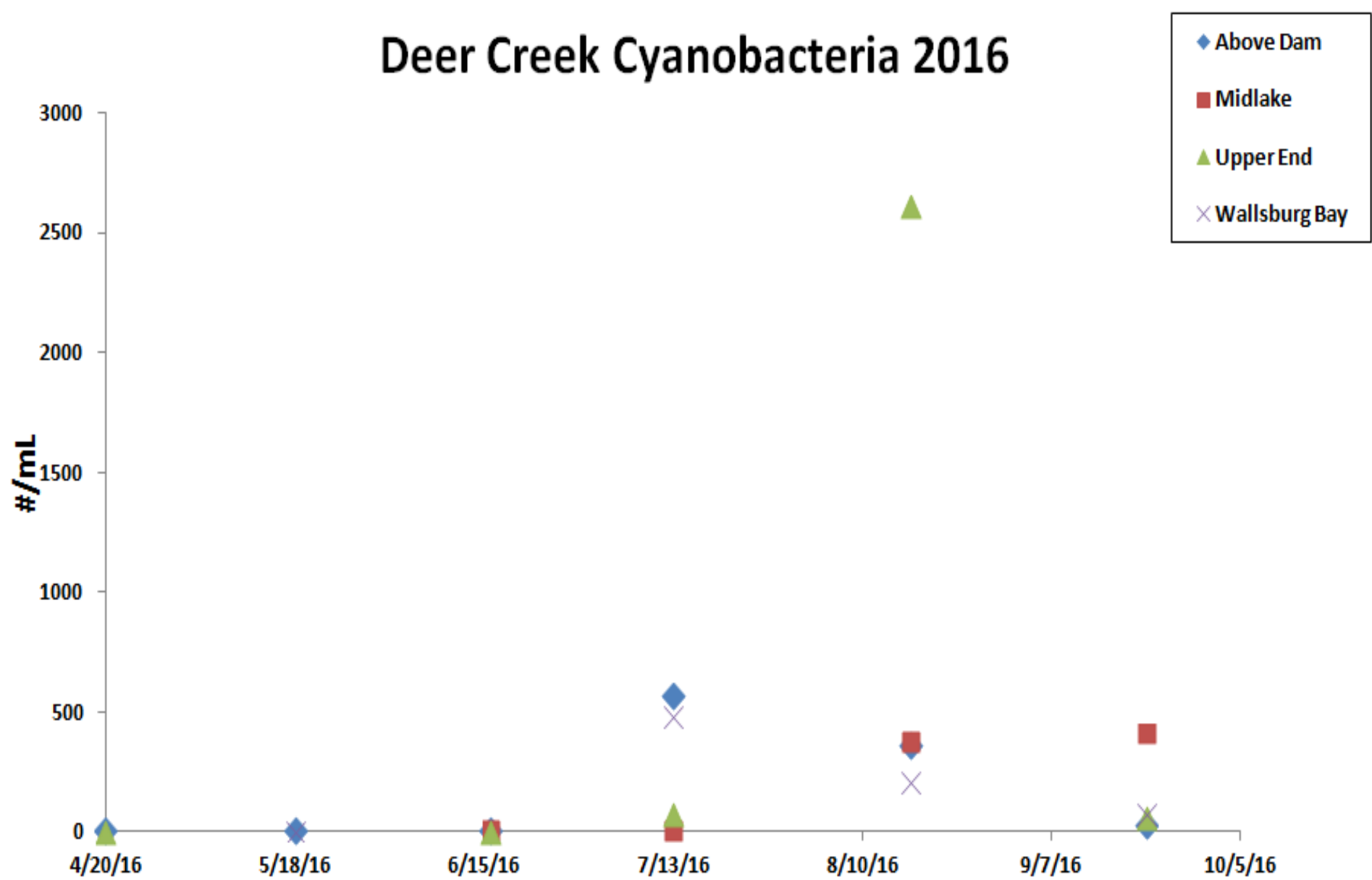
- ▲ Island Beach Bay
- ◆ Above Dam
- DWQBUOY
- Upper End
- ✱ Below Dam



Deer Creek Cyanobacteria 2015



Deer Creek Cyanobacteria 2016



Deer Creek Reservoir BGA-Phycocyanin RFU

