

### Southern Field Division - West Branch

Date	Pyramid Lake Vaquero Swim Beach (surface)				Castaic Lake CA002 (1m) Castaic Outlet				Castaic Lake CA002 (surface) Castaic Outlet				Castaic Lake Boat Launch (surface)				Castaic Lagoon Swim Beach (surface)			
	MC	CYN	STX	ANT	MC	CYN	STX	ANT	MC	CYN	STX	ANT	MC	CYN	STX	ANT	MC	CYN	STX	ANT
	04/22/19					npt	npt	npt	npt											
04/23/19																				
05/20/19					ND	ND	ND	ND	ND	npt	npt	npt	npt	npt	npt	npt	npt	npt	ND	npt
05/21/19	0.51	ND	ND	ND																
05/28/19									ND	nr	nr	nr	nr	nr	nr	nr	npt	npt	npt	npt
05/29/19	ND	nr	nr	nr																
06/03/19																				
06/10/19					nr	nr	nr	nr	npt	npt	npt	npt	npt	npt	npt	npt	nr	nr	nr	nr
06/11/19	npt	npt	npt	npt																
06/17/19									nr	nr	nr	nr	npt	npt	npt	npt	npt	npt	npt	npt
06/18/19	ND	npt	npt	npt																
06/24/19					nr	nr	nr	nr	nr	nr	nr	nr	npt	npt	npt	npt	npt	npt	npt	npt
06/25/19	ND	nr	nr	nr																
07/01/19	0.56	nr	nr	nr					npt	npt	npt	npt	0.44	nr	nr	nr	npt	npt	npt	npt
07/08/19					0.98	npt	npt	npt	0.91	npt	npt	npt	0.93	npt	npt	npt	ND	ND	ND	ND
07/09/19	1.31	nr	nr	nr																
07/15/19									2.28	npt	npt	npt	2.88	npt	npt	npt	npt	npt	npt	npt
07/16/19	3.93	npt	npt	npt																
07/22/19					2.34	npt	npt	npt	2.36	nr	nr	nr	2.03	npt	npt	npt	npt	npt	npt	npt
07/23/19	3.50	nr	nr	nr																
07/29/19									0.78	nr	nr	nr	0.46	npt	npt	npt	npt	npt	npt	npt
07/30/19	5.00	nr	nr	nr																
08/05/19									0.32	nr	nr	nr	0.45	nr	nr	nr	npt	npt	npt	npt
08/06/19	1.93	nr	nr	nr																
08/12/19					0.59	npt	npt	npt	0.52	npt	npt	npt	0.41	npt	npt	npt	npt	ND	ND	ND
08/13/19	2.0	ND	ND	ND																
08/19/19	0.68	nr	nr	nr					3.72*	npt	npt	npt	1.04	npt	npt	npt	ND*	ND	ND	ND
08/26/19	1.85	ND	ND	ND	0.50	npt	npt	npt	ND	npt	npt	npt	0.88	npt	npt	npt	npt	ND	ND	ND
09/04/19	1.13	ND	0.16	ND					0.50	npt	npt	npt	ND	npt	npt	npt	npt	0.05	ND	ND
09/09/19					ND	nr	nr	nr	ND	nr	nr	nr	npt	npt	npt	npt	npt	0.06	nr	nr
09/10/19	0.62	ND	0.28	0.05																
09/16/19									0.55	npt	npt	npt	ND	nr	nr	nr	ND	0.06	ND	ND
09/17/19	ND	nr	0.19	ND																
09/23/19					0.45	nr	nr	nr	ND	nr	nr	nr	0.49	nr	nr	nr	nr	0.07	nr	nr
09/24/19	ND	nr	0.15	nr																
10/01/19	nr	nr	0.10	nr																
10/07/19					0.60	nr	nr	nr	1.03	nr	nr	nr	1.86	npt	npt	npt	npt	0.08	nr	nr
10/08/19	nr	npt	0.09	npt																
10/14/19									ND	nr	nr	nr	1.60	nr	nr	nr	nr	0.07	nr	nr
10/15/19	nr	nr	0.07	nr																
10/21/19					ND	nr	nr	nr	4.50	nr	nr	nr	0.88	nr	nr	nr	npt	0.09	nr	nr
10/22/19	ND	npt	0.05	npt																
10/28/19									ND	nr	nr	nr	0.31	nr	nr	nr	nr	ND	nr	nr
10/29/19	npt	npt	ND	npt																
11/04/19					ND	nr	nr	nr	ND	nr	nr	nr	ND	nr	nr	nr	nr	ND	nr	nr
11/05/19	ND	npt	ND	nr																
11/13/19					ND	nr	nr	nr	ND	nr	nr	nr	ND	nr	nr	nr				

Units = ng/mL

Toxins – Microcystins (MC), cylindrospermopsin (CYN), saxitoxin (STX), anatoxin-A (ANT)

ND = Not detected above the LOD;

"npt" = No potential toxin producers observed by microscopy and ELISA analysis not conducted

"nr" = potential toxin producers present but toxin analysis not recommended by the lab due to low abundance or previous toxin analyses

LOD = 0.05 ng/mL (ANT, STX, CYN) 0.30 ng/mL MC

\*\* Indicates LC/MS conducted to determine concentration of microcystin variants (see MC-variant worksheet)

## **GreenWater Laboratories**

### **Sample Preparation**

#### **Water Sample Ultrasonication (this method used prior to 6/24/19)**

Samples were received and inverted for 60 seconds to mix. A subset was removed prior to dismembration for algal identification purposes. The remaining sample was sonicated to release toxins and prepared for analyses.

#### **Water Sample Freeze-Thaw (this method used after 6/24/19)**

The samples were received and inverted for 60 seconds to mix. A subset from each sample was removed prior to cell lysis for algal identification purposes. An aliquot of each sample was transferred to a 15 mL vial. Three freeze-thaw cycles were employed prior to additional sample preparation and subsequent analyses.

#### **Quality Control**

Lab Fortified Sample Matrix/Lab Fortified Sample Matrix Duplicate and SUR/IS QC samples prepared for analyses pre-extraction

#### **Potentially Toxicogenic (PTOX) Cyanobacteria Screen**

One mL aliquots of the samples were prepared using Sedgewick Rafter cells. Each sample was scanned at 100X for the presence of potentially toxicogenic (PTOX) cyanobacteria using a Nikon Eclipse TS100 Inverted Microscope equipped with phase contrast optics. Higher magnification was used as necessary for identification and micrographs.

### **Analytical Techniques**

#### **Enzyme-Linked Immunosorbent Assay (ELISA)**

##### MCs/NODs

A microcystins/nodularins Adda ELISA (Abraxis) was utilized for the quantitative and sensitive congener-independent detection of Adda MCs/NODs (US EPA Method 546 & Ohio EPA DES 701.0). The current method reporting limit is 0.30 ng/mL (ppb) based on kit sensitivity, dilution factors and initial demonstration of capability.

##### STX

A saxitoxin specific ELISA (Abraxis PN 52255B) was utilized for the detection and quantification of saxitoxin and related analogs (paralytic shellfish toxins – PSTs). The current method reporting limit is 0.05 ng/mL (ppb) based on kit sensitivity and dilution factors. Based on manufacture instructions, the STX ELISA is less cross-reactive to other PSTs and will likely underestimate total PSTs/Saxitoxins. Reported cross-reactivities are as follows: NEO (1.3%), dcSTX (29%), GTX2/3 (23%), GTX5 (23%), dcGTX2/3 (1.4%), dcNEO (0.6%) & GTX1/4 (<0.2%).

#### **Liquid chromatography mass spectrometry/mass spectrometry (LC-MS/MS)**

##### ANTX-a (Method 545)

The [M+H]<sup>+</sup> ion for ANTX-A (166 m/z) was fragmented and the product ions (91, 131 & 149 m/z) were monitored. The quantification ion, 91 m/z, was extracted and responses compared to the internal standard L-phenylalanine-d5 (171 to 125 m/z).

CYN (Method 545)

The [M+H]<sup>+</sup> ion for CYN (416 m/z) was fragmented and the product ions (194, 274, 336 m/z) were monitored. The quantification ion, 274 m/z, was extracted and responses compared to the internal standard uracil-d4 (115 to 98 m/z).

**PTOX species, detectable toxin levels and variant concentration determined by LC/MS and external standard.**

**Toxins** – Anatoxin-a (ANT) cylindrospermopsin (CYN), microcystin (MC), saxitoxin (STX)

Date	Station (Drop list)	Sample depth	Toxin (Drop list)	Conc. (ng/mL)	PTOX Species (Drop list)			Flags	Notes
4/22/2019	San Luis Pacheco PP	~170-230 ft	MC	0.15*	none observed				
4/22/2019	Gianelli PP	~5-10 ft	MC	ND	none observed				
4/22/2019	Check 13	~15 ft	MC	ND	none observed				
4/22/2019	Perris Outlet	1 m	MC	0.27	Dolichospermum		Microcystis		Dolichospermum >35 filaments/mL, Microcystis ≥2 colonies/mL, Limnoraphis birgei also observed (not PTOX, 1 filament/mL)
4/22/2019	Perris Outlet	1 m	CYN	0.05	Dolichospermum		Microcystis		Dolichospermum >35 filaments/mL, Microcystis ≥2 colonies/mL, Limnoraphis birgei also observed (not PTOX, 1 filament/mL)
4/22/2019	Perris Outlet	1 m	STX	ND	Dolichospermum		Microcystis		Dolichospermum >35 filaments/mL, Microcystis ≥2 colonies/mL, Limnoraphis birgei also observed (not PTOX, 1 filament/mL)
4/22/2019	Perris Outlet	1 m	ANTX-A	ND	Dolichospermum		Microcystis		Dolichospermum >35 filaments/mL, Microcystis ≥2 colonies/mL, Limnoraphis birgei also observed (not PTOX, 1 filament/mL)
4/23/2019	Silverwood Outlet	1 m	CYN-STX-ANTX	ND	Aphanizomenon flos-aquae/lebahonii				1 fascicle/mL
4/29/2019	San Luis Basalt Boat Launch	surface	MC	0.62	Microcystis	Aphanizomenon flos-aquae/lebahonii	Dolichospermum		Microcystis ≥2 colonies/mL, Aphanizomenon >50 filaments/mL, Dolichospermum ≥3 filaments/mL
4/29/2019	San Luis Basalt Boat Launch	surface	CYN-STX-ANTX	ND	Microcystis	Aphanizomenon flos-aquae/lebahonii	Dolichospermum		Microcystis ≥2 colonies/mL, Aphanizomenon >50 filaments/mL, Dolichospermum ≥3 filaments/mL
4/30/2019	Perris Swim Beach	surface	CYN-STX-ANTX	ND	Dolichospermum	Woronichinia naegeliana	Aphanizomenon	Microcystis	Dolichospermum >50 filaments/mL, Woronichinia ≥1 colony/mL, Aphanizomenon >20 filaments/mL, Microcystis ≥1 colony/mL
4/30/2019	Perris Swim Beach	surface	MC	0.74	Dolichospermum	Woronichinia naegeliana	Aphanizomenon	Microcystis	Dolichospermum >50 filaments/mL, Woronichinia ≥1 colony/mL, Aphanizomenon >20 filaments/mL, Microcystis ≥1 colony/mL
5/6/2019	San Luis Basalt Boat Launch	surface	MC	0.81	Microcystis	Aphanizomenon cf. flos-aquae/lebahonii	Dolichospermum		Microcystis ≥3 colonies/mL, Aphanizomenon >20 filaments/mL, Dolichospermum ≥5 filaments/mL
5/8/2019	Perris Swim Beach	surface	MC	0.74	Dolichospermum	Aphanizomenon	Microcystis		Dolichospermum ≥20 filaments/mL, Aphanizomenon ≥3 filaments/mL, Microcystis ≥5 colonies/mL
5/8/2019	Perris Moreno Swim Beach	surface	MC	2.95	Dolichospermum	Aphanizomenon	Microcystis		Dolichospermum ≥5 filaments/mL, Aphanizomenon ≥25 filaments/mL, Microcystis ≥3 colonies/mL, Limnoraphis birgei also observed but not considered PTOX.
5/13/2019	Perris Swim Beach	surface	MC	2.75	Aphanizomenon flos-aquae/lebahonii	Dolichospermum	Microcystis		Aphanizomenon (dominant, several fascicles), Dolichospermum (≥2 filaments/mL), Microcystis (≥5 colonies/mL)
5/13/2019	Perris Swim Beach	surface	CYN-STX-ANTX	ND	Aphanizomenon flos-aquae/lebahonii	Dolichospermum	Microcystis		Aphanizomenon (dominant, several fascicles), Dolichospermum (≥2 filaments/mL), Microcystis (≥5 colonies/mL)
5/13/2019	Perris Moreno Swim Beach	surface	MC	54.0	Microcystis	Dolichospermum	Planktothrix	Aphanizomenon flos-aquae/lebahonii	Microcystis (dominant, >50 colonies/mL), Dolichospermum spp. (≥20 filaments/mL), Planktothrix (≥10 filaments/mL), Aphanizomenon (≥25 filaments/mL)
5/13/2019	Perris Moreno Swim Beach	surface	CYN-STX-ANTX	ND	Microcystis	Dolichospermum	Planktothrix	Aphanizomenon flos-aquae/lebahonii	Microcystis (dominant, >50 colonies/mL), Dolichospermum spp. (≥20 filaments/mL), Planktothrix (≥10 filaments/mL), Aphanizomenon (≥25 filaments/mL)
5/13/2019	San Luis Basalt Boat Launch	surface	MC	1.31	Microcystis	Dolichospermum			Microcystis (>10 colonies/mL), Dolichospermum (≥1 filament/mL)
5/13/2019	San Luis Pacheco PP	~170-230 ft	MC	0.16*	none observed				Analyte was positively identified; the associated numerical value is estimated.
5/20/2019	San Luis Basalt Boat Launch	surface	MC	2.52	Microcystis	Dolichospermum	Woronichinia naegeliana	Aphanizomenon	Microcystis (>10 colonies/mL), Dolichospermum (≥4 filaments/mL), Woronichinia (1 colony/mL), Aphanizomenon (≥5 filaments/mL)
5/20/2019	San Luis Pacheco PP	~170-230 ft	MC	0.15*	none observed				Analyte was positively identified; the associated numerical value is estimated.
5/20/2019	Castaic Outlet	1 m	MC-CYN-STX-ANTX	ND	Dolichospermum				≥1 filament/mL
5/20/2019	Castaic Outlet	surface	MC	ND	Microcystis				≥2 colonies/mL
5/20/2019	Castaic Lagoon Swim Beach	surface	CYN	ND	none observed				
5/21/2019	Pyramid-Angeles Tunnel Inlet	1 m	MC-CYN-STX-ANTX	ND	Dolichospermum				≥8 filaments/mL
5/21/2019	Pyramid-Angeles Tunnel Inlet	surface	MC-CYN-STX-ANTX	ND	Dolichospermum				≥15 filaments/mL
5/21/2019	Pyramid-Emigrant Landing Swim Beach	surface	MC-CYN-STX-ANTX	ND	Microcystis	Dolichospermum			Microcystis (≥1 colony/mL), Dolichospermum ≥2 filaments/mL
5/21/2019	Pyramid-Vaquero Swim Beach	surface	MC	0.51	Dolichospermum	Gloeotrichia			Dolichospermum (≥2 filaments/mL)
5/21/2019	Pyramid-Vaquero Swim Beach	surface	CYN-STX-ANTX	ND	Dolichospermum	Gloeotrichia			Dolichospermum (≥2 filaments/mL)
5/20/2019	Perris Outlet	1 m	MC	0.35	Microcystis	Aphanizomenon	Woronichinia naegeliana		Microcystis (≥4 colonies/mL), Aphanizomenon (≥4 filaments/mL), Woronichinia (1 colony/mL), Limnoraphis birgei (2 filaments/mL) also present but not PTOX.
5/20/2019	Perris Outlet	surface	MC	0.27	Microcystis	Aphanizomenon			Microcystis (≥8 colonies/mL), Aphanizomenon (≥3 filaments/mL)
5/20/2019	Perris Swim Beach	surface	MC	0.63	Microcystis	Aphanizomenon			Microcystis (1 colony/mL), Aphanizomenon (large fascicles)
5/20/2019	Perris Moreno Swim Beach	surface	MC	0.62	Microcystis	Aphanizomenon			Microcystis (1 colony/mL), Aphanizomenon (≥4 filaments/mL)
5/20/2019	Lake Oroville Loafer Creek Swim Beach	surface	MC-CYN-STX-ANTX	ND	Dolichospermum	Cyanophyte filament(s)			Dolichospermum (1 filament/mL), straight cyanophyte filament resembled dolichospermum
5/22/2019	Lake Oroville near Dam	surface	MC-CYN-STX-ANTX	ND	Dolichospermum				1 filament/mL
5/29/2019	Thermalito Afterbay Swim Beach	surface	ANTX-A	0.21	Oscillatoria	Anabaena	Phormidium/Microcoleus		All benthic species.
5/28/2019	Castaic Outlet	surface	MC	ND	Microcystis	Dolichospermum			Microcystis (≥1 colony/mL), Dolichospermum (1 filament/mL)
5/29/2019	Pyramid-Emigrant Landing Swim Beach	surface	MC	0.38	Microcystis	Dolichospermum			Microcystis (≥1 colony/mL), Dolichospermum spp. (≥8 filaments/mL)
5/29/2019	Pyramid-Vaquero Swim Beach	surface	MC	ND	Microcystis	Dolichospermum			Microcystis (≥1 colony/mL), Dolichospermum spp. (≥5 filaments/mL)

5/29/2019	San Luis Basalt Boat Launch	surface	MC	1.93	Microcystis	Dolichospermum	Woronichinia naegeliana	Aphanizomenon	Microcystis (>10 colonies/mL), Dolichospermum (≥10 filaments/mL), Woronichinia (1 colony/mL), Aphanizomenon (≥1 filaments/mL)
5/28/2019	Perris Alessandro Island	surface	MC	1.98	Microcystis	Aphanizomenon			Microcystis (≥5 colonies/mL), Aphanizomenon (≥5 filaments/mL)
5/28/2019	Perris Outlet	surface	MC	2.08	Microcystis	Dolichospermum	Woronichinia naegeliana	Aphanizomenon	Microcystis (≥5 colonies/mL), Dolichospermum (1 filament/mL), Woronichinia (1 colony/mL), Aphanizomenon (>40 filaments/mL)
5/28/2019	Perris Swim Beach	surface	MC	3.88	Microcystis	Woronichinia naegeliana	Aphanizomenon		Microcystis (≥10 colonies/mL), Woronichinia (1 colony/mL), Aphanizomenon (>300 filaments/mL)
5/28/2019	Perris Moreno Swim Beach	surface	MC	3.05	Microcystis	Aphanizomenon			Microcystis (≥10 colonies/mL), Aphanizomenon (>10 filaments/mL)
5/28/2019	Perris mid lake	surface	MC	2.50	Microcystis	Aphanizomenon			Microcystis (≥10 colonies/mL), Aphanizomenon (>20 filaments/mL)
6/3/2019	San Luis Pacheco PP	~170-230 ft	MC	ND	Microcystis				1 colony/mL
6/3/2019	San Luis Basalt Boat Launch	surface	MC	2.38	Microcystis	Dolichospermum	Woronichinia naegeliana	Aphanizomenon	Microcystis (>10 colonies/mL), Dolichospermum (≥5 filaments/mL), Woronichinia (1 colony/mL), Aphanizomenon (>15 filaments/mL)
6/3/2019	Thermalito Afterbay Swim Beach	surface	ANTX-A	ND	none observed				
6/4/2019	Thermalito Afterbay Swim Beach	surface	ANTX-A	ND	Oscillatoria	Phormidium/Microcoleus			
6/4/2019	Thermalito Afterbay Larkin Boat Ramp	surface	ANTX-A	ND	none observed				
6/4/2019	Thermalito Afterbay Wilbur Boat Ramp	surface	ANTX-A	ND	none observed				
6/3/2019	Perris Outlet	surface	MC	10.6	Microcystis	Dolichospermum	Aphanizomenon flos-aquae/kelebahni		Microcystis (>20 colonies/mL), Dolichospermum (≥1 filament/mL), Aphanizomenon (several fascicles/mL), Limnoraphis birgei also present but not PTOX.
6/3/2019	Perris Swim Beach	surface	MC	1.67	Microcystis	Aphanizomenon cf. flos-aquae/kelebahni			Microcystis (≥5 colonies/mL), Aphanizomenon (>20 filaments/mL)
6/3/2019	Perris Moreno Swim Beach	surface	MC	2.25	Microcystis	Aphanizomenon			Microcystis (≥2 colonies/mL), Aphanizomenon (several fascicles/mL)
6/4/2019	Silverwood Sawpit Swim Beach	surface	MC-CYN-STX-ANTX	ND	Dolichospermum	Aphanizomenon cf. flos-aquae/kelebahni			Dolichospermum (>15 filaments/mL), Aphanizomenon (>20 filaments/mL)
6/4/2019	Silverwood Cleghorn Swim Beach	surface	MC-CYN-STX-ANTX	ND	Dolichospermum	Aphanizomenon cf. flos-aquae/kelebahni			Dolichospermum (>10 filaments/mL), Aphanizomenon (2 fascicles/mL; >100 filaments/mL)
6/4/2019	Silverwood Outlet	surface		nr	Dolichospermum	Aphanizomenon cf. flos-aquae/kelebahni			Dolichospermum (1 filament/mL), Aphanizomenon (1 filament/mL)
6/10/2019	San Luis Pacheco PP	~170-230 ft	MC	ND	none observed				
6/10/2019	O'Neill Forebay Boat Launch	surface	MC	ND	none observed				
6/10/2019	Check 13	~15 ft	MC	ND	none observed				
6/10/2019	San Luis Basalt Boat Launch	surface	MC	20.3	Microcystis	Dolichospermum	Aphanizomenon flos-aquae/kelebahni		Microcystis spp. (>150 colonies/mL), Dolichospermum spp. (>150 filaments/mL), Aphanizomenon (>200 filaments/mL)
6/10/2019	Gianelli PP	~5-10 ft	MC	ND	none observed				≥2 filaments/mL
6/10/2019	Lake Oroville Loafer Creek Swim Beach	surface	MC-CYN-STX-ANTX	ND	Dolichospermum	Aphanizomenon cf. flos-aquae/kelebahni			Top of MF bloom. Dolichospermum spp. (>150 filaments/mL; 3 species), Aphanizomenon (≥1 filament/mL)
6/12/2019	Lake Oroville - Middle Fork Arm	surface	MC-CYN-STX-ANTX	ND	Dolichospermum	Aphanizomenon cf. flos-aquae/kelebahni			Middle of MF bloom. Dolichospermum spp. (>500 filaments/mL; 3 species), Aphanizomenon (≥1 fascicle/mL)
6/13/2019	Lake Oroville - Middle Fork Arm	surface	MC-CYN-STX-ANTX	ND	Dolichospermum	Aphanizomenon flos-aquae/kelebahni			Middle of MF bloom. Dolichospermum spp. (>500 filaments/mL; 3 species), Aphanizomenon (≥1 fascicle/mL)
6/10/2019	Perris Outlet	1 m	MC	0.78	Microcystis	Dolichospermum	Aphanizomenon cf. flos-aquae/kelebahni		Microcystis (≥5 colonies/mL), Dolichospermum (≥1 filament/mL), Aphanizomenon (≥3 filaments/mL). Limnoraphis birgei also observed but not PTOX.
6/10/2019	Perris Outlet	surface	MC	0.68	Microcystis	Aphanizomenon cf. flos-aquae/kelebahni			Microcystis (≥7 colonies/mL), Aphanizomenon (≥2 filaments/mL). Limnoraphis birgei also observed but not PTOX.
6/10/2019	Perris Swim Beach	surface	MC	1.11	Microcystis				≥6 colonies/mL
6/10/2019	Perris Moreno Swim Beach	surface	MC	0.79	Microcystis	Dolichospermum	Aphanizomenon cf. flos-aquae/kelebahni		Microcystis (≥3 colonies/mL), Dolichospermum (≥1 filament/mL), Aphanizomenon (≥4 filaments/mL).
6/10/2019	Perris mid lake	surface	MC	0.75	Microcystis	Dolichospermum			Microcystis (≥4 colonies/mL), Dolichospermum (≥1 filament/mL)
6/10/2019	Perris Alessandro Island	surface	MC	0.67	Microcystis	Aphanizomenon cf. flos-aquae/kelebahni			Microcystis (≥3 colonies/mL), Aphanizomenon (≥1 filament/mL)
6/10/2019	Castaic Lagoon Swim Beach	surface		nr	Dolichospermum				1 filament/mL
6/10/2019	Castaic Outlet	1 m		nr	Dolichospermum				2 filaments/mL
6/11/2019	Silverwood Outlet	surface		nr	Dolichospermum				1 filament/mL
6/11/2019	Silverwood Outlet	1 m		nr	Aphanizomenon cf. flos-aquae/kelebahni				1 filament/mL
6/11/2019	Silverwood Cleghorn Swim Beach	surface		nr	Aphanizomenon cf. flos-aquae/kelebahni				1 filament/mL
6/11/2019	Pyramid-Emigrant Landing Swim Beach	surface	MC-CYN-STX-ANTX	ND	Dolichospermum				1 filament/mL
6/11/2019	Pyramid-Angeles Tunnel Inlet	surface	MC	0.51	Gloeotrichia	Microcystis			≥19 filaments/mL
6/11/2019	Pyramid-Angeles Tunnel Inlet	1 m	MC	0.77	Gloeotrichia				1 colony/mL
6/17/2019	Lake Oroville Loafer Creek Swim Beach	surface		nr	Dolichospermum				≥1 filament/mL
6/17/2019	Castaic Outlet	surface		nr	Dolichospermum				≥3 filaments/mL
6/18/2019	Pyramid-Emigrant Landing Swim Beach	surface	MC	ND	Dolichospermum	Gloeotrichia			Dolichospermum (≥1 filament/mL), Gloeotrichia (≥1 colony/mL and loose filaments)
6/18/2019	Pyramid-Angeles Tunnel Inlet	surface	MC	ND	Gloeotrichia	Microcystis			Gloeotrichia (≥11 colonies/mL and loose filaments), Microcystis (≥3 colonies/mL)
6/18/2019	Pyramid-Vaquero Swim Beach	surface	MC	ND	Microcystis				≥1 colony/mL
6/18/2019	Silverwood Outlet	surface		nr	Dolichospermum	Aphanizomenon			Dolichospermum (≥3 filaments/mL), Aphanizomenon (1 filament/mL)
6/18/2019	Silverwood Sawpit Swim Beach	surface		nr	Dolichospermum	Aphanizomenon			Dolichospermum (≥1 filament/mL), Aphanizomenon (≥8 filaments/mL)
6/18/2019	Silverwood Cleghorn Swim Beach	surface		nr	Dolichospermum	Aphanizomenon			Dolichospermum (≥2 filaments/mL), Aphanizomenon (≥1 filament/mL)
6/17/2019	San Luis Basalt Boat Launch	surface	MC	6.38	Microcystis	Dolichospermum	Aphanizomenon flos-aquae/kelebahni		Microcystis spp. (>20 colonies/mL), Dolichospermum spp. (>25 filaments/mL), Aphanizomenon (>150 filaments/mL)
6/19/2019	Lake Oroville - Middle Fork Arm	surface	MC-CYN-STX-ANTX	ND	Dolichospermum	Aphanizomenon cf. flos-aquae/kelebahni			Top of MF bloom. Dolichospermum spp. (>100 filaments/mL; 3 species), Aphanizomenon (≥4 filaments/mL)
6/19/2019	Lake Oroville - Middle Fork Arm	surface	MC-CYN-STX-ANTX	ND	Dolichospermum	Aphanizomenon flos-aquae/kelebahni			Middle of MF bloom. Dolichospermum spp. (>200 filaments/mL; 4 species), Aphanizomenon (≥1 fascicle/mL)
6/24/2019	Lake Del Valle	1 m	CYN-STX-ANTX	ND	cf. Chrysochlorum				≥10 partial filaments/mL

6/24/2019	Clifton Court Forebay	~10-15 ft		nr	Dolichospermum					1 partial filament/mL
6/24/2019	Lake Oroville - Middle Fork Arm	surface	MC-CYN-STX-ANTX	ND	Dolichospermum	Dolichospermum crassum	Aphanizomenon cf. flos-aquae/klebahnii			Top of bloom. Dolichospermum spp. (>35 filaments/mL; 3 species including D. crassum), Aphanizomenon (>100 filaments/mL)
6/24/2019	Lake Oroville - Middle Fork Arm	surface	MC-CYN-STX-ANTX	ND	Dolichospermum	Dolichospermum crassum	Aphanizomenon flos-aquae/klebahnii			Middle of bloom. Dolichospermum spp. (>300 filaments/mL, 3 species including D. crassum), Aphanizomenon (>20 filaments/mL)
6/24/2019	Lake Oroville- North Fork Arm	surface	MC-CYN-STX-ANTX	ND	Dolichospermum	Dolichospermum crassum				Top of bloom. Dolichospermum spp. (>75 filaments/mL; 3 species including D. crassum)
6/24/2019	Lake Oroville- North Fork Arm	surface	MC-CYN-STX-ANTX	ND	Dolichospermum	Dolichospermum crassum	Aphanizomenon flos-aquae/klebahnii			Middle of bloom. Dolichospermum spp. (>300 filaments/mL, 3 species including D. crassum), Aphanizomenon (>50 filaments/mL)
6/24/2019	Lake Oroville Loafer Creek Swim Beach	surface	MC-CYN-STX-ANTX	ND	Dolichospermum					≥5 filaments/mL
6/24/2019	Lake Oroville near Dam	surface	MC-CYN-STX-ANTX	ND	Dolichospermum					≥6 filaments/mL
6/24/2019	San Luis Basalt Boat Launch	surface	MC	2.38	Microcystis	Dolichospermum	Woronichinia naegeliana	Aphanizomenon flos-aquae/klebahnii		Microcystis spp. (>30 colonies/mL), Dolichospermum (>25 filaments/mL), Woronichinia (1 colony/mL), Aphanizomenon (>100 filaments/mL)
6/24/2019	Perris Swim Beach	surface	MC	0.39	Microcystis					≥5 colonies/mL
6/24/2019	Perris Moreno Swim Beach	surface	MC	0.82	Microcystis					≥5 colonies/mL
6/25/2019	Silverwood Outlet	1 m		nr	Dolichospermum					≥4 filaments/mL
6/25/2019	Silverwood Sawpit Swim Beach	surface		nr	Dolichospermum					≥2 filaments/mL
6/24/2019	Castaic Outlet	surface		nr	Dolichospermum					≥5 filaments/mL
6/24/2019	Castaic Outlet	1 m		nr	Dolichospermum					≥2 filaments/mL
6/25/2019	Pyramid-Angeles Tunnel Inlet	surface	MC	ND	Gloeotrichia					≥1 colony/mL
6/25/2019	Pyramid-Vaquero Swim Beach	surface	MC	ND	Microcystis	Dolichospermum				Microcystis (≥4 colonies/mL), Dolichospermum (≥4 filaments/mL)
7/1/2019	Lake Oroville- North Fork Arm	surface		nr	Dolichospermum	Dolichospermum crassum				Middle of bloom. Dolichospermum spp. (>100 filaments/mL; 3 species including D. crassum)
7/1/2019	Lake Oroville Loafer Creek Swim Beach	surface		nr	Dolichospermum					≥10 filaments/mL; 2 species
7/1/2019	Thermalito Afterbay Swim Beach	surface		nr	Dolichospermum					≥1 filament/mL
7/1/2019	Thermalito Forebay Swim Beach	surface		nr	Dolichospermum					≥2 filaments/mL
7/1/2019	San Luis Basalt Boat Launch	surface	MC	7.7	Microcystis	Dolichospermum	Aphanizomenon			Microcystis spp. (>20 colonies/mL), Dolichospermum sp. (≥5 filaments/mL), Aphanizomenon (≥2 filaments/mL)
7/1/2019	Castaic Lake Boat Launch	surface	MC	0.44	Microcystis					1 colony/mL
7/1/2019	Pyramid-Angeles Tunnel Inlet	surface	MC	0.41	Microcystis	Gloeotrichia	Dolichospermum			Microcystis (≥3 colonies/mL), Gloeotrichia (≥3 colonies/mL), Dolichospermum (≥3 filaments/mL)
7/1/2019	Pyramid-Vaquero Swim Beach	surface	MC	0.56	Microcystis	Gloeotrichia	Dolichospermum			Microcystis (≥1 colony/mL), Gloeotrichia (≥1 colony/mL), Dolichospermum (≥1 filament/mL)
7/1/2019	Perris Outlet	1 m		nr	Aphanizomenon					Aphanizomenon ≥5 filaments/mL. Dominant taxon was cf. Botryococcus sp., a green alga (Chlorophyta)
7/1/2019	Perris Swim Beach	surface	MC	1.01	Aphanizomenon	Microcystis	Dolichospermum			Aphanizomenon (≥5 filaments/mL), Microcystis (≥4 colonies/mL), Dolichospermum (≥3 filaments/mL). Dominant taxon was cf. Botryococcus sp., a green alga (Chlorophyta)
7/1/2019	Perris Moreno Swim Beach	surface	MC	ND	Microcystis					Microcystis (≥1 colony/mL). The dominant taxon was cf. Botryococcus sp., a green alga (Chlorophyta)
7/1/2019	Silverwood Outlet	surface		nr	Aphanizomenon					≥1 filament/mL
7/1/2019	Silverwood Outlet	1 m		nr	Dolichospermum					≥1 filament/mL
7/1/2019	Silverwood Sawpit Swim Beach	surface		nr	Dolichospermum					≥4 filaments/mL
7/1/2019	Silverwood Cleghorn Swim Beach	surface		nr	Dolichospermum					≥1 filament/mL
7/9/2019	Lake Oroville Loafer Creek Swim Beach			nr	Dolichospermum					≥4 filaments/mL; 2 species.
7/9/2019	Banks PP			nr	Microcystis					≥5 colony/mL
7/9/2019	Clifton Court Forebay		MC	ND	Aphanizomenon flos-aquae/klebahnii					1 fascicle/mL
7/9/2019	Dyer Res		MC	ND	Microcystis					≥1 colony/mL
7/9/2019	O'Neill Forebay Boat Launch		MC	ND	Microcystis					≥5 colonies/mL
7/9/2019	San Luis Basalt Boat Launch		MC	8.8	Microcystis	Woronichinia naegeliana	Dolichospermum	Aphanizomenon		Microcystis spp. (>25 colonies/mL), Woronichinia (>25 colonies/mL), Dolichospermum sp. (≥5 filaments/mL), Aphanizomenon (≥2 filaments/mL)
7/9/2019	Gianelli PP			nr	Aphanizomenon					1 filament/mL
7/9/2019	Pyramid-Angeles Tunnel Inlet	surface	MC	0.76	Microcystis	Gloeotrichia	Dolichospermum			Microcystis (≥1 colonies/mL), Gloeotrichia (≥1 colonies/mL), Dolichospermum (≥1 filaments/mL)
7/9/2019	Pyramid-Angeles Tunnel Inlet	1 m	MC	0.91	Microcystis	Gloeotrichia	Dolichospermum			Microcystis (≥2 colonies/mL), Gloeotrichia (≥1 colonies/mL), Dolichospermum (≥2 filaments/mL)
7/9/2019	Pyramid-Vaquero Swim Beach		MC	1.3	Microcystis	Gloeotrichia	Dolichospermum			Microcystis (≥1 colony/mL), Gloeotrichia (≥4 colonies/mL), Dolichospermum (≥2 filaments/mL)
7/9/2019	Pyramid-Emigrant Landing Swim Beach		MC	ND	Microcystis	Gloeotrichia				Microcystis (≥2 colonies/mL), Gloeotrichia (≥2 colonies/mL)
7/8/2019	Castaic Outlet	surface	MC	0.91	Microcystis					≥10 colony/mL
7/8/2019	Castaic Outlet	1 m	MC	0.98	Microcystis					≥2 colony/mL
7/8/2019	Castaic Lake Boat Launch		MC	0.93	Microcystis					≥3 colony/mL
7/8/2019	Castaic Lagoon Swim Beach		MC-CYN-STX-ANTX	ND	Dolichospermum					≥2 filaments/mL
7/9/2019	Silverwood Outlet	surface	MC-CYN-STX-ANTX	ND	Dolichospermum					≥10 filaments/mL
7/9/2019	Silverwood Sawpit Swim Beach	surface		nr	Dolichospermum					≥1 filament/mL
7/9/2019	Silverwood Cleghorn Swim Beach	surface	MC	1.38	Dolichospermum					≥10 filaments/mL
7/9/2019	Silverwood Cleghorn Swim Beach	surface	CYN-STX-ANTX	ND	Dolichospermum					≥10 filaments/mL
7/8/2019	Perris Outlet	surface		nr	Dolichospermum					2 partial filaments/mL
7/15/2019	Lake Oroville Loafer Creek Swim Beach	surface		nr	Dolichospermum					≥6 partial filaments/mL; 2 species
7/15/2019	O'Neill Forebay Boat Launch	surface	MC	ND	Microcystis					≥2 colonies/mL
7/15/2019	San Luis Basalt Boat Launch	surface	MC	21.5	Microcystis	Woronichinia naegeliana	Dolichospermum	Aphanizomenon flos-aquae/klebahnii		Microcystis spp. (>50 colonies/mL), Woronichinia (1 colony/mL), Dolichospermum spp. (≥15 filaments/mL), Aphanizomenon (≥100 filaments/mL)
7/15/2019	Castaic Outlet	surface	MC	2.28	Microcystis					>5 colonies/mL
7/15/2019	Castaic Lake Boat Launch	surface	MC	2.88	Microcystis					>5 colonies/mL
7/16/2019	Pyramid-Emigrant Landing Swim Beach	surface	MC	0.53	Microcystis	Dolichospermum	Gloeotrichia			Microcystis (≥2 colonies/mL), Dolichospermum (≥2 filaments/mL), Gloeotrichia (≥2 colonies/mL)
7/16/2019	Pyramid-Angeles Tunnel Inlet	surface	MC	5.38	Microcystis	Woronichinia naegeliana	Gloeotrichia	Dolichospermum		Microcystis (>15 colonies/mL), Woronichinia (≥1 colony/mL), Gloeotrichia (>10 colonies/mL), Dolichospermum (≥2 filaments/mL)
7/16/2019	Pyramid-Vaquero Swim Beach	surface	MC	3.93	Microcystis	Gloeotrichia				Microcystis (>10 colonies/mL), Gloeotrichia (≥2 colonies/mL)
7/15/2019	Perris Outlet	surface		nr	Dolichospermum					≥1 filament/mL

7/15/2019	Perris Swim Beach	surface		nr	Dolichospermum						≥1 filament/mL
7/16/2019	Silverwood Outlet	surface	MC	1.70	Dolichospermum		Microcystis				Dolichospermum (≥5 filaments/mL), Microcystis (1 colony/mL)
7/16/2019	Silverwood Sawpit Swim Beach	surface	MC	30.8	Dolichospermum		Microcystis				Dolichospermum (≥2 filaments/mL), Microcystis spp. (>25 colonies/mL)
7/16/2019	Silverwood Cleghorn Swim Beach	surface	MC	2.05	Microcystis						≥1 colony/mL
7/22/2019	Lake Oroville near Dam	surface		nr	Dolichospermum						1 broken filament/mL
7/23/2019	Dyer Res	1 m		nr	Aphanizomenon						≥1 filament/mL
7/23/2019	Lake Del Valle	1 m		nr	Aphanizomenon						≥2 filaments/mL
7/22/2019	San Luis Pacheco PP	~170-230 ft	MC	0.52	Microcystis		Woronichinia naegeliana				Microcystis spp. (≥7 colonies/mL), Woronichinia (1 colony/mL)
7/22/2019	O'Neill Forebay Boat Launch	surface	MC	ND	Microcystis						≥5 colonies/mL
7/22/2019	San Luis Basalt Boat Launch	surface	MC	21.1	Microcystis		Dolichospermum		Aphanizomenon flos-aquae/klebahinii		Microcystis spp. (>100 colonies/mL), Dolichospermum (≥15 filaments/mL), Aphanizomenon (≥150 filaments/mL)
7/22/2019	Perris Outlet	surface		nr	Dolichospermum						≥1 filament/mL
7/22/2019	Perris Swim Beach	surface		nr	Dolichospermum						≥1 filament/mL
7/23/2019	Silverwood Outlet	surface	MC	0.33	Microcystis						≥2 colonies/mL
7/23/2019	Silverwood Outlet	1 m	MC	ND	Dolichospermum						≥1 filament/mL
7/23/2019	Silverwood Sawpit Swim Beach	surface	MC	92.0	Dolichospermum		Microcystis				Dolichospermum (≥5 filaments/mL), Microcystis spp. (>60 colonies/mL)
7/23/2019	Silverwood Cleghorn Swim Beach	surface	MC	2.87	Microcystis						≥2 colonies/mL
7/22/2019	Castaic Outlet	surface	MC	2.36	Microcystis		Dolichospermum				Microcystis (≥2 colonies/mL), Dolichospermum (≥1 filament/mL)
7/22/2019	Castaic Outlet	1 m	MC	2.34	Microcystis						≥2 colonies/mL
7/22/2019	Castaic Lake Boat Launch	surface	MC	2.03	Microcystis						>5 colonies/mL
7/23/2019	Pyramid-Emigrant Landing Swim Beach	surface	MC	ND	Microcystis		Dolichospermum		Gloeotrichia		Microcystis (≥1 colony/mL), Dolichospermum (≥1 filament/mL), Gloeotrichia (1 colony/mL)
7/23/2019	Pyramid-Angeles Tunnel Inlet	surface	MC	5.0	Microcystis		Woronichinia naegeliana		Gloeotrichia		Dolichospermum
7/23/2019	Pyramid-Angeles Tunnel Inlet	1 m	MC	7.4	Microcystis		Gloeotrichia				Dolichospermum
7/23/2019	Pyramid-Vaquero Swim Beach	surface	MC	3.50	Microcystis		Gloeotrichia				Dolichospermum
7/29/2019	Thermalito Forebay Swim Beach	surface	MC	ND	Trichodesmium						
7/29/2019	Thermalito Afterbay Swim Beach	surface		nr	Trichodesmium						
7/29/2019	Lake Oroville Loafer Creek Swim Beach	surface		nr	Dolichospermum						
7/29/2019	San Luis Pacheco PP	~170-230 ft	MC	ND	none observed						
7/29/2019	San Luis Basalt Boat Launch	surface	MC	20.1	Microcystis		Dolichospermum		Aphanizomenon cf. flos-aquae/klebahinii		Microcystis (>100 colonies/mL), Dolichospermum (≥15 filaments/mL), Aphanizomenon (≥20 filaments/mL)
7/29/2019	O'Neill Forebay Boat Launch	surface		nr	Aphanizomenon						
7/29/2019	Castaic Outlet	surface	MC	0.78	Microcystis		Dolichospermum				≥2 filaments/mL
7/29/2019	Castaic Lake Boat Launch	surface	MC	0.46	none observed						Microcystis (≥2 colonies/mL), Dolichospermum (≥1 filament/mL)
7/30/2019	Pyramid-Angeles Tunnel Inlet	surface	MC	13.6	Microcystis		Woronichinia naegeliana		Gloeotrichia		Aphanizomenon
7/30/2019	Pyramid-Vaquero Swim Beach	surface	MC	5.00	Microcystis		Gloeotrichia				Dolichospermum
7/30/2019	Silverwood Miller Canyon Arm	surface	MC	1.20	Microcystis						
7/30/2019	Silverwood Outlet	surface	MC	ND	Microcystis		Aphanizomenon				
7/30/2019	Silverwood Outlet	1 m		nr	Aphanizomenon						
7/30/2019	Silverwood Sawpit Swim Beach	surface	MC	7.48	Microcystis		Dolichospermum				
7/30/2019	Silverwood Cleghorn Swim Beach	surface	MC	11.8	Microcystis		Aphanizomenon				Dolichospermum
7/30/2019	Silverwood Midlake Channel Upstream of Sawpit	surface	MC	6.33	Microcystis		Aphanizomenon				
8/6/2019	Silverwood Outlet	surface	MC	1.12	Microcystis						
8/6/2019	Silverwood Sawpit Swim Beach	surface	MC	2.00	Microcystis						
8/6/2019	Silverwood Cleghorn Swim Beach	surface	MC	ND	Microcystis						
8/5/2019	Thermalito Forebay Swim Beach	surface	MC	ND	Gloeotrichia						
8/5/2019	O'Neill Forebay Boat Launch	surface	MC-CYN-STX-ANTX	ND	Aphanizomenon flos-aquae/klebahinii		Microcystis				
8/5/2019	San Luis Basalt Boat Launch	surface	MC	100	Microcystis		Woronichinia naegeliana		Dolichospermum		Aphanizomenon flos-aquae/klebahinii
8/5/2019	San Luis Basalt Boat Launch	surface	CYN-STX-ANTX	ND	Microcystis		Woronichinia naegeliana		Dolichospermum		Aphanizomenon flos-aquae/klebahinii
8/7/2019	Silverwood Miller Canyon Arm	surface	MC	ND	Aphanizomenon						
8/7/2019	Silverwood Midlake Channel Upstream of Sawpit	surface	MC	ND	none observed						
8/5/2019	Castaic Outlet	surface	MC	0.32	Gloeotrichia		Dolichospermum				
8/5/2019	Castaic Lake Boat Launch	surface	MC	0.45	Microcystis		Gloeotrichia				Dolichospermum
8/6/2019	Pyramid-Emigrant Landing Swim Beach	surface	MC	1.41	Microcystis		Woronichinia naegeliana		Gloeotrichia		Aphanizomenon flos-aquae/klebahinii
8/6/2019	Pyramid-Angeles Tunnel Inlet	surface	MC	2.63	Microcystis		Woronichinia naegeliana		Gloeotrichia		Aphanizomenon
8/6/2019	Pyramid-Vaquero Swim Beach	surface	MC	1.93	Microcystis		Gloeotrichia		Aphanizomenon		Dolichospermum
8/12/2019	San Luis Pacheco PP	~170-230 ft	MC	0.69	Microcystis						

8/12/2019	O'Neill Forebay Boat Launch	surface	MC	ND	Microcystis	Dolichospermum						Microcystis sp. (≥5 colonies/mL), Dolichospermum (≥1 filament/mL)
8/12/2019	San Luis Basalt Boat Launch	surface	MC	40.8	Microcystis	Woronichinia naegeliana	Dolichospermum	Aphanizomenon flos-aquae/klebahnii				Microcystis spp. (>75 colonies/mL), Woronichinia (≥5 colonies/mL), Dolichospermum (≥15 filaments/mL), Aphanizomenon (≥60 filaments/mL)
8/12/2019	Castaic Outlet	surface	MC	0.52	Gloeotrichia	Microcystis						Gloeotrichia (≥1 colony/mL), Microcystis (≥2 colonies/mL)
8/12/2019	Castaic Outlet	1 m	MC	0.59	Gloeotrichia	Microcystis						Gloeotrichia (≥1 colony/mL), Microcystis (≥1 colony/mL)
8/12/2019	Castaic Lake Boat Launch	surface	MC	0.41	Gloeotrichia	Microcystis						Gloeotrichia (≥1 colony/mL), Microcystis (≥3 colonies/mL)
8/12/2019	Castaic Lagoon Swim Beach	surface	CYN-STX-ANTX	ND	Cyanophyte filament(s)	Nostoclean filament(s)	Raphidiopsis raciborskii					Cyanophyte filaments (2 filaments/mL), nostoclean filaments resembling Chrysochlorum (≥4 filaments/mL), Raphidiopsis (≥4 filaments/mL)
8/13/2019	Pyramid-Emigrant Landing Swim Beach	surface	MC	4.0	Microcystis	Woronichinia naegeliana	Gloeotrichia	Aphanizomenon	Planktothrix	Dolichospermum		Microcystis sp. (>25 colonies/mL), Woronichinia (≥2 colonies/mL), Gloeotrichia (≥2 colonies/mL), Aphanizomenon (>5 filaments/mL), Planktothrix (1 filament/mL), Dolichospermum spp. (>100 filaments/mL, 2 species)
8/13/2019	Pyramid-Emigrant Landing Swim Beach	surface	CYN-STX-ANTX	ND	Microcystis	Woronichinia naegeliana	Gloeotrichia	Aphanizomenon	Planktothrix	Dolichospermum		Microcystis sp. (>25 colonies/mL), Woronichinia (≥2 colonies/mL), Gloeotrichia (≥2 colonies/mL), Aphanizomenon (>5 filaments/mL), Planktothrix (1 filament/mL), Dolichospermum spp. (>100 filaments/mL, 2 species)
8/13/2019	Pyramid-Angeles Tunnel Inlet	surface	MC	4.4	Microcystis	Woronichinia naegeliana	Gloeotrichia	Dolichospermum				Microcystis spp. (>25 colonies/mL), Woronichinia (≥2 colonies/mL), Gloeotrichia (≥2 colonies/mL), Dolichospermum (≥30 filaments/mL)
8/13/2019	Pyramid-Angeles Tunnel Inlet	surface	CYN-STX-ANTX	ND	Microcystis	Woronichinia naegeliana	Gloeotrichia	Dolichospermum				Microcystis spp. (>25 colonies/mL), Woronichinia (≥2 colonies/mL), Gloeotrichia (≥2 colonies/mL), Dolichospermum (≥30 filaments/mL)
8/13/2019	Pyramid-Angeles Tunnel Inlet	1 m	MC	3.2	Microcystis	Woronichinia naegeliana	Gloeotrichia	Aphanizomenon	Dolichospermum			Microcystis spp. (>25 colonies/mL), Woronichinia (≥1 colony/mL), Gloeotrichia (≥1 colony/mL), Aphanizomenon (1 filament/mL), Dolichospermum (≥20 filaments/mL)
8/13/2019	Pyramid-Vaquero Swim Beach	surface	MC	2.0	Microcystis	Gloeotrichia	Aphanizomenon flos-aquae/klebahnii	Dolichospermum				Microcystis spp. (≥10 colonies/mL), Gloeotrichia (≥1 colony/mL), Aphanizomenon (>50 filaments/mL), Dolichospermum (>35 filaments/mL)
8/13/2019	Pyramid-Vaquero Swim Beach	surface	CYN-STX-ANTX	ND	Microcystis	Gloeotrichia	Aphanizomenon flos-aquae/klebahnii	Dolichospermum				Microcystis spp. (≥10 colonies/mL), Gloeotrichia (≥1 colony/mL), Aphanizomenon (>50 filaments/mL), Dolichospermum (>35 filaments/mL)
8/13/2019	Silverwood Outlet	surface		nr	Aphanizomenon flos-aquae/klebahnii							≥1 fascicle/mL
8/13/2019	Silverwood Cleghorn Swim Beach	surface	MC	2.24	Microcystis	Dolichospermum						Microcystis (≥4 colonies/mL), Dolichospermum (>1 filament/mL)
8/13/2019	Thermalito Afterbay Swim Beach	surface	MC-CYN-STX-ANTX	ND	Phormidium/Microcoleus	Dolichospermum						Phormidium/Microcoleus (2 filaments/mL), Dolichospermum (2 filaments/mL)
8/12/2019	Banks PP	~10-15 ft	MC	ND	Aphanizomenon	Microcystis						Aphanizomenon (≥10 filaments/mL), Microcystis (≥3 colonies/mL)
8/12/2019	Clifton Court Forebay	~10-15 ft	MC	ND	Aphanizomenon	Dolichospermum	Microcystis					Aphanizomenon (≥1 filament/mL), Dolichospermum (≥1 filament/mL), Microcystis (≥3 colonies/mL)
8/12/2019	Dyer Res	1 m		nr	Dolichospermum	Aphanizomenon						Dolichospermum (≥1 filament/mL), Aphanizomenon (≥3 filaments/mL)
8/20/2019	Thermalito Forebay Swim Beach	surface		nr	Trichodesmium							≥4 filaments/mL
8/20/2019	Thermalito Afterbay Swim Beach	surface		nr	Phormidium/Microcoleus							≥1 filament/mL
8/19/2019	Castaic Outlet	surface	MC	3.72*	Gloeotrichia	Microcystis					Analyte was positively identified; the associated numerical value is estimated.	Gloeotrichia (loose filaments), Microcystis (≥2 colonies/mL)
8/19/2019	Castaic Lake Boat Launch	surface	MC	1.04	Gloeotrichia	Microcystis						Gloeotrichia (loose filaments), Microcystis (≥1 colony/mL)
8/19/2019	Castaic Lagoon Swim Beach	surface	MC	ND*	Nostoclean filament(s)						Analytical result is estimated. Values achieved were outside calibration range.	Nostoclean filaments resembling Anabaena ≥10 filaments/mL
8/19/2019	Castaic Lagoon Swim Beach	surface	CYN-STX-ANTX	ND	Nostoclean filament(s)							Nostoclean filaments resembling Anabaena ≥10 filaments/mL
8/19/2019	Pyramid-Emigrant Landing Swim Beach	surface	MC	1.02	Microcystis	Aphanizomenon	Dolichospermum					Microcystis (>10 colonies/mL), Aphanizomenon (≥1 filament/mL), Dolichospermum spp. (>60 filaments/mL; 2 species)
8/19/2019	Pyramid-Angeles Tunnel Inlet	surface	MC	2.88	Microcystis	Woronichinia naegeliana	Aphanizomenon flos-aquae/klebahnii	Gloeotrichia	Dolichospermum			Microcystis spp. (>20 colonies/mL), Woronichinia (≥1 colony/mL), Gloeotrichia (loose filaments), Aphanizomenon (>5 filaments/mL), Dolichospermum (≥45 filaments/mL; 3 species)
8/19/2019	Pyramid-Vaquero Swim Beach	surface	MC	0.68	Microcystis	Gloeotrichia	Aphanizomenon flos-aquae/klebahnii	Dolichospermum				Microcystis spp. (≥15 colonies/mL), Gloeotrichia (loose filaments), Aphanizomenon (>10 filaments/mL), Dolichospermum spp. (>40 filaments/mL; 3 species)
8/20/2019	NBA Barker SI PP	~10-15 ft	MC	ND	Phormidium/Microcoleus							6 filaments/mL
8/20/2019	NBA Barker SI PP	~10-15 ft	ANTX-A	ND	Phormidium/Microcoleus							6 filaments/mL
8/19/2019	San Luis Pacheco PP	~170-230 ft	MC	0.91	Microcystis							≥4 colonies/mL
8/19/2019	O'Neill Forebay Boat Launch	surface	MC	ND	Microcystis	Dolichospermum	Aphanizomenon flos-aquae/klebahnii					Microcystis (≥2 colonies/mL), Dolichospermum (≥1 filament/mL), Aphanizomenon (≥2 filaments/mL)
8/19/2019	San Luis Basalt Boat Launch	surface	MC	24.9	Microcystis	Dolichospermum	Aphanizomenon flos-aquae/klebahnii					Microcystis (>25 colonies/mL), Dolichospermum (≥1 filament/mL), Aphanizomenon (≥100 filaments/mL)
8/21/2019	Silverwood Sawpit Swim Beach	surface	MC	0.71	Microcystis							Microcystis (≥2 colonies/mL)
8/21/2019	Silverwood Cleghorn Swim Beach	surface	MC	18.7*	Microcystis	Aphanizomenon flos-aquae/klebahnii					Analyte was positively identified; the associated numerical value is estimated.	Aphanizomenon (≥25 filaments/mL), Microcystis (≥10 colonies/mL)
8/26/2019	Banks PP	~10-15 ft	MC	ND	Microcystis							≥4 colonies/mL
8/26/2019	Clifton Court Forebay	~10-15 ft	MC	ND	Microcystis	Aphanizomenon	Dolichospermum					Microcystis (≥5 colonies/mL), Aphanizomenon (≥1 filament/mL), Dolichospermum (≥1 filament/mL)
8/26/2019	Dyer Res	1 m	MC	ND	Microcystis	Aphanizomenon						Microcystis (≥2 colonies/mL), Aphanizomenon (≥1 filament/mL)
8/27/2019	San Luis Pacheco PP	~170-230 ft	MC	0.94	none observed							
8/27/2019	O'Neill Forebay Boat Launch	surface	MC	ND	Microcystis	Aphanizomenon						Microcystis (≥8 colonies/mL), Aphanizomenon (≥10 filaments/mL)
8/27/2019	San Luis Basalt Boat Launch	surface	MC	39	Microcystis	Aphanizomenon flos-aquae/klebahnii						Microcystis (>150 colonies/mL), Aphanizomenon (≥20 filaments/mL)
8/26/2019	Lake Oroville- North Fork Arm	surface	MC-CYN-STX-ANTX	ND	Dolichospermum	Aphanizomenon flos-aquae/klebahnii						Dolichospermum (>60 partial filaments/mL), Aphanizomenon (1 fascicle/mL)



8/26/2019	Lake Oroville near Dam	surface		nr	Dolichospermum					≥5 filaments/mL
8/26/2019	Castaic Outlet	surface	MC	ND	none observed					
8/26/2019	Castaic Outlet	1 m	MC	0.50	Microcystis					≥1 colony/mL
8/26/2019	Castaic Lake Boat Launch	surface	MC	0.88	Microcystis					≥1 colony/mL
8/26/2019	Castaic Lagoon Swim Beach	surface	CYN-STX-ANTX	ND	Chrysochlorium	Aphanizomenon/Sphaerospermopsis	Raphidiopsis raciborskii			Chrysochlorium (≥3 filaments/mL), Aphanizomenon/Sphaerospermopsis (≥5 filaments/mL), Raphidiopsis (>150 filaments/mL)
8/26/2019	Pyramid-Emigrant Landing Swim Beach	surface	MC	0.57	Microcystis	Cuspidothrix	Dolichospermum			Microcystis spp. (>10 colonies/mL), Cuspidothrix (≥2 filaments/mL), Dolichospermum spp. (>30 filaments/mL; 2 species)
8/26/2019	Pyramid-Emigrant Landing Swim Beach	surface	CYN-STX-ANTX	ND	Microcystis	Cuspidothrix	Dolichospermum			Microcystis spp. (>10 colonies/mL), Cuspidothrix (≥2 filaments/mL), Dolichospermum spp. (>30 filaments/mL; 2 species)
8/26/2019	Pyramid-Angeles Tunnel Inlet	surface	MC	2.40	Microcystis	Gloeotrichia	Cuspidothrix	Dolichospermum		Microcystis spp. (>50 colonies/mL), Gloeotrichia (≥2 filaments/mL) Cuspidothrix (≥5 filaments/mL), Dolichospermum spp. (≥10 filaments/mL; 2 species)
8/26/2019	Pyramid-Angeles Tunnel Inlet	surface	CYN-STX-ANTX	ND	Microcystis	Gloeotrichia	Cuspidothrix	Dolichospermum		Microcystis spp. (>50 colonies/mL), Gloeotrichia (≥2 filaments/mL) Cuspidothrix (≥5 filaments/mL), Dolichospermum spp. (≥10 filaments/mL; 2 species)
8/26/2019	Pyramid-Angeles Tunnel Inlet	1 m	MC	2.45	Microcystis	Aphanizomenon	Cuspidothrix	Dolichospermum		Microcystis spp. (>20 colonies/mL), Aphanizomenon (≥2 filaments/mL) Cuspidothrix (≥17 filaments/mL), Dolichospermum spp. (≥5 filaments/mL; 2 species)
8/26/2019	Pyramid-Angeles Tunnel Inlet	1 m	CYN-STX-ANTX	ND	Microcystis	Aphanizomenon	Cuspidothrix	Dolichospermum		Microcystis spp. (>20 colonies/mL), Aphanizomenon (≥2 filaments/mL) Cuspidothrix (≥17 filaments/mL), Dolichospermum spp. (≥5 filaments/mL; 2 species)
8/26/2019	Pyramid-Vaquero Swim Beach	surface	MC	1.85	Microcystis	Aphanizomenon flos-aquae/lebahonii	Cuspidothrix	Dolichospermum		Microcystis spp. (≥10 colonies/mL), Aphanizomenon (>150 filaments/mL) Cuspidothrix (≥5 filaments/mL), Dolichospermum spp. (>100 filaments/mL; 3 species)
8/26/2019	Pyramid-Vaquero Swim Beach	surface	CYN-STX-ANTX	ND	Microcystis	Aphanizomenon flos-aquae/lebahonii	Cuspidothrix	Dolichospermum		Microcystis spp. (≥10 colonies/mL), Aphanizomenon (>150 filaments/mL) Cuspidothrix (≥5 filaments/mL), Dolichospermum spp. (>100 filaments/mL; 3 species)
8/26/2019	Perris Outlet	surface	MC	ND	Woronichinia naegeliana					1 colony/mL
8/26/2019	Perris Swim Beach	surface	MC	ND	Woronichinia naegeliana					≥5 colonies/mL
8/27/2019	Silverwood Outlet	surface		nr	Aphanizomenon flos-aquae/lebahonii					≥1 fascicle/mL
8/27/2019	Silverwood Sawpit Swim Beach	surface	MC	4.9	Microcystis	Dolichospermum	Aphanizomenon			Microcystis (≥7 colonies/mL), Dolichospermum spp. (>2 filaments/mL; 2 species), Aphanizomenon (≥2 filaments/mL)
8/27/2019	Silverwood Cleghorn Swim Beach	surface	MC	7.7	Microcystis	Aphanizomenon				Microcystis (≥3 colonies/mL), Aphanizomenon (>1 filament/mL)
9/3/2019	Lake Oroville- North Fork Arm	surface		nr	Dolichospermum	Aphanizomenon				Dolichospermum (>60 partial filaments/mL), Aphanizomenon (2 filaments/mL)
9/4/2019	Castaic Outlet	surface	MC	0.50	Microcystis					≥2 colonies/mL
9/4/2019	Castaic Lake Boat Launch	surface	MC	ND	none observed					
9/4/2019	Castaic Lagoon Swim Beach	surface	CYN	0.05	Raphidiopsis raciborskii	Aphanizomenon cf. gracile				Raphidiopsis (>300 filaments/mL), Aphanizomenon (≥2 filaments/mL)
9/4/2019	Castaic Lagoon Swim Beach	surface	ANTX-STX	ND	Raphidiopsis raciborskii	Aphanizomenon cf. gracile				Raphidiopsis (>300 filaments/mL), Aphanizomenon (≥2 filaments/mL)
9/4/2019	Pyramid-Emigrant Landing Swim Beach	surface	MC	ND	Microcystis	Cuspidothrix	Aphanizomenon	Planktothrix	Dolichospermum	Microcystis spp. (>6 colonies/mL), Cuspidothrix (≥3 filaments/mL), Aphanizomenon (≥1 filament/mL), Planktothrix (≥1 filament/mL), Dolichospermum spp. (>10 filaments/mL; 2 species)
9/4/2019	Pyramid-Angeles Tunnel Inlet	surface	MC	1.15	Microcystis	Aphanizomenon flos-aquae/lebahonii	Cuspidothrix	Woronichinia naegeliana	Dolichospermum	Microcystis spp. (>25 colonies/mL), Aphanizomenon (>30 filaments/mL) Cuspidothrix (≥4 filaments/mL), Woronichinia (1 colony/mL), Dolichospermum spp. (≥100 filaments/mL; 3 species)
9/4/2019	Pyramid-Angeles Tunnel Inlet	surface	STX	0.15	Microcystis	Aphanizomenon flos-aquae/lebahonii	Cuspidothrix	Woronichinia naegeliana	Dolichospermum	Microcystis spp. (>25 colonies/mL), Aphanizomenon (>30 filaments/mL) Cuspidothrix (≥4 filaments/mL), Woronichinia (1 colony/mL), Dolichospermum spp. (≥100 filaments/mL; 3 species)
9/4/2019	Pyramid-Angeles Tunnel Inlet	surface	CYN-ANTX	ND	Microcystis	Aphanizomenon flos-aquae/lebahonii	Cuspidothrix	Woronichinia naegeliana	Dolichospermum	Microcystis spp. (>25 colonies/mL), Aphanizomenon (>30 filaments/mL) Cuspidothrix (≥4 filaments/mL), Woronichinia (1 colony/mL), Dolichospermum spp. (≥100 filaments/mL; 3 species)
9/4/2019	Pyramid-Vaquero Swim Beach	surface	MC	1.13	Microcystis	Aphanizomenon flos-aquae/lebahonii	Cuspidothrix	Woronichinia naegeliana	Dolichospermum	Microcystis spp. (≥35 colonies/mL), Aphanizomenon (>15 filaments/mL) Cuspidothrix (≥6 filaments/mL), Woronichinia (≥2 colonies/mL), Dolichospermum spp. (>140 filaments/mL; 3 species)
9/4/2019	Pyramid-Vaquero Swim Beach	surface	STX	0.16	Microcystis	Aphanizomenon flos-aquae/lebahonii	Cuspidothrix	Woronichinia naegeliana	Dolichospermum	Microcystis spp. (≥35 colonies/mL), Aphanizomenon (>15 filaments/mL) Cuspidothrix (≥6 filaments/mL), Woronichinia (≥2 colonies/mL), Dolichospermum spp. (>140 filaments/mL; 3 species)
9/4/2019	Pyramid-Vaquero Swim Beach	surface	CYN-ANTX	ND	Microcystis	Aphanizomenon flos-aquae/lebahonii	Cuspidothrix	Woronichinia naegeliana	Dolichospermum	Microcystis spp. (≥35 colonies/mL), Aphanizomenon (>15 filaments/mL) Cuspidothrix (≥6 filaments/mL), Woronichinia (≥2 colonies/mL), Dolichospermum spp. (>140 filaments/mL; 3 species)
9/4/2019	Silverwood Outlet	surface	MC	ND	Microcystis					≥1 colony/mL
9/4/2019	Silverwood Sawpit Swim Beach	surface	MC	0.82	Microcystis					≥1 colony/mL
9/4/2019	Silverwood Cleghorn Swim Beach	surface	MC	3.70	Microcystis	Dolichospermum				Microcystis (>30 colonies/mL), Dolichospermum (≥2 filaments/mL)
9/3/2019	San Luis Pacheco PP	~170-230 ft	MC	0.45	none observed					≥5 colonies/mL
9/3/2019	O'Neill Forebay Boat Launch	surface	MC	ND	Microcystis					Microcystis (>100 colonies/mL), Aphanizomenon (≥20 filaments/mL)
9/3/2019	San Luis Basalt Boat Launch	surface	MC	33.8	Microcystis	Aphanizomenon flos-aquae/lebahonii				2 colonies/mL
9/9/2019	San Luis Pacheco PP	~170-230 ft	MC	0.91	Microcystis					Microcystis (>90 colonies/mL), Aphanizomenon (≥50 filaments/mL)
9/9/2019	San Luis Basalt Boat Launch	surface	MC	31.7	Microcystis	Aphanizomenon flos-aquae/lebahonii				≥10 filaments/mL
9/9/2019	Gianelli PP	~5-10 ft		nr	Aphanizomenon					≥10 filaments/mL
9/9/2019	Banks PP	~10-15 ft	MC-CYN-ANTX	ND	Microcystis	Oscillatoria cf. perornata				Microcystis (≥4 colonies/mL), Oscillatoria (≥14 filaments/mL)
9/9/2019	Clifton Court Forebay	~10-15 ft	MC	ND	Aphanizomenon	Microcystis				Aphanizomenon (≥2 filaments/mL), Microcystis (≥3 colonies/mL)

9/9/2019	Dyer Res	1 m		nr	Aphanizomenon flos-aquae/klebahnii	Oscillatoria cf. perornata						Aphanizomenon (≥50 filaments/mL), Microcystis (≥1 filament/mL)
9/9/2019	Castaic Outlet	surface	MC	ND	Dolichospermum							≥1 filament/mL
9/9/2019	Castaic Outlet	1 m	MC	ND	Dolichospermum							≥1 filament/mL
9/9/2019	Castaic Lagoon Swim Beach	surface	CYN	0.06	Raphidiopsis raciborskii	Aphanizomenon						Raphidiopsis (>150 filaments/mL), Aphanizomenon (≥3 filaments/mL)
9/10/2019	Pyramid-Emigrant Landing Swim Beach		STX	0.06	Cuspidothrix	Dolichospermum						Cuspidothrix (≥20 filaments/mL), Dolichospermum (≥3 filaments/mL)
9/10/2019	Pyramid-Angeles Tunnel Inlet	surface	MC	0.82	Microcystis	Aphanizomenon flos-aquae/klebahnii	Planktothrix	Cuspidothrix	Woronichinia naegeliana	Dolichospermum		Microcystis spp. (>30 colonies/mL), Aphanizomenon (>100 filaments/mL), Planktothrix (>6 filaments/mL), Cuspidothrix (≥75 filaments/mL), Woronichinia (1 colony/mL), Dolichospermum spp. (≥60 filaments/mL; 2 species)
9/10/2019	Pyramid-Angeles Tunnel Inlet	surface	CYN	ND	Microcystis	Aphanizomenon flos-aquae/klebahnii	Planktothrix	Cuspidothrix	Woronichinia naegeliana	Dolichospermum		Microcystis spp. (>30 colonies/mL), Aphanizomenon (>100 filaments/mL), Planktothrix (>6 filaments/mL), Cuspidothrix (≥75 filaments/mL), Woronichinia (1 colony/mL), Dolichospermum spp. (≥60 filaments/mL; 2 species)
9/10/2019	Pyramid-Angeles Tunnel Inlet	surface	ANTX-A	0.10	Microcystis	Aphanizomenon flos-aquae/klebahnii	Planktothrix	Cuspidothrix	Woronichinia naegeliana	Dolichospermum		Microcystis spp. (>30 colonies/mL), Aphanizomenon (>100 filaments/mL), Planktothrix (>6 filaments/mL), Cuspidothrix (≥75 filaments/mL), Woronichinia (1 colony/mL), Dolichospermum spp. (≥60 filaments/mL; 2 species)
9/10/2019	Pyramid-Angeles Tunnel Inlet	surface	STX	0.27	Microcystis	Aphanizomenon flos-aquae/klebahnii	Planktothrix	Cuspidothrix	Woronichinia naegeliana	Dolichospermum		Microcystis spp. (>30 colonies/mL), Aphanizomenon (>100 filaments/mL), Planktothrix (>6 filaments/mL), Cuspidothrix (≥75 filaments/mL), Woronichinia (1 colony/mL), Dolichospermum spp. (≥60 filaments/mL; 2 species)
9/10/2019	Pyramid-Angeles Tunnel Inlet	1 m	MC	0.85	Microcystis	Aphanizomenon flos-aquae/klebahnii	Planktothrix	Cuspidothrix	Woronichinia naegeliana	Dolichospermum		Microcystis spp. (>4 colonies/mL), Aphanizomenon (>5 filaments/mL), Planktothrix (>10 filaments/mL), Cuspidothrix (≥100 filaments/mL), Woronichinia (1 colony/mL), Dolichospermum spp. (≥10 filaments/mL; 2 species)
9/10/2019	Pyramid-Angeles Tunnel Inlet	1 m	CYN	ND	Microcystis	Aphanizomenon flos-aquae/klebahnii	Planktothrix	Cuspidothrix	Woronichinia naegeliana	Dolichospermum		Microcystis spp. (>4 colonies/mL), Aphanizomenon (>5 filaments/mL), Planktothrix (>10 filaments/mL), Cuspidothrix (≥100 filaments/mL), Woronichinia (1 colony/mL), Dolichospermum spp. (≥10 filaments/mL; 2 species)
9/10/2019	Pyramid-Angeles Tunnel Inlet	1 m	ANTX-A	0.08	Microcystis	Aphanizomenon flos-aquae/klebahnii	Planktothrix	Cuspidothrix	Woronichinia naegeliana	Dolichospermum		Microcystis spp. (>4 colonies/mL), Aphanizomenon (>5 filaments/mL), Planktothrix (>10 filaments/mL), Cuspidothrix (≥100 filaments/mL), Woronichinia (1 colony/mL), Dolichospermum spp. (≥10 filaments/mL; 2 species)
9/10/2019	Pyramid-Angeles Tunnel Inlet	1 m	STX	0.30	Microcystis	Aphanizomenon flos-aquae/klebahnii	Planktothrix	Cuspidothrix	Woronichinia naegeliana	Dolichospermum		Microcystis spp. (>4 colonies/mL), Aphanizomenon (>5 filaments/mL), Planktothrix (>10 filaments/mL), Cuspidothrix (≥100 filaments/mL), Woronichinia (1 colony/mL), Dolichospermum spp. (≥10 filaments/mL; 2 species)
9/10/2019	Pyramid-Vaquero Swim Beach	surface	MC	0.62	Microcystis	Aphanizomenon flos-aquae/klebahnii	Planktothrix	Cuspidothrix	Woronichinia naegeliana	Dolichospermum		Microcystis spp. (>4 colonies/mL), Aphanizomenon (>5 filaments/mL), Planktothrix (>6 filaments/mL), Cuspidothrix (≥75 filaments/mL), Woronichinia (1 colony/mL), Dolichospermum spp. (≥10 filaments/mL; 2 species)
9/10/2019	Pyramid-Vaquero Swim Beach	surface	CYN	ND	Microcystis	Aphanizomenon flos-aquae/klebahnii	Planktothrix	Cuspidothrix	Woronichinia naegeliana	Dolichospermum		Microcystis spp. (>4 colonies/mL), Aphanizomenon (>5 filaments/mL), Planktothrix (>6 filaments/mL), Cuspidothrix (≥75 filaments/mL), Woronichinia (1 colony/mL), Dolichospermum spp. (≥10 filaments/mL; 2 species)
9/10/2019	Pyramid-Vaquero Swim Beach	surface	ANTX-A	0.05	Microcystis	Aphanizomenon flos-aquae/klebahnii	Planktothrix	Cuspidothrix	Woronichinia naegeliana	Dolichospermum		Microcystis spp. (>4 colonies/mL), Aphanizomenon (>5 filaments/mL), Planktothrix (>6 filaments/mL), Cuspidothrix (≥75 filaments/mL), Woronichinia (1 colony/mL), Dolichospermum spp. (≥10 filaments/mL; 2 species)
9/10/2019	Pyramid-Vaquero Swim Beach	surface	STX	0.28	Microcystis	Aphanizomenon flos-aquae/klebahnii	Planktothrix	Cuspidothrix	Woronichinia naegeliana	Dolichospermum		Microcystis spp. (>4 colonies/mL), Aphanizomenon (>5 filaments/mL), Planktothrix (>6 filaments/mL), Cuspidothrix (≥75 filaments/mL), Woronichinia (1 colony/mL), Dolichospermum spp. (≥10 filaments/mL; 2 species)
9/9/2019	Perris Outlet	1 m		nr	Woronichinia naegeliana							1 colony/mL
9/10/2019	Silverwood Sawpit Swim Beach	surface	MC	2.15	Microcystis	Aphanizomenon						Microcystis (≥5 colonies/mL), Aphanizomenon (≥3 filaments/mL)
9/10/2019	Silverwood Cleghorn Swim Beach	surface	MC	1.00	Microcystis	Dolichospermum						Microcystis (≥1 colony/mL), Dolichospermum (>1 filament/mL)
9/16/2019	San Luis Pacheco PP	~170-230 ft	MC	0.57	none observed							
9/16/2019	San Luis Basalt Boat Launch	surface	MC	51.2	Microcystis	Aphanizomenon flos-aquae/klebahnii						Microcystis (>120 colonies/mL), Aphanizomenon (≥20 filaments/mL)
9/17/2019	NBA Barker SI PP	~10-15 ft	ANTX-A	ND	Phormidium/Microcoleus							10 filaments/mL
9/17/2019	NBA Barker SI PP	~10-15 ft	MC	ND	Phormidium/Microcoleus							10 filaments/mL
9/18/2019	Silverwood Cleghorn Swim Beach	surface	MC	1.09	Microcystis							≥5 colonies/mL
9/18/2019	Silverwood Sawpit Swim Beach	surface	MC	0.79	Microcystis							≥1 colony/mL
9/16/2019	Castaic Outlet	surface	MC	0.55	Woronichinia naegeliana							1 colony/mL
9/16/2019	Castaic Lake Boat Launch	surface	MC	ND	Microcystis	Aphanizomenon						Microcystis (≥2 colonies/mL), Aphanizomenon (1 filament/mL)
9/16/2019	Castaic Lagoon Swim Beach	surface	MC-ANTX-STX	ND	Raphidiopsis	Aphanizomenon/Sphaerospermopsis	Nostoclean filament(s)					Raphidiopsis (>250 filaments/mL), Aphanizomenon/Sphaerospermopsis (≥20 filaments/mL), nostoclean filaments resembling Anabaena (≥1 filament/mL), nostoclean filaments resembling Chrysochlorum (≥2 filaments/mL)
9/16/2019	Castaic Lagoon Swim Beach	surface	CYN	0.06	Raphidiopsis	Aphanizomenon/Sphaerospermopsis	Nostoclean filament(s)					Raphidiopsis (>250 filaments/mL), Aphanizomenon/Sphaerospermopsis (≥20 filaments/mL), nostoclean filaments resembling Anabaena (≥1 filament/mL), nostoclean filaments resembling Chrysochlorum (≥2 filaments/mL)

9/17/2019	Pyramid-Angeles Tunnel Inlet	surface	MC	ND	Microcystis	Planktothrix	Cuspidothrix	Dolichospermum	Microcystis (1 colony/mL), Planktothrix (1 filament/mL), Cuspidothrix (≥5 filaments/mL), Dolichospermum (1 filament/mL)
9/17/2019	Pyramid-Angeles Tunnel Inlet	surface	ANTX-A	ND	Microcystis	Planktothrix	Cuspidothrix	Dolichospermum	Microcystis (1 colony/mL), Planktothrix (1 filament/mL), Cuspidothrix (≥5 filaments/mL), Dolichospermum (1 filament/mL)
9/17/2019	Pyramid-Angeles Tunnel Inlet	surface	STX	0.20	Microcystis	Planktothrix	Cuspidothrix	Dolichospermum	Microcystis (1 colony/mL), Planktothrix (1 filament/mL), Cuspidothrix (≥5 filaments/mL), Dolichospermum (1 filament/mL)
9/17/2019	Pyramid-Emigrant Landing Swim Beach	surface	MC	0.32	Microcystis	Cuspidothrix	Dolichospermum		Microcystis (≥2 colonies/mL), Cuspidothrix (≥6 filaments/mL), Dolichospermum (≥4 filaments/mL)
9/17/2019	Pyramid-Emigrant Landing Swim Beach	surface	ANTX-A	ND	Microcystis	Cuspidothrix	Dolichospermum		Microcystis (≥2 colonies/mL), Cuspidothrix (≥6 filaments/mL), Dolichospermum (≥4 filaments/mL)
9/17/2019	Pyramid-Emigrant Landing Swim Beach	surface	STX	0.15	Microcystis	Cuspidothrix	Dolichospermum		Microcystis (≥2 colonies/mL), Cuspidothrix (≥6 filaments/mL), Dolichospermum (≥4 filaments/mL)
9/17/2019	Pyramid-Vaquero Swim Beach	surface	MC	ND	Microcystis	Planktothrix	Cuspidothrix	Dolichospermum	Microcystis (≥2 colonies/mL), Planktothrix (1 filament/mL), Cuspidothrix (≥4 filaments/mL), Dolichospermum (≥6 filaments/mL)
9/17/2019	Pyramid-Vaquero Swim Beach	surface	ANTX-A	ND	Microcystis	Planktothrix	Cuspidothrix	Dolichospermum	Microcystis (≥2 colonies/mL), Planktothrix (1 filament/mL), Cuspidothrix (≥4 filaments/mL), Dolichospermum (≥6 filaments/mL)
9/17/2019	Pyramid-Vaquero Swim Beach	surface	STX	0.19	Microcystis	Planktothrix	Cuspidothrix	Dolichospermum	Microcystis (≥2 colonies/mL), Planktothrix (1 filament/mL), Cuspidothrix (≥4 filaments/mL), Dolichospermum (≥6 filaments/mL)
9/23/2019	San Luis Pacheco PP	~170-230 ft	MC	0.48	none observed				
9/23/2019	San Luis Basalt Boat Launch	surface	MC	77	Microcystis	Woronichinia naegeliana	Aphanizomenon flos-aquae/klebahnii		Microcystis spp. (>150 colonies/mL), Woronichinia (1 colony/mL), Aphanizomenon (≥20 filaments/mL) ≥9 filaments/mL
9/23/2019	Gianelli PP	~5-10 ft		nr	Aphanizomenon				Aphanizomenon (≥3 filaments/mL), Dolichospermum (≥5 filaments/mL)
9/23/2019	Dyer Res	1 m	MC-CYN-STX-ANTX	ND	Aphanizomenon	Dolichospermum			Microcystis (≥2 colonies/mL), Oscillatoria (≥1 filament/mL)
9/23/2019	Banks PP	~10-15 ft		nr	Microcystis	Oscillatoria cf. perornata			Microcystis (≥2 colonies/mL), Oscillatoria (≥1 filament/mL)
9/23/2019	Clifton Court Forebay	~10-15 ft		nr	Aphanizomenon	Microcystis			Aphanizomenon (≥4 filaments/mL), Microcystis (≥1 colony/mL)
9/24/2019	Lake Oroville near Dam	surface	MC-CYN-STX-ANTX	ND	Dolichospermum				>15 filaments/mL; 2 species
9/23/2019	Castaic Outlet	surface	MC	ND	Microcystis	Dolichospermum			Microcystis (≥2 colonies/mL), Dolichospermum (≥2 filaments/mL)
9/23/2019	Castaic Outlet	1 m	MC	0.45	Microcystis	Dolichospermum	Woronichinia naegeliana		Microcystis (≥3 colonies/mL), Dolichospermum (1 filament/mL), Woronichinia (1 colony/mL)
9/23/2019	Castaic Lake Boat Launch	surface	MC	0.49	Microcystis	Dolichospermum			Microcystis (1 colony/mL), Dolichospermum (1 filament/mL)
9/23/2019	Castaic Lagoon Swim Beach	surface	CYN	0.07	Raphidiopsis	Aphanizomenon/Sphaerospermopsis	Planktothrix	Nostoclean filament(s)	Raphidiopsis (>30 filaments/mL), Aphanizomenon/Sphaerospermopsis (≥3 filaments/mL), Planktothrix (1 filament/mL), nostoclean filaments resembling Chrysochlorum (≥5 filaments/mL)
9/24/2019	Pyramid-Emigrant Landing Swim Beach	surface	MC	0.35	Microcystis	Planktothrix	Cuspidothrix	Dolichospermum	Microcystis (≥2 colonies/mL), Planktothrix (≥8 filaments/mL), Cuspidothrix (≥4 filaments/mL), Dolichospermum (≥2 filaments/mL)
9/24/2019	Pyramid-Emigrant Landing Swim Beach	surface	ANTX-A	ND	Microcystis	Planktothrix	Cuspidothrix	Dolichospermum	Microcystis (≥2 colonies/mL), Planktothrix (≥8 filaments/mL), Cuspidothrix (≥4 filaments/mL), Dolichospermum (≥2 filaments/mL)
9/24/2019	Pyramid-Emigrant Landing Swim Beach	surface	STX	0.13	Microcystis	Planktothrix	Cuspidothrix	Dolichospermum	Microcystis (≥2 colonies/mL), Planktothrix (≥8 filaments/mL), Cuspidothrix (≥4 filaments/mL), Dolichospermum (≥2 filaments/mL)
9/24/2019	Pyramid-Angeles Tunnel Inlet	surface	MC	ND	Microcystis	Planktothrix			Microcystis (1 colony/mL), Planktothrix (≥4 filaments/mL)
9/24/2019	Pyramid-Angeles Tunnel Inlet	surface	STX	0.15	Microcystis	Planktothrix			Microcystis (1 colony/mL), Planktothrix (≥4 filaments/mL)
9/24/2019	Pyramid-Angeles Tunnel Inlet	1 m	MC	ND	Planktothrix	Cuspidothrix			Planktothrix (≥3 filaments/mL), Cuspidothrix (≥1 filament/mL)
9/24/2019	Pyramid-Angeles Tunnel Inlet	1 m	STX	0.15	Planktothrix	Cuspidothrix			Planktothrix (≥3 filaments/mL), Cuspidothrix (≥1 filament/mL)
9/24/2019	Pyramid-Vaquero Swim Beach	surface	MC	ND	Microcystis	Planktothrix	Cuspidothrix	Dolichospermum	Microcystis (≥5 colonies/mL), Planktothrix (≥4 filaments/mL), Cuspidothrix (≥2 filaments/mL), Dolichospermum (≥3 filaments/mL)
9/24/2019	Pyramid-Vaquero Swim Beach	surface	STX	0.15	Microcystis	Planktothrix	Cuspidothrix	Dolichospermum	Microcystis (≥5 colonies/mL), Planktothrix (≥4 filaments/mL), Cuspidothrix (≥2 filaments/mL), Dolichospermum (≥3 filaments/mL)
9/24/2019	Silverwood Sawpit Swim Beach	surface	MC	0.55	none observed				≥2 colonies/mL
9/24/2019	Silverwood Cleghorn Swim Beach	surface	MC	0.51	Microcystis				1 colony/mL
9/25/2019	Perris Outlet	surface		nr	Woronichinia naegeliana				3 colonies/mL
9/30/2019	San Luis Pacheco PP	~170-230 ft	MC	2.4	Microcystis				>60 colonies/mL
9/30/2019	San Luis Basalt Boat Launch	surface	MC	10.9	Microcystis				Planktothrix (≥1 filament/mL), Cuspidothrix (≥1 filament/mL), Dolichospermum (≥1 filament/mL)
10/1/2019	Pyramid-Emigrant Landing Swim Beach	surface	MC	ND	Planktothrix	Cuspidothrix	Dolichospermum		Planktothrix (≥1 filament/mL), Cuspidothrix (≥1 filament/mL), Dolichospermum (≥1 filament/mL)
10/1/2019	Pyramid-Emigrant Landing Swim Beach	surface	STX	0.10	Planktothrix	Cuspidothrix	Dolichospermum		Planktothrix (≥1 filament/mL), Cuspidothrix (≥1 filament/mL), Dolichospermum (≥1 filament/mL)
10/1/2019	Pyramid-Angeles Tunnel Inlet	surface	STX	0.12	Cuspidothrix				≥1 filament/mL
10/1/2019	Pyramid-Vaquero Swim Beach	surface	STX	0.10	Dolichospermum				≥1 filament/mL
10/1/2019	Silverwood Cleghorn Swim Beach	surface	MC	1.18	Microcystis				≥2 colonies/mL
10/1/2019	Silverwood Sawpit Swim Beach	surface	MC	1.30	none observed				
10/7/2019	Banks PP	~10-15 ft		nr	Oscillatoria cf. perornata				≥3 filaments/mL
10/7/2019	Clifton Court Forebay	~10-15 ft		nr	Aphanizomenon				≥4 filaments/mL
10/7/2019	Dyer Res	1 m		nr	Phormidium	Dolichospermum			Phormidium (≥1 filament/mL), Dolichospermum (≥1 filament/mL)
10/7/2019	San Luis Pacheco PP	~170-230 ft	MC	1.08	none observed				
10/7/2019	San Luis Basalt Boat Launch	surface	MC	27.1	Microcystis	Aphanizomenon flos-aquae/klebahnii			Microcystis (>100 colonies/mL), Aphanizomenon (≥8 filaments/mL)
10/7/2019	Gianelli PP	~5-10 ft		nr	Phormidium				≥1 filament/mL
10/7/2019	Castaic Outlet	surface	MC	1.03	Microcystis	Dolichospermum			Microcystis (≥6 colonies/mL), Dolichospermum (≥2 filaments/mL)
10/7/2019	Castaic Outlet	1 m	MC	0.60	Microcystis	Dolichospermum			Microcystis (≥4 colonies/mL), Dolichospermum (1 filament/mL)

10/7/2019	Castaic Lake Boat Launch	surface	MC	1.86	Microcystis							≥3 colonies/mL
10/7/2019	Castaic Lagoon Swim Beach	surface	CYN	0.08	Raphidiopsis	Aphanizomenon/Sphaerospermopsis						Raphidiopsis (>15 filaments/mL), Aphanizomenon/Sphaerospermopsis (≥1 filament/mL)
10/8/2019	Pyramid-Emigrant Landing Swim Beach	surface	STX	0.08	Planktothrix							≥3 filaments/mL
10/8/2019	Pyramid-Angeles Tunnel Inlet	surface	STX	0.09	Planktothrix		Cuspidothrix					Planktothrix (≥2 filaments/mL), Cuspidothrix (≥1 filament/mL)
10/8/2019	Pyramid-Angeles Tunnel Inlet	1 m	STX	0.09	Planktothrix		Cuspidothrix					Planktothrix (≥4 filaments/mL), Cuspidothrix (≥1 filament/mL)
10/8/2019	Pyramid-Vaquero Swim Beach	surface	STX	0.09	Planktothrix							≥3 filaments/mL
10/8/2019	Perris Outlet	1 m	MC-CYN-STX-ANTX	ND	Aphanizomenon/Sphaerospermopsis							≥2 filaments/mL
10/9/2019	Silverwood Outlet	1 m	nr		Aphanizomenon flos-aquae/klebahnii							>10 fascicles/mL
10/9/2019	Silverwood Sawpit Swim Beach	surface	MC	2.04	Aphanizomenon flos-aquae/klebahnii		Microcystis					Aphanizomenon (>10 filaments/mL), Microcystis (≥2 colonies/mL)
10/9/2019	Silverwood Cleghorn Swim Beach	surface	MC	7.6	Microcystis							≥3 colonies/mL
10/14/2019	San Luis Pacheco PP	~170-230 ft	MC	0.41	Microcystis		Woronichinia naegeliana	Aphanizomenon flos-aquae/klebahnii				Microcystis spp. (≥15 colonies/mL), Woronichinia (1 colony/mL), Aphanizomenon (1 filament/mL)
10/14/2019	San Luis Basalt Boat Launch	surface	MC	1.21	Aphanizomenon flos-aquae/klebahnii		Microcystis		Woronichinia naegeliana			Aphanizomenon (>80 filaments/mL), Microcystis (>20 colonies/mL), Woronichinia (1 colony/mL)
10/15/2019	Silverwood Outlet	1 m	nr		Microcystis							≥2 colonies/mL
10/15/2019	Silverwood Sawpit Swim Beach	surface	MC	ND	Microcystis		Dolichospermum					Microcystis (>100 unicells, cell pairs and few-celled colonies; 1 large colony), Dolichospermum (1 filament/mL)
10/15/2019	Silverwood Cleghorn Swim Beach	surface	MC	0.90	Microcystis							>100 unicells, cell pairs and few-celled colonies
10/14/2019	Castaic Outlet	surface	MC	ND	Microcystis	Aphanizomenon flos-aquae/klebahnii	Dolichospermum		Woronichinia naegeliana			Microcystis spp. (≥50 colonies/mL), Aphanizomenon (>10 filaments/mL), Dolichospermum (≥5 filaments/mL), Woronichinia (≥2 colonies/mL)
10/14/2019	Castaic Lake Boat Launch	surface	MC	1.60	Microcystis	Aphanizomenon flos-aquae/klebahnii	Dolichospermum		Woronichinia naegeliana			Microcystis spp. (>100 colonies/mL), Aphanizomenon (>15 filaments/mL), Dolichospermum (≥5 filaments/mL), Woronichinia (≥2 colonies/mL)
10/14/2019	Castaic Lagoon Swim Beach	surface	CYN	0.07	Raphidiopsis raciborskii		Nostoclean filament(s)		Planktothrix			Raphidiopsis (≥15 filaments/mL), nostoclean filaments (≥4 filaments/mL), Planktothrix (≥3 filaments/mL)
10/15/2019	Pyramid-Emigrant Landing Swim Beach	surface	STX	0.06	Microcystis		Dolichospermum		Planktothrix			Microcystis (≥5 colonies/mL), Dolichospermum (≥2 filaments/mL), Planktothrix (1 filament/mL)
10/15/2019	Pyramid-Angeles Tunnel Inlet	surface	STX	0.07	Planktothrix		Microcystis		Raphidiopsis	Aphanizomenon flos-aquae/klebahnii	Dolichospermum	Woronichinia naegeliana
10/15/2019	Pyramid-Vaquero Swim Beach	surface	STX	0.07	Nostoclean filament(s)		Dolichospermum					Planktothrix (≥3 colonies/mL), Microcystis (≥2 colonies/mL), Raphidiopsis (1 filament/mL), Aphanizomenon (1 filament/mL), Dolichospermum (1 filament/mL), Woronichinia (1 colony/mL)
10/21/2019	San Luis Pacheco PP	~170-230 ft	MC	0.58	Microcystis		Woronichinia naegeliana					Nostoclean filaments (≥2 filaments/mL), Dolichospermum (1 filament/mL), Microcystis (≥9 colonies/mL), Woronichinia (1 colony)
10/21/2019	Check 13	~15 ft	nr		Aphanizomenon							≥4 filaments/mL
10/21/2019	San Luis Basalt Boat Launch	surface	MC	0.99	Microcystis							>10 colonies/mL
10/21/2019	Gianelli PP	~5-10 ft	nr		Phormidium/Microcoleus		Aphanizomenon					Phormidium/Microcoleus (≥1 filament/mL), Aphanizomenon (≥1 filament/mL)
10/21/2019	Banks PP	~10-15 ft	nr		Aphanizomenon							≥4 filaments/mL
10/21/2019	Clifton Court Forebay	~10-15 ft	nr		Aphanizomenon							≥2 filaments/mL
10/21/2019	Dyer Res	1 m	MC	ND	Microcystis		Aphanizomenon		Dolichospermum			Microcystis (2 colonies/mL), Aphanizomenon (≥1 filament/mL), Dolichospermum (≥2 filaments/mL)
10/23/2019	Silverwood Cleghorn Swim Beach	surface	MC	ND	none observed							≥1 filament/mL
10/22/2019	Perris Outlet	surface	nr		Dolichospermum							Microcystis spp. (≥50 colonies/mL), Aphanizomenon (>5 filaments/mL), Dolichospermum (≥5 filaments/mL)
10/21/2019	Castaic Outlet	surface	MC	4.50	Microcystis	Aphanizomenon flos-aquae/klebahnii	Dolichospermum					
10/21/2019	Castaic Outlet	1 m	MC	ND	Microcystis	Aphanizomenon flos-aquae/klebahnii	Dolichospermum					Microcystis sp. (≥2 colonies/mL), Aphanizomenon (≥1 filament/mL), Dolichospermum (≥1 filament/mL)
10/21/2019	Castaic Lake Boat Launch	surface	MC	0.88	Microcystis	Aphanizomenon flos-aquae/klebahnii	Dolichospermum					Microcystis spp. (>5 colonies/mL), Aphanizomenon (>1 filament/mL), Dolichospermum (≥4 filaments/mL)
10/21/2019	Castaic Lagoon Swim Beach	surface	CYN	0.09	Raphidiopsis raciborskii		Nostoclean filament(s)					Raphidiopsis (≥15 filaments/mL), nostoclean filament resembling Aphanizomenon/Sphaerospermopsis (≥1 filament/mL)
10/22/2019	Pyramid-Emigrant Landing Swim Beach	surface	STX	0.06	none observed							
10/22/2019	Pyramid-Angeles Tunnel Inlet	surface	STX	0.06	none observed							
10/22/2019	Pyramid-Angeles Tunnel Inlet	1 m	STX	0.05	Planktothrix		Cuspidothrix					Planktothrix (≥4 filaments/mL), Cuspidothrix (≥1 filament/mL)
10/22/2019	Pyramid-Vaquero Swim Beach	surface	STX	0.05	Microcystis		Planktothrix					Microcystis (≥2 colonies/mL), Planktothrix (1 filament/mL)
10/22/2019	Pyramid-Vaquero Swim Beach	surface	MC	ND	Microcystis		Planktothrix					Microcystis (≥2 colonies/mL), Planktothrix (1 filament/mL)
10/21/2019	Lake Oroville near Dam	surface	MC-CYN-STX-ANTX	ND	Dolichospermum	Aphanizomenon flos-aquae/klebahnii						Dolichospermum (>20 filaments/mL), Aphanizomenon (>10 filaments/mL)
10/28/2019	Castaic Outlet	surface	MC	ND	Woronichinia naegeliana		Microcystis	Aphanizomenon flos-aquae/klebahnii	Dolichospermum			Woronichinia (1 colony/mL), Microcystis spp. (≥5 colonies/mL), Aphanizomenon (5 filaments/mL), Dolichospermum (6 filaments/mL)
10/28/2019	Castaic Lake Boat Launch	surface	MC	0.31	Microcystis	Aphanizomenon flos-aquae/klebahnii	Dolichospermum					Microcystis (>2 colonies/mL), Aphanizomenon (>3 filaments/mL), Dolichospermum (1 filament/mL)
10/28/2019	Castaic Lagoon Swim Beach	surface	CYN	ND	Raphidiopsis raciborskii		Anabaenopsis					Raphidiopsis (≥1 filament/mL), Anabaenopsis (≥1 filament/mL)
10/29/2019	Pyramid-Emigrant Landing Swim Beach	surface	STX	ND	none observed							
10/29/2019	Pyramid-Angeles Tunnel Inlet	surface	STX	ND	none observed							
10/29/2019	Pyramid-Vaquero Swim Beach	surface	STX	ND	none observed							
10/29/2019	Silverwood Cleghorn Swim Beach	surface	MC	ND	none observed							
10/29/2019	San Luis Pacheco PP	~170-230 ft	MC	0.56	Microcystis							≥2 colonies/mL
10/29/2019	San Luis Basalt Boat Launch	surface	MC	0.90	Microcystis		Aphanizomenon					Microcystis (≥5 colonies/mL), Aphanizomenon (≥5 filaments/mL)
11/4/2019	San Luis Pacheco PP	~170-230 ft	MC	0.40	Microcystis							≥25 colonies/mL, mostly small colonies
11/4/2019	San Luis Basalt Boat Launch	surface	MC	ND	Microcystis		Aphanizomenon		Woronichinia naegeliana			Microcystis (≥2 colonies/mL), Aphanizomenon (≥1 filament/mL), Woronichinia (≥1 colony/mL)
11/4/2019	Castaic Outlet	surface	MC	ND	Aphanizomenon flos-aquae/klebahnii		Woronichinia naegeliana					Aphanizomenon (≥6 filaments/mL), Woronichinia (≥3 colonies/mL)

11/4/2019	Castaic Outlet	1 m	MC	ND	Woronichinia naegeliana	Aphanizomenon flos-aquae/lebahonii		Woronichinia (1 colony/mL), Aphanizomenon (≥1 filament/mL)
11/4/2019	Castaic Lake Boat Launch	surface	MC	ND	Aphanizomenon flos-aquae/lebahonii	Microcystis	Woronichinia naegeliana	Aphanizomenon (≥22 filaments/mL), Microcystis (≥3 colonies/mL), Woronichinia (1 colony/mL)
11/4/2019	Castaic Lagoon Swim Beach	surface	CYN	ND	Pseudanabaena	Nostoclean filament(s)		Pseudanabaena (≤100 filaments/mL), nostoclean filament (≥1 filament/mL)
11/5/2019	Pyramid-Emigrant Landing Swim Beach	surface	STX	ND	Phormidium	Cuspidothrix issatschenkoi		≥2 filaments/mL
11/5/2019	Pyramid-Angeles Tunnel Inlet	surface	ANTX-A	ND	Phormidium	Cuspidothrix issatschenkoi		Phormidium (≥7 filaments/mL), Cuspidothrix (≥1 filament/mL)
11/5/2019	Pyramid-Angeles Tunnel Inlet	surface	STX	ND	Phormidium	Cuspidothrix issatschenkoi		Phormidium (≥7 filaments/mL), Cuspidothrix (≥1 filament/mL)
11/5/2019	Pyramid-Angeles Tunnel Inlet	1 m	STX	ND	Phormidium	Microcystis		Phormidium (≥5 filaments/mL), Microcystis (≥1 colony/mL)
11/5/2019	Pyramid-Vaquero Swim Beach	surface	MC	ND	Woronichinia naegeliana	Microcystis	Phormidium	Woronichinia (≥1 colony/mL), Microcystis (≥1 colony/mL), Phormidium (≥1 filament/mL)
11/5/2019	Pyramid-Vaquero Swim Beach	surface	STX	ND	Woronichinia naegeliana	Microcystis	Phormidium	Woronichinia (≥1 colony/mL), Microcystis (≥1 colony/mL), Phormidium (≥1 filament/mL)
11/12/2019	San Luis Pacheco PP	~170-230 ft	MC	ND	none observed			
11/12/2019	San Luis Basalt Boat Launch	surface	MC	ND*	Woronichinia naegeliana			Analytical result is estimated. Values achieved were outside calibration range. 1 colony/mL
11/13/2019	Castaic Outlet	surface	MC	ND	Microcystis	Aphanizomenon flos-aquae/lebahonii		Microcystis (≥3 colonies/mL), Aphanizomenon (≥20 filaments/mL)
11/13/2019	Castaic Outlet	1 m	MC	ND	Microcystis	Aphanizomenon flos-aquae/lebahonii		Microcystis (1 colony/mL), Aphanizomenon (≥5 filaments/mL)
11/13/2019	Castaic Lake Boat Launch	surface	MC	ND	Microcystis	Aphanizomenon flos-aquae/lebahonii		Microcystis (≥2 colonies/mL), Aphanizomenon (≥20 filaments/mL)
11/18/2019	San Luis Pacheco PP	~170-230 ft	MC	0.30*	Aphanizomenon flos-aquae/lebahonii	Microcystis		Analyte was positively identified; the associated numerical value is estimated. Aphanizomenon (≥10 filaments/mL), Microcystis (≥7 colonies/mL)
11/25/2019	San Luis Pacheco PP	~170-230 ft	MC	ND	Aphanizomenon flos-aquae/lebahonii	Microcystis	Woronichinia naegeliana	Aphanizomenon (≥10 filaments/mL), Microcystis (≥9 small colonies/mL), Woronichinia (≥1 colony/mL)
11/25/2019	San Luis Basalt Boat Launch	surface		nr	Microcystis	Dolichospermum		Microcystis (≥1 colony/mL), Dolichospermum (≥1 filament/mL)
12/3/2019	San Luis Pacheco PP	~170-230 ft	MC	0.31*	none observed			Analyte was positively identified; the associated numerical value is estimated.
12/3/2019	San Luis Basalt Boat Launch	surface	MC	0.49	Aphanizomenon flos-aquae/lebahonii	Microcystis		Aphanizomenon (≥7 filaments/mL), Microcystis (≥1 colony/mL)
12/9/2019	San Luis Pacheco PP	~170-230 ft	MC	ND	Microcystis			≥3 small colonies/mL
12/9/2019	San Luis Basalt Boat Launch	surface	MC	0.31	Aphanizomenon flos-aquae/lebahonii	Microcystis		Aphanizomenon (≥2 filaments/mL), Microcystis (≥2 colonies/mL)
12/16/2019	San Luis Pacheco PP	~170-230 ft	MC	ND*	none observed			Analytical result is estimated. Values achieved were outside calibration range.
12/16/2019	San Luis Basalt Boat Launch	surface	MC	ND	Aphanizomenon flos-aquae/lebahonii	Microcystis		Aphanizomenon (≥3 filaments/mL), Microcystis (≥3 colonies/mL)
12/23/2019	San Luis Pacheco PP	~170-230 ft	MC	ND	Microcystis			≥3 colonies/mL
12/23/2019	San Luis Basalt Boat Launch	surface	MC	ND	Woronichinia naegeliana	Microcystis		Woronichinia (≥1 colony/mL), Microcystis (≥2 colonies/mL)

Abraxis Microcystin Field Test Strip Results

<b>Date</b>	<b>Location</b>	<b>Depth</b>	<b>Result (ppb)</b>	<b>Notes</b>
4/22/2019	Castaic Outlet	1 m	nd	
4/23/2019	Pyramid-Angeles Tunnel Inlet	1 m	nd	
5/20/2019	San Luis Basalt Boat Launch	surface	nd	
5/20/2019	O'Neill Forebay Boat Launch	surface	nd	
5/21/2019	San Luis WTP		nd	finished water
5/20/2019	Castaic Outlet	surface	nd	
5/20/2019	Castaic Outlet	1 m	nd	
5/20/2019	Castaic Lake Boat Launch	surface	nd	
5/20/2019	Castaic Lagoon Swim Beach	surface	nd	
5/21/2019	Pyramid-Emigrant Landing Swim Beach	surface	nd	
5/21/2019	Pyramid-Angeles Tunnel Inlet	surface	nd	
5/21/2019	Pyramid-Angeles Tunnel Inlet	1 m	nd	
5/21/2019	Pyramid-Vaquero Swim Beach	surface	nd	
5/21/2019	Lake Oroville Loafer Creek Swim Beach	surface	nd	
5/21/2019	Thermalito Afterbay Swim Beach	surface	nd	
5/21/2019	Thermalito Forebay Swim Beach	surface	nd	
5/29/2019	Pyramid-Vaquero Swim Beach	surface	nd	
5/29/2019	Pyramid-Angeles Tunnel Inlet	surface	nd	
5/28/2019	Castaic Lagoon Swim Beach	surface	nd	
5/28/2019	Castaic Outlet	surface	nd	
5/28/2019	Castaic Lake Boat Launch	surface	nd	
5/29/2019	Perris Moreno Swim Beach	surface	nd	
5/29/2019	Perris Outlet	surface	nd	
5/29/2019	Silverwood Outlet	surface	nd	
5/29/2019	Silverwood Cleghorn Swim Beach	surface	nd	
5/29/2019	Silverwood Sawpit Swim Beach	surface	nd	
5/29/2019	Perris Alessandro Island	surface	~5	
5/29/2019	Perris mid lake	surface	~5	
5/29/2019	Perris Swim Beach	surface	~5	
5/29/2019	Lake Oroville Loafer Creek Swim Beach	surface	nd	
5/29/2019	Thermalito Afterbay Swim Beach	surface	nd	
5/29/2019	Thermalito Forebay Swim Beach	surface	nd	
5/30/2019	San Luis Basalt Boat Launch	surface	nd	
5/30/2019	O'Neill Forebay Boat Launch	surface	nd	
5/31/2019	San Luis WTP		nd	finished water
6/3/2019	Lake Oroville Loafer Creek Swim Beach	surface	nd	
6/3/2019	Thermalito Afterbay Swim Beach	surface	nd	
6/3/2019	Thermalito Forebay Swim Beach	surface	nd	
6/3/2019	San Luis Basalt Boat Launch	surface	~5	
6/3/2019	O'Neill Forebay Boat Launch	surface	nd	
6/4/2019	Silverwood Cleghorn Swim Beach	surface	nd	
6/4/2019	Silverwood Sawpit Swim Beach	surface	nd	
6/4/2019	Perris Moreno Swim Beach	surface	nd	
6/4/2019	Perris Swim Beach	surface	nd	
6/4/2019	Perris Outlet	surface	~5	
6/4/2019	Silverwood Outlet	surface	nd	
6/5/2019	San Luis WTP		nd	finished water
6/10/2019	Lake Oroville Loafer Creek Swim Beach	surface	nd	
6/10/2019	Thermalito Afterbay Swim Beach	surface	nd	
6/10/2019	Thermalito Forebay Swim Beach	surface	nd	
6/10/2019	San Luis Basalt Boat Launch	surface	~7.5	
6/10/2019	O'Neill Forebay Boat Launch	surface	nd	
6/11/2019	Silverwood Cleghorn Swim Beach	surface	nd	

6/11/2019	Silverwood Outlet	surface	nd	
6/11/2019	Silverwood Sawpit Swim Beach	surface	nd	
6/11/2019	Perris Moreno Swim Beach	surface	nd	
6/11/2019	Perris Alessandro Island	surface	nd	
6/11/2019	Perris mid lake	surface	nd	
6/11/2019	Perris Outlet	surface	nd	
6/10/2019	Castaic Lagoon Swim Beach	surface	nd	
6/10/2019	Castaic Outlet	surface	nd	
6/10/2019	Castaic Lake Boat Launch	surface	nd	
6/10/2019	Castaic Outlet	1m	nd	
6/11/2019	Pyramid-Emigrant Landing Swim Beach	surface	nd	
6/11/2019	Pyramid-Angeles Tunnel Inlet	surface	nd	
6/11/2019	Pyramid-Angeles Tunnel Inlet	1m	nd	
6/11/2019	Pyramid-Vaquero Swim Beach	surface	nd	
6/17/2019	San Luis Basalt Boat Launch	surface	~5	
6/18/2019	Perris Alessandro Island	surface	nd	
6/18/2019	Perris mid lake	surface	nd	
6/18/2019	Perris Swim Beach	surface	nd	
6/18/2019	Perris Outlet	surface	nd	
6/18/2019	Perris Moreno Swim Beach	surface	nd	
6/18/2019	Silverwood Outlet	surface	nd	
6/18/2019	Silverwood Cleghorn Swim Beach	surface	nd	
6/18/2019	Silverwood Sawpit Swim Beach	surface	nd	
6/17/2019	Castaic Lake Boat Launch	surface	nd	
6/17/2019	Castaic Lagoon Swim Beach	surface	nd	
6/17/2019	Castaic Outlet	surface	nd	
6/18/2019	Pyramid-Emigrant Landing Swim Beach	surface	nd	
6/18/2019	Pyramid-Angeles Tunnel Inlet	surface	nd	
6/18/2019	Pyramid-Vaquero Swim Beach	surface	nd	
6/18/2019	Lake Oroville Loafer Creek Swim Beach	surface	nd	
6/18/2019	Thermalito Afterbay Swim Beach	surface	nd	
6/18/2019	Thermalito Forebay Swim Beach	surface	nd	
6/20/2019	San Luis WTP		nd	finished water
6/24/2019	San Luis Basalt Boat Launch	surface	~5	
6/24/2019	O'Neill Forebay Boat Launch	surface	nd	
6/24/2019	Castaic Outlet	surface	nd	
6/24/2019	Castaic Outlet	1 m	nd	
6/24/2019	Castaic Lake Boat Launch	surface	nd	
6/24/2019	Castaic Lagoon Swim Beach	surface	nd	
6/25/2019	Pyramid-Emigrant Landing Swim Beach	surface	nd	
6/25/2019	Pyramid-Angeles Tunnel Inlet	surface	nd	
6/25/2019	Pyramid-Angeles Tunnel Inlet	1 m	nd	
6/25/2019	Pyramid-Vaquero Swim Beach	surface	nd	
6/26/2019	San Luis WTP		nd	finished water
7/1/2019	San Luis Basalt Boat Launch	surface	~2.5	
7/1/2019	Lake Oroville Loafer Creek Swim Beach	surface	nd	
7/1/2019	Thermalito Afterbay Swim Beach	surface	nd	
7/1/2019	Thermalito Forebay Swim Beach	surface	nd	
7/1/2019	Castaic Outlet	surface	nd	
7/1/2019	Castaic Lake Boat Launch	surface	nd	
7/1/2019	Castaic Lagoon Swim Beach	surface	nd	
7/1/2019	Pyramid-Emigrant Landing Swim Beach	surface	nd	
7/1/2019	Pyramid Vista Del Lago WTP	surface	nd	
7/1/2019	Pyramid-Vaquero Swim Beach	surface	nd	
7/2/2019	San Luis WTP		nd	finished water

7/2/2019	Perris Outlet	surface	nd	
7/2/2019	Perris Swim Beach	surface	nd	
7/2/2019	Silverwood Cleghorn Swim Beach	surface	nd	
7/2/2019	Silverwood Sawpit Swim Beach	surface	nd	
7/9/2019	Lake Oroville Loafer Creek Swim Beach	surface	nd	
7/9/2019	Thermalito Afterbay Swim Beach	surface	nd	
7/9/2019	Thermalito Forebay Swim Beach	surface	nd	
7/9/2019	San Luis Basalt Boat Launch	surface	~10	
7/9/2019	O'Neill Forebay Boat Launch	surface	nd	
7/8/2019	Castaic Outlet	surface	nd	
7/8/2019	Castaic Outlet	1 m	nd	
7/8/2019	Castaic Lake Boat Launch	surface	~2.5	
7/8/2019	Castaic Lagoon Swim Beach	surface	nd	
7/9/2019	Pyramid-Emigrant Landing Swim Beach	surface	nd	
7/9/2019	Pyramid-Angeles Tunnel Inlet	surface	nd	
7/9/2019	Pyramid-Angeles Tunnel Inlet	1 m	nd	
7/9/2019	Pyramid-Vaquero Swim Beach	surface	nd	
7/9/2019	San Luis WTP		nd	finished water
7/9/2019	Perris Moreno Swim Beach	surface	nd	
7/9/2019	Silverwood Cleghorn Swim Beach	surface	nd	
7/15/2019	San Luis Basalt Boat Launch	surface	~7.5	
7/15/2019	O'Neill Forebay Boat Launch	surface	nd	
7/16/2019	Lake Oroville Loafer Creek Swim Beach	surface	nd	
7/16/2019	Thermalito Afterbay Swim Beach	surface	nd	
7/16/2019	Thermalito Forebay Swim Beach	surface	nd	
7/16/2019	Castaic Lake Boat Launch	surface	nd	
7/16/2019	Castaic Lagoon Swim Beach	surface	nd	
7/16/2019	Castaic Outlet	surface	nd	
7/16/2019	Pyramid-Angeles Tunnel Inlet	surface	~5	
7/16/2019	Pyramid-Vaquero Swim Beach	surface	~5	
7/16/2019	Pyramid-Emigrant Landing Swim Beach	surface	nd	
7/16/2019	San Luis WTP		nd	finished water
7/16/2019	Silverwood Outlet	surface	nd	
7/16/2019	Silverwood Cleghorn Swim Beach	surface	nd	
7/16/2019	Silverwood Sawpit Swim Beach	surface	~7.5	
7/16/2019	Perris Moreno Swim Beach	surface	nd	
7/16/2019	Perris Swim Beach	surface	nd	
7/22/2019	Lake Oroville Loafer Creek Swim Beach	surface	nd	
7/22/2019	Thermalito Forebay Swim Beach	surface	nd	
7/22/2019	Thermalito Afterbay Swim Beach	surface	nd	
7/22/2019	Lake Oroville near Dam	surface	nd	
7/22/2019	San Luis Basalt Boat Launch	surface	~10	
7/22/2019	O'Neill Forebay Boat Launch	surface	nd	
7/22/2019	San Luis WTP		nd	finished water
7/23/2019	Silverwood Cleghorn Swim Beach	surface	nd	
7/23/2019	Silverwood Sawpit Swim Beach	surface	~10	
7/22/2019	Castaic Outlet	surface	<2.5	
7/22/2019	Castaic Outlet	1 m	~2.5	
7/22/2019	Castaic Lake Boat Launch	surface	nd	
7/22/2019	Castaic Lagoon Swim Beach	surface	nd	
7/23/2019	Pyramid-Emigrant Landing Swim Beach	surface	nd	
7/23/2019	Pyramid-Angeles Tunnel Inlet	surface	~2.5	
7/23/2019	Pyramid-Angeles Tunnel Inlet	1 m	nd	
7/23/2019	Pyramid-Vaquero Swim Beach	surface	nd	
7/29/2019	O'Neill Forebay Boat Launch	surface	nd	



7/29/2019	San Luis Basalt Boat Launch	surface	~10	
7/29/2019	Lake Oroville Loafer Creek Swim Beach	surface	nd	
7/29/2019	Thermalito Afterbay Swim Beach	surface	nd	
7/29/2019	Thermalito Forebay Swim Beach	surface	nd	
7/29/2019	San Luis WTP		nd	finished water
7/30/2019	Silverwood Cleghorn Swim Beach	surface	nd	
7/30/2019	Silverwood Sawpit Swim Beach	surface	~2.5	
7/30/2019	Silverwood Outlet	surface	nd	
7/30/2019	Silverwood Miller Canyon Arm	surface	nd	
7/30/2019	Silverwood Midlake Channel Upstream of Sawpit	surface	nd	
8/5/2019	Thermalito Forebay Swim Beach	surface	nd	
8/5/2019	Thermalito Afterbay Swim Beach	surface	nd	
8/5/2019	O'Neill Forebay Boat Launch	surface	nd	
8/5/2019	San Luis Basalt Boat Launch	surface	~20	
8/6/2019	Silverwood Cleghorn Swim Beach	surface	nd	
8/6/2019	Silverwood Sawpit Swim Beach	surface	nd	
8/6/2019	Pyramid-Emigrant Landing Swim Beach	surface	nd	
8/6/2019	Pyramid-Angeles Tunnel Inlet	surface	nd	
8/6/2019	Pyramid-Vaquero Swim Beach	surface	nd	
8/5/2019	Castaic Lake Boat Launch	surface	nd	
8/5/2019	Castaic Lagoon Swim Beach	surface	nd	
8/5/2019	Castaic Outlet	surface	nd	
8/6/2019	San Luis WTP		nd	finished water
8/8/2019	Silverwood Miller Canyon Arm	surface	nd	
8/8/2019	Silverwood Midlake Channel Upstream of Sawpit	surface	nd	
8/12/2019	O'Neill Forebay Boat Launch	surface	nd	
8/12/2019	San Luis Basalt Boat Launch	surface	~20	
8/13/2019	San Luis WTP		nd	finished water
8/13/2019	Pyramid-Emigrant Landing Swim Beach	surface	~5	
8/13/2019	Pyramid-Angeles Tunnel Inlet	surface	~7.5	
8/13/2019	Pyramid-Angeles Tunnel Inlet	1 m	<2.5	
8/13/2019	Pyramid-Vaquero Swim Beach	surface	<2.5	
8/12/2019	Castaic Outlet	surface	nd	
8/12/2019	Castaic Outlet	1 m	nd	
8/12/2019	Castaic Lake Boat Launch	surface	nd	
8/12/2019	Castaic Lagoon Swim Beach	surface	nd	
8/13/2019	Thermalito Forebay Swim Beach	surface	nd	
8/13/2019	Thermalito Afterbay Swim Beach	surface	nd	
8/19/2019	O'Neill Forebay Boat Launch	surface	nd	
8/19/2019	San Luis Basalt Boat Launch	surface	~5	
8/23/2019	San Luis WTP		nd	finished water
8/27/2019	O'Neill Forebay Boat Launch	surface	nd	
8/27/2019	San Luis Basalt Boat Launch	surface	~10	
8/28/2019	San Luis WTP		nd	finished water
9/3/2019	O'Neill Forebay Boat Launch	surface	nd	
9/3/2019	San Luis Basalt Boat Launch	surface	~10	
9/5/2019	Lake Oroville- North Fork Arm	surface	nd	
9/5/2019	Thermalito Afterbay SW corner	surface	nd	
9/5/2019	San Luis WTP		nd	finished water
9/9/2019	San Luis Basalt Boat Launch	surface	~10	
9/11/2019	San Luis WTP		nd	finished water
9/16/2019	San Luis Basalt Boat Launch	surface	~10	
9/19/2019	San Luis WTP		nd	finished water
9/24/2019	Lake Oroville near Dam	surface	nd	
9/24/2019	San Luis WTP		nd	finished water

10/1/2019	San Luis WTP		nd	finished water
10/7/2019	San Luis WTP		nd	finished water
10/14/2019	San Luis WTP		nd	finished water
10/21/2019	San Luis WTP		nd	finished water
10/21/2019	Lake Oroville near Dam	surface	nd	
10/29/2019	San Luis WTP		nd	finished water
11/4/2019	San Luis WTP		nd	finished water
11/15/2019	San Luis WTP		nd	finished water
11/18/2019	San Luis WTP		nd	finished water
11/27/2019	San Luis WTP		nd	finished water
12/4/2019	San Luis WTP		nd	finished water
12/10/2019	San Luis WTP		nd	finished water
12/16/2019	San Luis WTP		nd	finished water
12/26/2019	San Luis WTP		nd	finished water

Name	Sample Location	Sample depth	Sample collection method
Clifton Court Forebay Inlet	Water Quality Station	Approx 10-15 ft (depends on Clifton Court Forebay elevation)	raw water tap
Dyer Reservoir Outlet	outlet	1 meter	grab sample
Banks Pumping Plant	Water Quality Station	Approx 10-15 ft (depends on CCF elevation)	raw water tap
Lake Del Valle	Boat ramp near dam	1 meter	grab sample
Barker Slough Pumping Plant	Water Quality Station	Approx 10-15 ft (depends on water depth)	raw water tap
Pacheco Pumping Plant	Water Quality Station	Approx 170-230 feet (depends on elevation of San Luis Res. and if SCVWD is drawing from upper or lower intake.	raw water tap
O'Neill Forebay Outlet/Check 13	Water Quality Station	Approx 15 ft	raw water tap
Gianelli Pumping Plant	Water Quality Station	Approx 5-10 feet (depends on O'Neill Forebay elevation)	raw water tap
Pyramid Lake	PY001 Angeles Tunnel Inlet WQ Station	1 meter	
Castaic Lake	CA002 Castaic Lake Outlet tower Water Quality Station	1 meter	
Silverwood Lake	SI002 Silverwood Lake at San Bernardino Tunnel	1 meter	
Lake Perris	PE002 Lake Perris Outlet	1 meter	