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## **Technical Memorandum:**

### **Toxic Cyanobacteria Results for Copco/Iron Gate Reservoirs: August 7-8, 2007**

To all concerned:

Phytoplankton cell count results for Aug 7-8 were received from Aquatic Analysts (AA; see lab data sheets in Appendix I). Although additional stations and depths were sampled, Aquatic Analysts performed a “rush” analysis on surface samples from the blue-labeled stations in Figure 1. Reservoir data are from the standard open-water sites IR01 and CR01; as well as two shoreline recreational locations in Copco Reservoir (CRCC and CRMC; Figure 1), and two in Iron Gate Reservoir (IRJW and IRCC; Figure 1). Samples from the Klamath River upstream from Copco (KRAC), directly downstream from Iron Gate (KRBI), at Seiad Valley (SV), and Orleans (OR) were also analyzed (Figure 1). See Kann and Corum (2006; 2007) for additional methodological details. Samples for microcystin were also collected and sent to the EPA laboratory in Richmond, CA (results are pending).

Cyanobacterial blooms continued to persist in both Copco and Iron Gate reservoirs (Figure 2) and levels exceeded the California harmful algal bloom public notification guidance level of 40,000 cell/ml (CHABPHL; Appendix II) at many locations (Table 1). The overall median toxigenic *Microcystis aeruginosa* (MSAE) level for the reservoirs was similar to that measured on the previous sample trip of July 23<sup>rd</sup> (Figure 3). However, MSAE levels shifted by station in Copco Reservoir with a decrease (by ~4.5x) at the open water station CR01 and by ~3x at the shoreline station CRCC, while the shoreline station CRMC increased by 5.3 times to 5,709,515 cells/ml (Table 1). The value at CRMC exceeded the CHABPHL for MSAE by 142.7x (Table 1). Open-water and shoreline photos of Copco Reservoir also indicate that areas not sampled were also experiencing dense cyanobacterial blooms (Figure 2).

MSAE levels at the open-water station IR01 increased substantially from a non-detect on 7/23 to 812,740 cells/ml on 8/7 (Table 1). Levels at IRCC also increased since the previous sample trip, exceeding the CHABPHL by 1.3x.

No toxigenic cyanobacteria were detected at the upstream station KRAC (above Copco Reservoir); however levels increased to 24,247 cells/ml at KRBI below Irongate Dam (Table 1; Figure 3). Further downstream, MSAE also increased from values <1000 cells/ml on 7/23 to 15,475 cells/ml at Seiad Valley and 9,251 cells/ml at Orleans (Table 1).

Data from August 7-8, 2007 continued to show that blooms of potentially toxic cyanobacteria are present in both reservoir systems, and that several stations exceeded (by 1.3-142.7x; Figure 3) the CHABPHL of 40,000 cells/ml. The World Health Organization (WHO 2003) considers

cyanobacterial scum formation (see Figure 2) in areas where whole-body contact and/or risk of ingestion/aspiration can occur to pose a high probability of adverse health effects.

Please let me know if you have any questions. Thank you.

Sincerely,



Jacob Kann, Ph.D.  
Aquatic Ecologist

**Disclaimer**

*Due to the patchy nature of blue-green algal blooms it is possible for higher *Microcystis aeruginosa* densities (and therefore higher microcystin toxin concentrations) to have been present in locations not covered in this survey, particularly along shorelines or protected coves and backwaters during calm conditions of little to no wind. Recreational users should always avoid contact with water whenever noticeable surface concentrations of algae are evident. Moreover, because pets or other domestic animals are the most likely to ingest contaminated water, these animals should not be allowed access to areas of either noticeable surface concentrations of algae or when an obvious green to blue-green appearance is evident*

**Literature Cited**

- WHO 2003. Chapter 8: Algae and Cyanobacteria in Fresh Water. Pages 128-133 in: Volume 1: Coastal and Fresh Waters. World Health Organization, Geneva. ([http://www.who.int/water\\_sanitation\\_health/bathing/srwe1/en/](http://www.who.int/water_sanitation_health/bathing/srwe1/en/))
- Kann, J. and S. Corum. 2006. Summary of 2005 Toxic *Microcystin aeruginosa* Trends in Copco and Iron Gate Reservoirs on the Klamath River, CA Technical Memorandum Prepared for the Karuk Tribe of California, March, 2006.
- Kann, J. and S. Corum. 2007. Summary of 2006 Toxic *Microcystin aeruginosa* Trends in Copco and Iron Gate Reservoirs, CA Technical Memorandum Prepared for the Karuk Tribe of California, June, 2007.

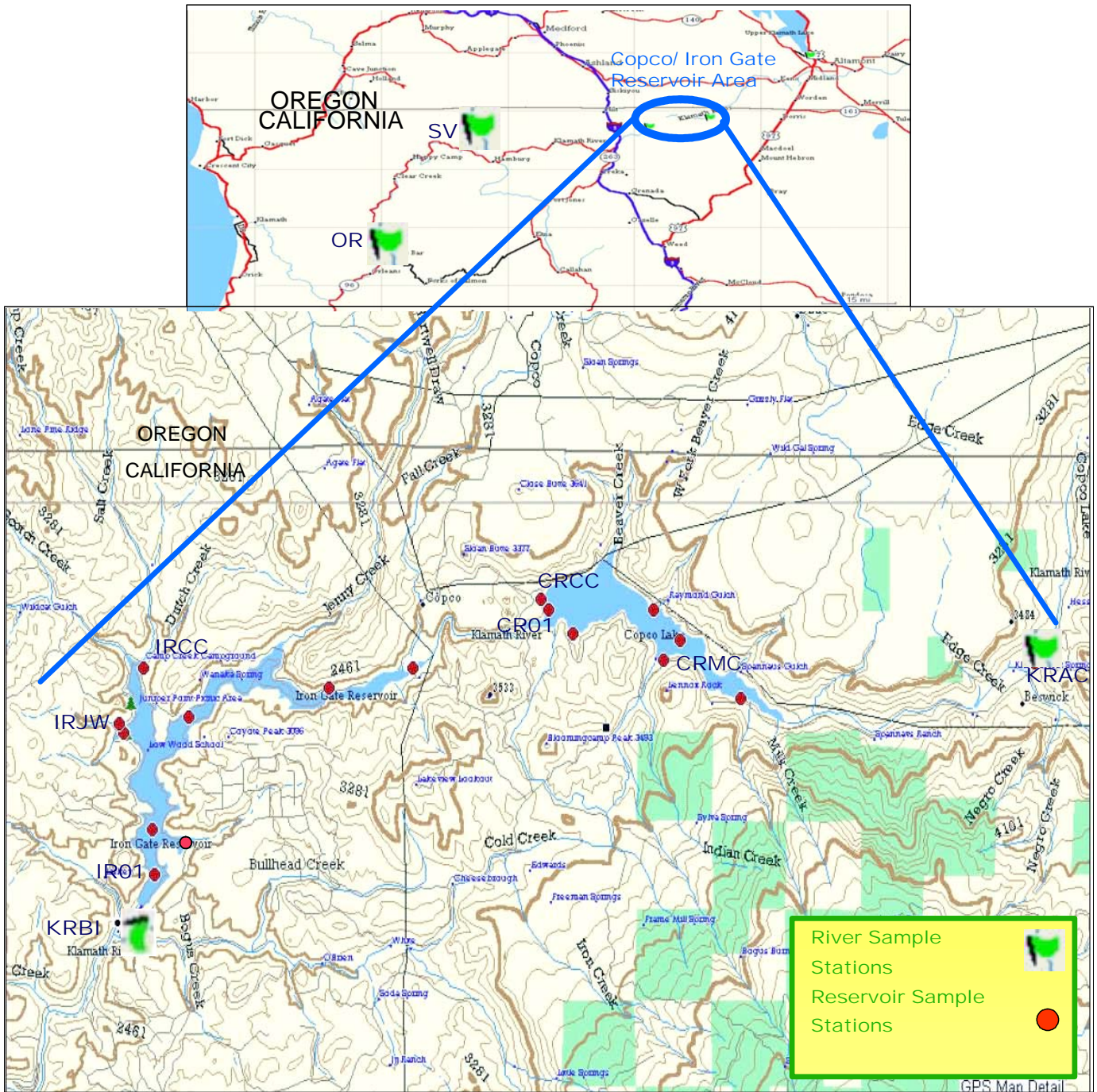


Figure 1. Location of Copco and Iron Gate Reservoir and Klamath River toxic cyanobacteria sampling stations, 7-23 and 7/24, 2007 (only labeled stations analyzed for this report).

Table 1. Cell density and risk exceedance for toxigenic cyanobacteria in Copco and Irongate Reservoirs and the Klamath River, August 7-8, 2007.

DATE	STATION NAME	DEPTH	<i>Microcystis aeruginosa</i> (cells/ml)	<i>Planktothrix (Oscillatoria) sp.</i> (cells/ml)	<i>Anabaena sp.</i> (cells/ml)	Microcystin Total (µg/L)	Exceedance of SWRCB <sup>1</sup> risk level of 40,000 cells/ml <i>Microcystis</i> or <i>Planktothrix</i> (x greater than 4 <sup>5</sup> cells/ml)	Exceedance of SWRCB <sup>1</sup> risk level of 8 µg/L microcystin (x greater than 8 µg/L)	Exceedance of TDI of 0.04 µg/kg/day for a 40 lb (18kg) child ingesting 100 mls (x greater than TDI)
5/31/2007	IR01	0	12,528	0	863		0.3		
6/13/2007	KRAC	0	0	0	0		0.0		
6/12/2007	KRBI	0	0	0	0		0.0		
6/13/2007	CR01	0	0	0	2,747		0.0		
6/13/2007	CRCC	0	360,800	0	65,996		9.0		
6/13/2007	IR01	0	7,091	5,318	1,968		0.2		
6/27/2007	KRAC	0	0	0	0		0.0		
6/27/2007	CR01	0	18,910	0	0		0.5		
6/26/2007	CRCC	0	4,578,497	0	30,283		114.5		
6/27/2007	CRMC	0	46,979	0	542		1.2		
6/27/2007	IR01	0	3,856,736	0	11,808		96.4		
6/26/2007	IRJW	0	0	0	168		0.0		
6/26/2007	KRBI	0	0	0	0		0.0		
6/26/2007	SV	0	0	0	0		0.0		
6/26/2007	OR	0	0	0	0		0.0		
7/11/2007	KRAC	0	0	0	0		0.0		
7/11/2007	CR01	0	1,804,000	0	8,509		45.1		
7/10/2007	CRCC	0	2,275,500	0	0		56.9		
7/11/2007	CRMC	0	1,726,049	0	0		43.2		
7/11/2007	IR01	0	36,315	0	3,338		0.9		
7/10/2007	IRJW	0	38,828	0	1,882		1.0		
7/10/2007	IRCC	0	1,474,969	0	4,888		36.9		
7/11/2007	IRSH	0	27,253	0	1,793		0.7		
7/10/2007	KRBI	0	6,231	0	119		0.2		
7/10/2007	SV	0	0	0	0		0.0		
7/10/2007	OR	0	0	0	0		0.0		
7/24/2007	KRAC	0	0	0	0		0.0		
7/24/2007	CR01	0	617,508	0	0		15.4		
7/23/2007	CRCC	0	2,183,809	0	0		54.6		
7/24/2007	CRMC	0	1,074,834	0	0		26.9		
7/24/2007	IR01	0	0	0	0		0.0		
7/23/2007	IRJW	0	80,776	0	0		2.0		
7/23/2007	IRCC	0	6,594	0	3,627		0.2		
7/23/2007	KRBI	0	9,636	0	155		0.2		
7/23/2007	SV	0	932	0	0		0.0		
7/23/2007	OR	0	677	0	0		0.0		
8/8/2007	KRAC	0	0	0	0		0.0		
8/8/2007	CR01	0	139,733	0	0		3.5		
8/7/2007	CRCC	0	711,309	0	0		17.8		
8/8/2007	CRMC	0	5,709,515	0	0		142.7		
8/7/2007	IR01	0	812,740	0	0		20.3		
8/7/2007	IRJW	0	27,333	0	0		0.7		
8/7/2007	IRCC	0	50,509	0	0		1.3		
8/7/2007	KRBI	0	24,247	0	0		0.6		
8/7/2007	SV	0	15,475	0	0		0.4		
8/7/2007	OR	0	9,251	0	0		0.2		

<sup>1</sup>From: Blue Green Algae Work Group of the State Water Resources Control Board and Office of Environmental Health and Hazard Assessment: *Cyanobacteria in California Recreational Water Bodies Providing Voluntary Guidance about Harmful Algal Blooms, Their Monitoring, and Public Notification (DRAFT June 2007)*



IR Narrows



Copco Shoreline BC



CR Open Water



CRMC



IR01

Figure 2. Bloom conditions in Copco and Iron Gate Reservoirs, August 7-8, 2007.

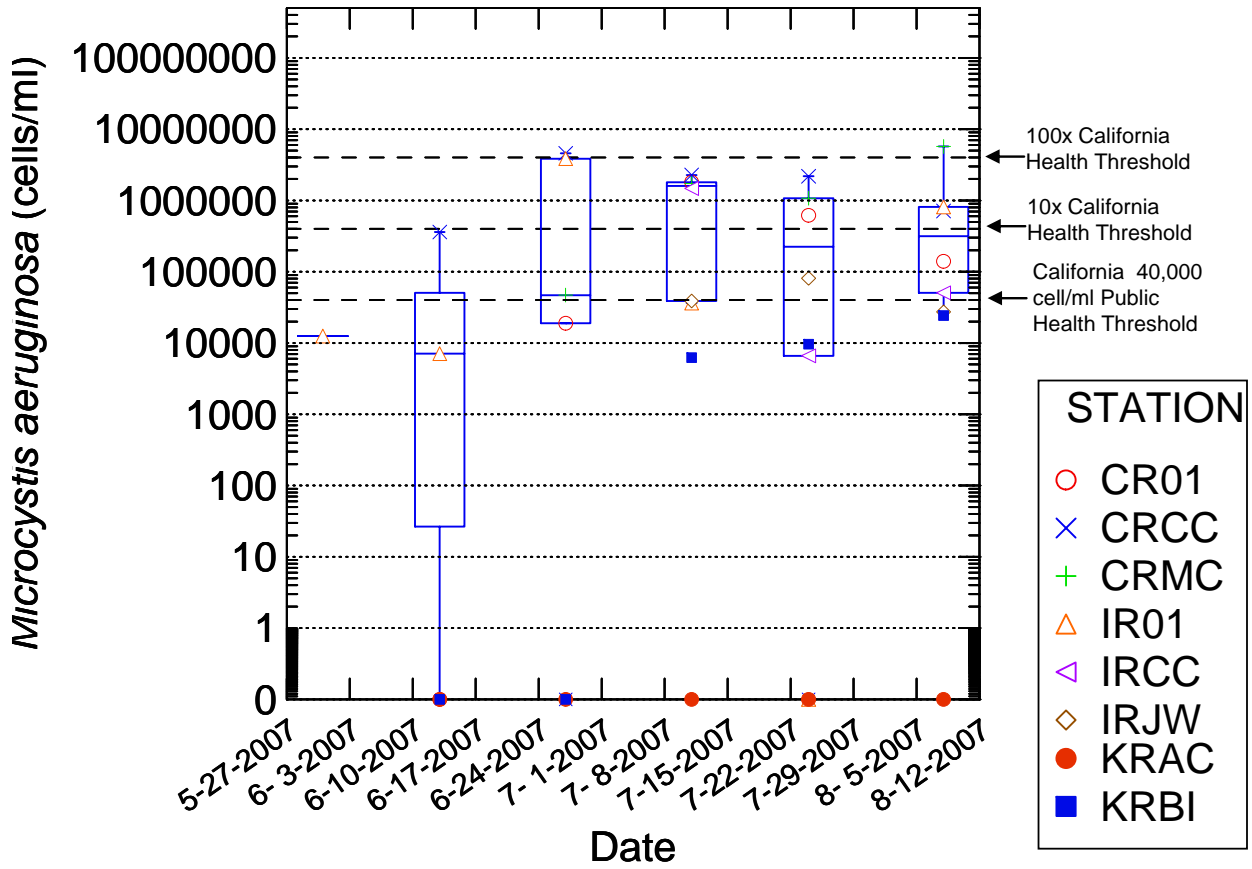


Figure 3. Time-series of MSAE cell density for Copco and Iron Gate Reservoir stations, 2007. The blue box is for the reservoir stations only; the river stations KRAC and KRBI are shown independently.

# Appendix I: Aquatic Analysts Phytoplankton Lab Sheets

## Phytoplankton Sample Analysis

**Sample:** Copco Res  
**Sample Station:** CR01  
**Sample Depth:** 0  
**Sample Date:** 8-Aug-07

**Total Density (#/mL):** 2,385  
**Total Biovolume (um<sup>3</sup>/mL):** 1,323,439  
**Trophic State Index:** 51.9

Species	Density #/mL	Density Percent	Biovolume um <sup>3</sup> /mL	Biovolume Percent	Group
1 Microcystis aeruginosa	1,397	58.6	1,117,863	84.5	bluegreen
2 Nitzschia palea	795	33.3	143,106	10.8	diatom
3 Aphanizomenon flos-aquae	48	2.0	30,356	2.3	bluegreen
4 Melosira granulata	24	1.0	13,251	1.0	diatom
5 Chlamydomonas sp.	24	1.0	7,830	0.6	green
6 Asterionella formosa	24	1.0	5,300	0.4	diatom
7 Nitzschia amphibia	24	1.0	2,313	0.2	diatom
8 Ankistrodesmus falcatus	24	1.0	602	0.0	green
9 Rhoicosphenia curvata	24	1.0	2,819	0.2	diatom

Microcystis aeruginosa cells/mL = 139,733

Aphanizomenon flos-aquae cells/mL = 482

### Phytoplankton Sample Analysis

**Sample:** Copco Res  
**Sample Station:** CRCC  
**Sample Depth:** SG  
**Sample Date:** 7-Aug-07

**Total Density (#/mL):** 10,745  
**Total Biovolume (um<sup>3</sup>/mL):** 7,910,812  
**Trophic State Index:** 64.8

Species	Density #/mL	Density Percent	Biovolume um <sup>3</sup> /mL	Biovolume Percent	Group
1 Microcystis aeruginosa	7,113	66.2	5,690,470	71.9	bluegree
2 Nitzschia palea	2,421	22.5	435,866	5.5	diatom
3 Aphanizomenon flos-aquae	1,059	9.9	1,735,291	21.9	bluegree
4 Chlamydomonas sp.	151	1.4	49,186	0.6	green

Microcystis aeruginosa cells/mL = 711,309

Aphanizomenon flos-aquae cells/mL = 27,544

Aphanizomenon flos-aquae heterocysts/mL = 151



### Phytoplankton Sample Analysis

**Sample:** Copco Res  
**Sample Station:** CRMC  
**Sample Depth:** SG  
**Sample Date:** 8-Aug-07

**Total Density (#/mL):** 50,919  
**Total Biovolume (um<sup>3</sup>/mL):** 50,153,382  
**Trophic State Index:** 78.1

Species	Density #/mL	Density Percent	Biovolume um <sup>3</sup> /mL	Biovolume Percent	Group
1 Microcystis aeruginosa	34,189	67.1	45,676,116	91.1	bluegree
2 Nitzschia palea	13,821	27.1	2,487,774	5.0	diatom
3 Chlamydomonas sp.	1,455	2.9	472,823	0.9	green
4 Nitzschia frustulum	364	0.7	43,645	0.1	diatom
5 Ulothrix sp.	364	0.7	581,935	1.2	green
6 Synedra ulna	364	0.7	723,782	1.4	diatom
7 Cocconeis placentula	364	0.7	167,306	0.3	diatom

Microcystis aeruginosa cells/mL = 5,709,515

### Phytoplankton Sample Analysis

**Sample:** Irongate Res  
**Sample Station:** IR01  
**Sample Depth:** 0  
**Sample Date:** 7-Aug-07

**Total Density (#/mL):** 33,199  
**Total Biovolume (um<sup>3</sup>/mL):** 29,177,508  
**Trophic State Index:** 74.2

Species	Density #/mL	Density Percent	Biovolume um <sup>3</sup> /mL	Biovolume Percent	Group
1 Aphanizomenon flos-aquae	14,407	43.4	19,968,025	68.4	bluegree
2 Nitzschia palea	13,154	39.6	2,367,750	8.1	diatom
3 Microcystis aeruginosa	4,698	14.2	6,501,917	22.3	bluegree
4 Chlamydomonas sp.	313	0.9	101,788	0.3	green
5 Nitzschia frustulum	313	0.9	75,167	0.3	diatom
6 Cryptomonas erosa	313	0.9	162,861	0.6	cryptoph

Microcystis aeruginosa cells/mL = 812,740

Aphanizomenon flos-aquae cells/mL = 316,953

Aphanizomenon flos-aquae heterocysts/mL = 2,192

### Phytoplankton Sample Analysis

**Sample:** Irongate Res  
**Sample Station:** IRCC  
**Sample Depth:** SG  
**Sample Date:** 7-Aug-07

**Total Density (#/mL):** 2,539  
**Total Biovolume (um<sup>3</sup>/mL):** 2,460,007  
**Trophic State Index:** 56.3

Species	Density #/mL	Density Percent	Biovolume um <sup>3</sup> /mL	Biovolume Percent	Group
1 Nitzschia palea	940	37.0	169,125	6.9	diatom
2 Aphanizomenon flos-aquae	584	23.0	735,922	29.9	bluegree
3 Microcystis aeruginosa	432	17.0	404,072	16.4	bluegree
4 Rhodomonas minuta	76	3.0	1,524	0.1	cryptoph
5 Fragilaria capucina mesolepta	76	3.0	446,810	18.2	diatom
6 Nitzschia amphibia	76	3.0	7,314	0.3	diatom
7 Cocconeis placentula	51	2.0	23,363	0.9	diatom
8 Fragilaria crotonensis	51	2.0	597,270	24.3	diatom
9 Chlamydomonas sp.	51	2.0	16,506	0.7	green
10 Fragilaria construens venter	51	2.0	13,408	0.5	diatom
11 Fragilaria construens	25	1.0	11,377	0.5	diatom
12 Rhoicosphenia curvata	25	1.0	2,971	0.1	diatom
13 Ankistrodesmus falcatus	25	1.0	635	0.0	green
14 Nitzschia tryblionella	25	1.0	13,459	0.5	diatom
15 Nitzschia frustulum	25	1.0	3,047	0.1	diatom
16 Cryptomonas erosa	25	1.0	13,205	0.5	cryptoph

Microcystis aeruginosa cells/mL = 50,509

Aphanizomenon flos-aquae cells/mL = 11,681

Aphanizomenon flos-aquae heterocysts/mL = 279

### Phytoplankton Sample Analysis

**Sample:** Irongate Res  
**Sample Station:** IRJW  
**Sample Depth:** SG  
**Sample Date:** 7-Aug-07

**Total Density (#/mL):** 2,369  
**Total Biovolume (um<sup>3</sup>/mL):** 1,449,578  
**Trophic State Index:** 52.5

Species	Density #/mL	Density Percent	Biovolume um <sup>3</sup> /mL	Biovolume Percent	Group
1 Aphanizomenon flos-aquae	957	40.4	904,050	62.4	bluegree
2 Nitzschia palea	364	15.4	65,600	4.5	diatom
3 Rhodomonas minuta	296	12.5	5,922	0.4	cryptoph
4 Microcystis aeruginosa	273	11.5	218,667	15.1	bluegree
5 Cryptomonas erosa	251	10.6	130,289	9.0	cryptoph
6 Cocconeis placentula	68	2.9	31,433	2.2	diatom
7 Melosira varians	23	1.0	29,611	2.0	diatom
8 Nitzschia amphibia	23	1.0	4,373	0.3	diatom
9 Nitzschia frustulum	23	1.0	2,733	0.2	diatom
10 Fragilaria crotonensis	23	1.0	38,267	2.6	diatom
11 Fragilaria construens venter	23	1.0	6,560	0.5	diatom
12 Stephanodiscus astraea minutula	23	1.0	7,972	0.5	diatom
13 Achnanthes lanceolata	23	1.0	4,100	0.3	diatom

Microcystis aeruginosa cells/mL = 27,333

Aphanizomenon flos-aquae cells/mL = 14,350

Aphanizomenon flos-aquae heterocysts/mL = 137

### Phytoplankton Sample Analysis

**Sample:** Klamath Basin  
**Sample Station:** OR  
**Sample Depth:** 0C  
**Sample Date:** 7-Aug-07

**Total Density (#/mL):** 2,775  
**Total Biovolume (um<sup>3</sup>/mL):** 2,483,322  
**Trophic State Index:** 56.4

Species	Density #/mL	Density Percent	Biovolume um <sup>3</sup> /mL	Biovolume Percent	Group
1 Epithemia sorex	763	27.5	957,091	38.5	diatom
2 Aphanizomenon flos-aquae	694	25.0	699,397	28.2	bluegree
3 Nitzschia palea	347	12.5	62,446	2.5	diatom
4 Navicula cryptocephala	162	5.8	29,951	1.2	diatom
5 Cocconeis placentula	139	5.0	127,668	5.1	diatom
6 Nitzschia frustulum	116	4.2	16,652	0.7	diatom
7 Microcystis aeruginosa	93	3.3	74,010	3.0	bluegree
8 Scenedesmus quadricauda	93	3.3	24,053	1.0	green
9 Diatoma vulgare	93	3.3	217,590	8.8	diatom
10 Rhoicosphenia curvata	46	1.7	5,412	0.2	diatom
11 Gomphonema angustatum	46	1.7	8,326	0.3	diatom
12 Synedra ulna	46	1.7	92,050	3.7	diatom
13 Cyclotella meneghiniana	23	0.8	8,789	0.4	diatom
14 Chlamydomonas sp.	23	0.8	7,517	0.3	green
15 Gomphoneis herculeana	23	0.8	124,892	5.0	diatom
16 Pediastrum tetras	23	0.8	5,551	0.2	green
17 Nitzschia paleacea	23	0.8	2,267	0.1	diatom
18 Gomphonema ventricosum	23	0.8	19,659	0.8	diatom

Microcystis aeruginosa cells/mL = 9,251

Aphanizomenon flos-aquae cells/mL = 11,102

Aphanizomenon flos-aquae heterocysts/mL = 139

**Aquatic Analysts**

**Sample ID:** LA18

### Phytoplankton Sample Analysis

**Sample:** Klamath Basin  
**Sample Station:** SV  
**Sample Depth:** 0C  
**Sample Date:** 7-Aug-07

**Total Density (#/mL):** 2,410  
**Total Biovolume (um<sup>3</sup>/mL):** 1,317,738  
**Trophic State Index:** 51.8

Species	Density #/mL	Density Percent	Biovolume um <sup>3</sup> /mL	Biovolume Percent	Group
1 Aphanizomenon flos-aquae	929	38.5	701,968	53.3	bluegree
2 Nitzschia palea	420	17.4	75,609	5.7	diatom
3 Nitzschia frustulum	265	11.0	38,202	2.9	diatom
4 Cocconeis placentula	243	10.1	145,425	11.0	diatom
5 Microcystis aeruginosa	155	6.4	123,804	9.4	bluegree
6 Navicula cryptocephala	111	4.6	20,450	1.6	diatom
7 Cryptomonas erosa	66	2.8	34,488	2.6	cryptoph
8 Synedra ulna	66	2.8	131,984	10.0	diatom
9 Rhodomonas minuta	44	1.8	884	0.1	cryptoph
10 Scenedesmus quadricauda	44	1.8	11,496	0.9	green
11 Rhoicosphenia curvata	22	0.9	2,587	0.2	diatom
12 Melosira varians	22	0.9	28,740	2.2	diatom
13 Navicula cryptocephala veneta	22	0.9	2,100	0.2	diatom

Microcystis aeruginosa cells/mL = 15,475

Aphanizomenon flos-aquae cells/mL = 11,142

Aphanizomenon flos-aquae heterocysts/mL = 44

### Phytoplankton Sample Analysis

**Sample:** Klamath River  
**Sample Station:** KRAC  
**Sample Depth:** 0C  
**Sample Date:** 8-Aug-07

**Total Density (#/mL):** 561  
**Total Biovolume ( $\mu\text{m}^3/\text{mL}$ ):** 161,409  
**Trophic State Index:** 36.7

Species	Density #/mL	Density Percent	Biovolume $\mu\text{m}^3/\text{mL}$	Biovolume Percent	Group
1 Nitzschia frustulum	84	15.0	11,107	6.9	diatom
2 Navicula cryptocephala veneta	62	11.0	5,862	3.6	diatom
3 Cocconeis placentula	56	10.0	25,803	16.0	diatom
4 Scenedesmus quadricauda	50	9.0	12,798	7.9	green
5 Rhoicosphenia curvata	39	7.0	4,594	2.8	diatom
6 Ulothrix sp.	28	5.0	2,244	1.4	green
7 Nitzschia palea	22	4.0	4,039	2.5	diatom
8 Ankistrodesmus falcatus	22	4.0	561	0.3	green
9 Cyclotella meneghiniana	22	4.0	8,526	5.3	diatom
10 Gomphonema angustatum	17	3.0	3,029	1.9	diatom
11 Chlamydomonas sp.	17	3.0	5,469	3.4	green
12 Aphanizomenon flos-aquae	17	3.0	13,782	8.5	bluegree
13 Gomphonema subclavatum	17	3.0	13,126	8.1	diatom
14 Achnanthes minutissima	11	2.0	561	0.3	diatom
15 Amphora perpusilla	11	2.0	3,725	2.3	diatom
16 Nitzschia dissipata	11	2.0	3,018	1.9	diatom
17 Navicula menisculus upsaliensis	11	2.0	2,300	1.4	diatom
18 Diatoma vulgare	11	2.0	21,989	13.6	diatom
19 Nitzschia communis	6	1.0	252	0.2	diatom
20 Pediastrum boryanum	6	1.0	2,244	1.4	green
21 Rhodomonas minuta	6	1.0	112	0.1	cryptoph
22 Navicula graciloides	6	1.0	2,440	1.5	diatom
23 Navicula cryptocephala	6	1.0	1,038	0.6	diatom
24 Gomphonema clevei	6	1.0	505	0.3	diatom
25 Melosira granulata	6	1.0	3,085	1.9	diatom
26 Navicula tripunctata	6	1.0	6,283	3.9	diatom
27 Cryptomonas erosa	6	1.0	2,917	1.8	cryptoph

Aphanizomenon flos-aquae cells/mL = 219

**Aquatic Analysts**

**Sample ID:** LA20

### Phytoplankton Sample Analysis

**Sample:** Klamath River  
**Sample Station:** KRBI  
**Sample Depth:** 0C  
**Sample Date:** 7-Aug-07

**Total Density (#/mL):** 1,406  
**Total Biovolume (um<sup>3</sup>/mL):** 1,331,517  
**Trophic State Index:** 51.9

Species	Density #/mL	Density Percent	Biovolume um <sup>3</sup> /mL	Biovolume Percent	Group
1 Nitzschia palea	521	37.1	93,837	7.0	diatom
2 Aphanizomenon flos-aquae	509	36.2	577,425	43.4	bluegree
3 Microcystis aeruginosa	194	13.8	193,978	14.6	bluegree
4 Cocconeis placentula	61	4.3	27,884	2.1	diatom
5 Rhodomonas minuta	24	1.7	485	0.0	cryptoph
6 Gomphonema subclavatum	24	1.7	14,548	1.1	diatom
7 Ankistrodesmus falcatus	24	1.7	606	0.0	green
8 Navicula cryptocephala veneta	12	0.9	1,152	0.1	diatom
9 Gomphonema ventricosum	12	0.9	10,305	0.8	diatom
10 Chlamydomonas sp.	12	0.9	3,940	0.3	green
11 Fragilaria crotonensis	12	0.9	407,355	30.6	diatom

Microcystis aeruginosa cells/mL = 24,247

Aphanizomenon flos-aquae cells/mL = 9,165

Aphanizomenon flos-aquae heterocysts/mL = 121



**Appendix II**

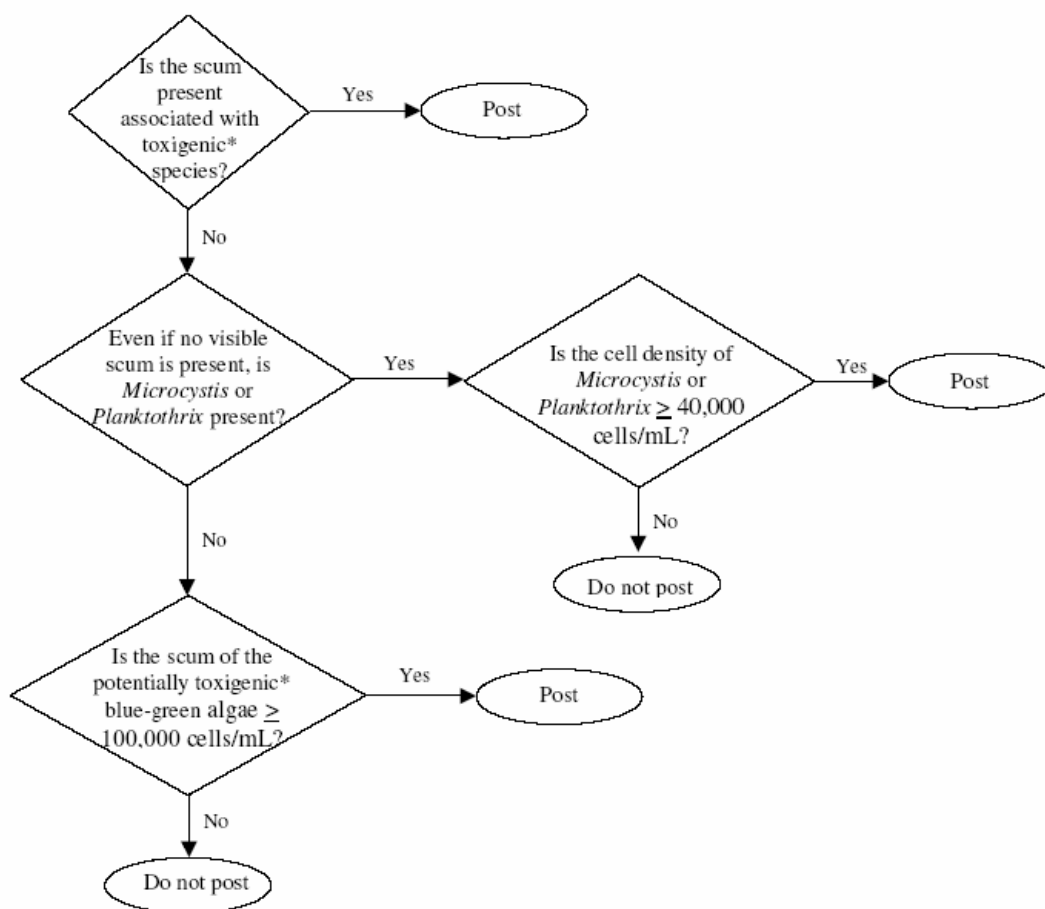
From: Blue Green Algae Work Group of the State Water Resources Control Board and Office of Environmental Health and Hazard Assessment

*Cyanobacteria in California Recreational Water Bodies Providing Voluntary Guidance about Harmful Algal Blooms, Their Monitoring, and Public Notification (DRAFT June 2007)*

<http://www.waterboards.ca.gov/bluegreenalgae/index.html>

Posting Decisions:

- If visible scum is present: Post warning signs and distribute informational brochures.
- When sampling with microbial identification is available, the following decision chart is recommended:



\*Potentially toxic blue-green algae that have been detected in California include those of the genera *Anabaena*, *Microcystis*, *Aphanizomenon*, and *Gloeotrichia*. Additional blue-green algae that are known to be potentially toxic may be added to this list.