

8/20/19

**Greenwood Lake Harmful Algal Bloom
Sampling Results, Map and Flight Results**

Greenwood Lake Harmful Algal Bloom (HAB) Samples and Results as of 8/19/2019

Cell Counts

Site ID	Site name (all within NJ boundary)	Cyanobacteria Counts cells/mL*										
		Date Sampled										
		7/10/2019	7/15/2019	7/22/2019	7/24/2019	7/29/2019	7/31/2019	8/5/2019	8/7/2019**	8/13/2019**	8/14/2019**	8/19/2019**
GL001	Mid-lake North	51000	61000	80160	100500	84700	134000	96500	> 57000	> 45000	> 55250	>69750
GL002	Mid-lake Center	---	90000	139250	111750	95500	58500	145000	> 34050	> 48250	> 48250	>45625
GL003	Mid-lake South	108000	212000	98560	133750	121250	472000	117500	> 101300	>91000	>84750	>54250
GL004	Browns Point	---	148000	232250	90625	152750	111250	90000	> 151750	>69500	> 58875	>76250
GL005	Lakeside Community Beach	---	---	71000	89875	82000	104000	85000	> 55250	>97750	>65000	>24750
GL006	Greenwood Lake Beach Assoc	---	---	33375	86750	30250	63000	56750	> 88250	>103375	>38500	>85500
GL007	Awosting Beach	---	---	156750	87500	77250	87750	128000	> 107750	>119750	>83750	>56750
GL008	Outlet	---	---	85375	94625	50250	58000	71000	> 31800	>38750	>37750	>21000

*NJ Health Advisory Guidance Levels
Cell Count ≥ 20,000 cells/ml;
Microcystins ≥ 3µg/L
Indicates > than advisory levels

**Cell counts greater than values shown due to th eeed for approximations for a newly observed cyanobacterial species

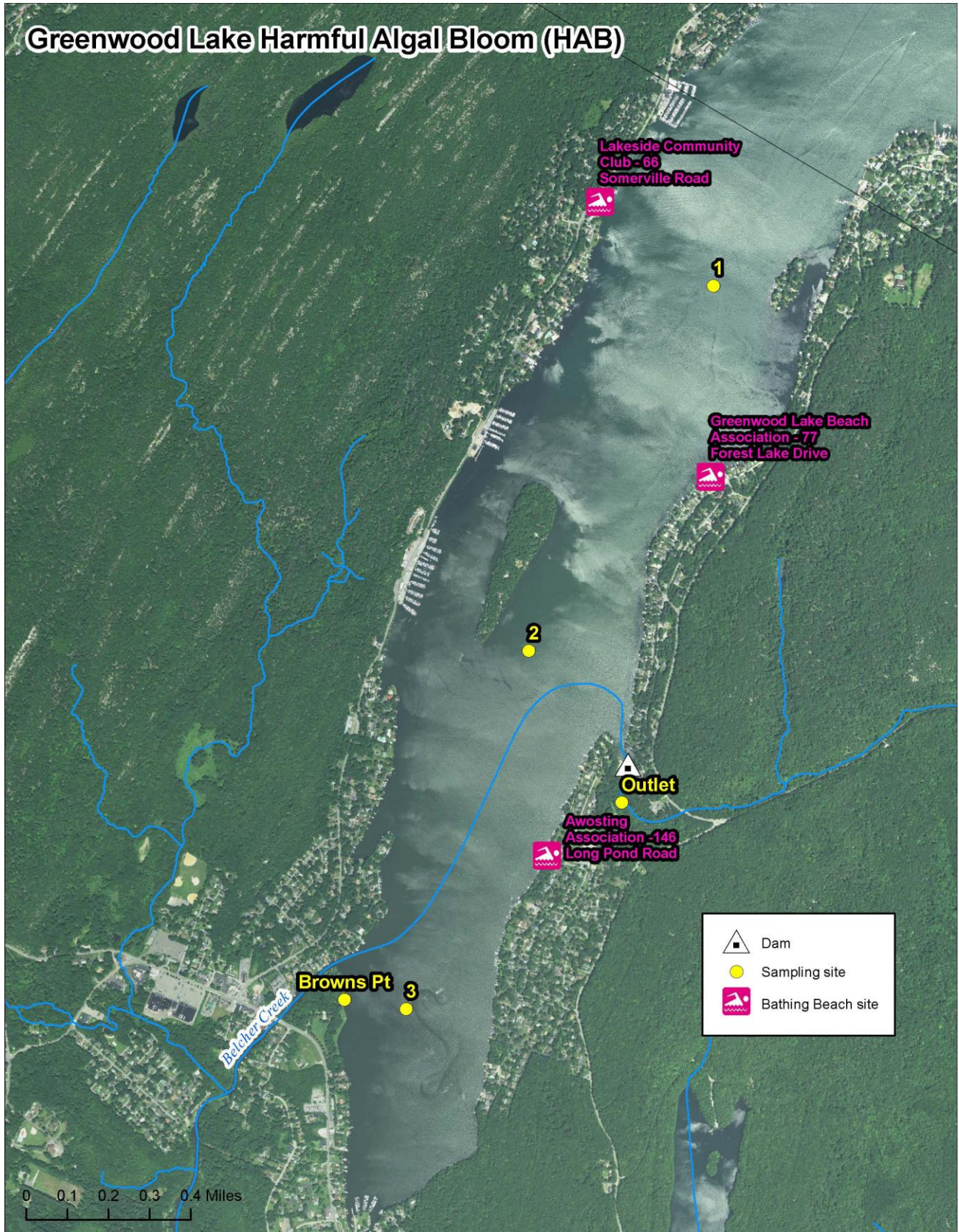
Toxins

Site ID	Site name (all within NJ boundary)	Microcystins $\mu\text{g/l}$ (lowest Reporting Level 0.15 $\mu\text{g/l}$)*										
		Date Sampled										
		7/10/19	7/15/19	7/22/19	7/24/19	7/29/19	7/31/19	8/5/19	8/7/19	8/13/19	8/14/19	8/19/19
GL001	Mid-lake North	1.66	2.56	3.79	2.12	4.63	2.64	4.03	4.67	1.38	1.32	1.75
GL002	Mid-lake Center	3.01	3.27	4.77	1.43	5.64	2.44	3.37	5.71	1.04	1.02	2.05
GL003	Mid-lake South	4.45	3.02	4.54	1.65	6.21	2.91	3.67	6.11	0.98	1.19	2.43
GL004	Browns Point	---	4.50	3.40	2.13	5.66	2.76	3.50	6.18	0.98	0.80	2.38
GL005	Lakeside Community Beach	---	---	3.56	2.38	5.60	2.66	2.61	3.69	1.49	0.85	1.65
GL006	Greenwood Lake Beach Assoc	---	---	4.70	3.29	4.09	2.60	2.41	3.15	0.72	0.75	1.86
GL007	Awosting Beach	---	---	3.28	2.10	4.56	2.46	4.00	3.35	1.15	0.98	2.04
GL008	Outlet	---	---	3.74	2.51	4.84	1.53	2.88	3.35	1.79	0.94	1.76

*NJ Health Advisory Guidance Levels
 Cell Count \geq 20,000 cells/ml;
 Microcystins \geq 3 $\mu\text{g/L}$

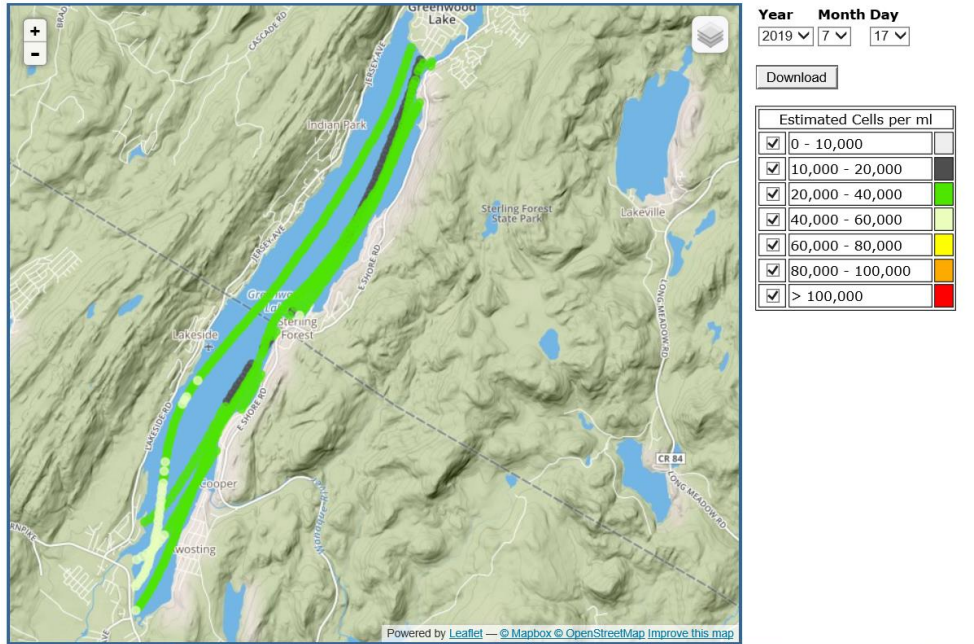
Indicates > than advisory levels

Greenwood Lake Harmful Algal Bloom (HAB)

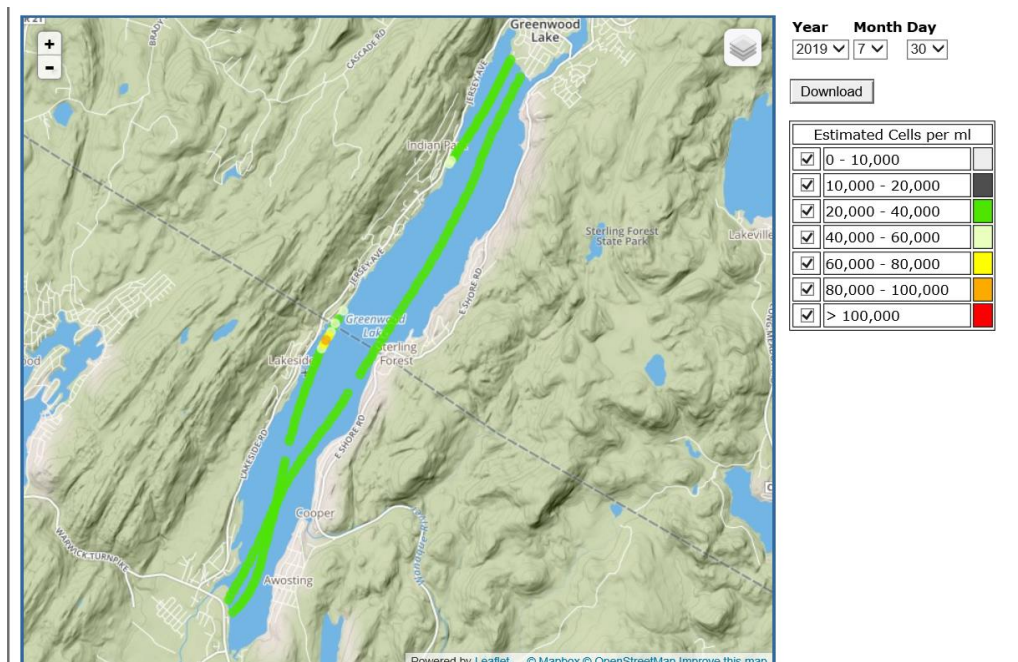


Flight Results

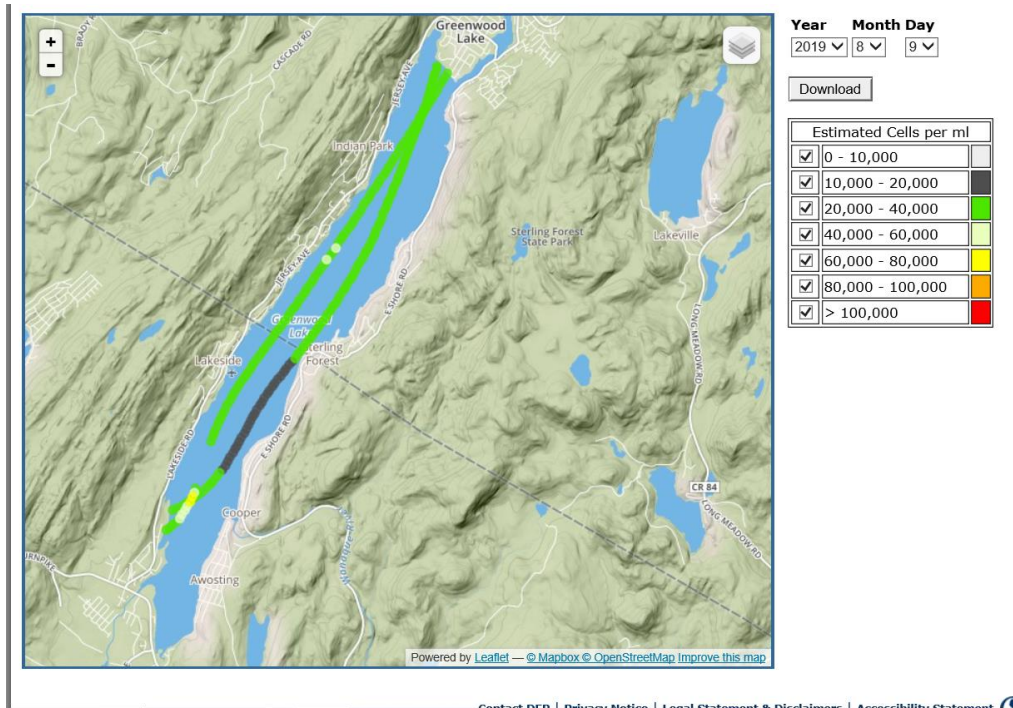
The 7/17/19 flight over Greenwood Lake detected lake wide cyanobacteria distribution, with the highest levels being detected in the New Jersey side of the lake.



The 7/30/19 flight over Greenwood Lake is detecting the presence of cyanobacteria in both NJ and NY waters and the pale-yellow color on the scale suggests cell counts greater than 20,000 cell/ml. This sensor is a general estimate and will be refined by comparison to lab analyzed cell counts.



On 8/9, Greenwood Lake's spatial distribution changed slightly, but there are estimated cell counts greater than 60,000, in one area, and there is still the presence of the bloom lake wide.



On 8/20, the spatial distribution of an intense bloom has increased lake wide; phycocyanin levels are high

—during the summer months, in favorable weather conditions, over the coastal waters of New Jersey. These nights provide a valuable perspective on water conditions and trends that enable the Bureau to target boat sampling in locations where algal blooms may be occurring.

