Monitoring Fecal Coliform Bacteria in Otsego Lake

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Levels of fecal coliform bacteria were monitored in Otsego Lake after recent record-breaking floods the week of June 25th, 2006. The water level rose to 105cm above average by June 30th, 2006. Concern was expressed over the safety of the lake for recreational purposes such as swimming and boating. Thirteen sites (Figure 1.) were sampled during and after the flooding to determine the number of fecal coliform bacterial colonies throughout Otsego Lake on June 29th, July 6th, and July 13th. The membrane filter technique was utilized in the determination of fecal coliform concentrations. All samples were run in duplicate and the number of colonies per 100mL was determined for each site.

Site	Latitude	Longitude
1	N 42° 42.198′	W 74° 55.320′
2	N 42° 43.267′	W 74° 55.372′
3	N 42° 43.635′	W 74° 54. 987
4	N 42° 43.872′	W 74° 54.927
5	N 42° 44.519′	W 74° 54.460
6	N 42° 45.214′	W 74° 54.228
7	N 42° 45.430′	W 74° 54.092
8	N 42° 46.591′	W 74° 53.966
9	N 42° 48.769′	W 74° 53.339
10	N 42° 47.488′	W 74° 52.237
11	N 42° 46.606′	W 74° 52.752
12	N 42° 42.526′	W 74° 54.859
13	N 42° 42.255′	W 74° 54.954

Figure 1. Sites monitored for fecal coliform on Otsego Lake June 29th, 2006, July 6th, 2006, and July 29th, 2006.

Figure 2. Profiles of fecal coliform bacterial concentrations on Otsego Lake.

Results of the monitoring of fecal coliform bacteria showed higher than average levels of coliform along the Western shore of Otsego Lake, however, the majority of sites sampled on all three days were well below the DOH limit of approximately 200 colonies per 100mL lake water for swimming

(Figure 2.) Exceptions were Site 9, at the joining of Hayden Creek and Otsego Lake, Site 7, just North of Fivemile Point, and Site 10, near the emergence of Shadow Brook in Hyde Bay. It is possible that nutrients and sediment from runoff due to the heavy rainfall may account for the elevated numbers of fecal coliform colonies at these locations.