

Lake Grady - Surface Water Quality Monitoring

Lake Grady was not monitored by any agency until April of 2000 when monthly sampling began as a result of the development of the Hillsborough County Alafia River Basin Study. This study called for short-term limited surface water sampling of Lake Grady and other water bodies draining to the Alafia River. At the request of Hillsborough County Public Works Stormwater Section, EPC agreed to analyze selected parameters on monthly samples that would be collected by the SWFWMD. The sampling and analysis began in April 2000 and ended on October 10, 2000. After the October sampling, Lake Grady became part of the Lake Watch Program, administered locally by the Hillsborough County Stormwater Section (see appendix 6.3). The parameters of particular interest during this groundwater contamination incident were bacteria and color. Unfortunately these parameters were not part of the Basin Study criteria. However, the SWFWMD and EPC agreed to add these parameters to the final three sampling events.

Listed below in Table 6.1 is the range of values for selective parameters found in the surface waters of the lake during the six-month sampling period. Appendix 6.1 contains a table listing all of the surface water quality data collected by the SWFWMD and EPC over the six-month period in 2000.

Table 6.1

Parameter or Pollutant	Range of Measured Values	Units
Water Color	88 to 228	PtCo
Total Coliform Bacteria	760 to 42,000	#/100ml
Fecal Coliform Bacteria	10 to 17,700	#/100ml
E Coliform Bacteria	40 to 18,000	#/100ml
Conductivity	127 to 258	umhos/cm

Color: Sometime around 1989 the earthen dike/control structure, that controlled the height of water in the lake, had failed. This lowered the lake level several feet and exposed large areas of previously inundated lake bottom. This 13 year dry period allowed a substantial re-growth of vegetation. In February 2000 the newly constructed control structure was made operational, allowing the lake level to rise again. Water levels rose as the rainy season began in June 2000. Upland types of vegetation began to die, releasing highly colored lignin and tannin similar to ice tea. Lignin is a plant constituent and tannin is a result of vegetation degradation. This abnormal highly colored water seeped into the ground via the sinkhole and became very noticeable by residents living on the east side of the lake. As the dying vegetation decays, it is expected that the lake color should subside over the next couple of years and approach about 50 PtCo units.