Ichetucknee Springs System is in north central Florida, near High Springs, under the Suwannee River Water Management District (SRWMD). The Ichetucknee Spring system is one of the most pristine springs in Florida and became a state park in 1970. Over 400,000 people visited the Ichetucknee Springs State Park in 2016. From that total, over 130,000 people came during the tubing season alone, Memorial Day to Labor Day. During the tubing season, only 750 visitors per day are allowed to launch from the North Launch, near the Ichetucknee Head Spring. The park enforces these time frames and visitor limits to protect the integrity of the aquatic vegetation and life in the northern portion of the River. The objective of this study is to evaluate the response of water quality to the seasonal changes in visitor numbers to the Park. Water quality parameters were continuously monitored and recorded by the SRWMD EXO2+SUNA station: temperature, turbidity, pH, specific conductivity, dissolved oxygen content, and nitrates (NO$_2$+NO$_3$). Water quality data from April 2015 to September 2017 was reviewed and processed into daily values that were compared to daily visitor counts. Results from the statistical analysis of the observed dataset show that there is a significant difference in turbidity records during the tubing season and outside the tubing season (p<0.05), which indicates a greater disturbance of the sediment due to an increase in visitors. However, due to inconsistency of water quality readings, equipment damage, and lack of calibration, some data were lost or outside the range of monitoring capabilities. This may have resulted in decreased correlation between water quality and daily visitors counts. Future evaluation of water quality by continuous monitoring is warranted as it can assist the SRWMD and Ichetucknee Springs State Park Staff better monitor and evaluate the health of the Spring.

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Approved for distribution by Dr. Arvind Singh, Committee Chair, on October 12, 2017.

The public is welcome to attend.