Report to North Carolina's Environmental Review Commission

Jordan Lake Nutrient Monitoring

March 1, 2023

Division of Water Resources

NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY

Pursuant to S.L. 2009-216, Sec. 3(c)

JORDAN LAKE WATER QUALITY MONITORING REPORT
March 1, 2023

SESSION LAW 2009-216 SECTION 3.(c) requires the Department of Environmental Quality to submit water quality monitoring reports for Jordan Lake every three years until the lake is no longer impaired by nutrient pollution.

Jordan Lake consists of three arms: Haw River, Upper New Hope Creek, and Lower New Hope Creek, with 22 monitoring stations throughout the lake. The most recent U.S. Environmental Protection Agency (EPA) approved report available to determine water quality impairment is the 2022 NC Water Quality Assessment, which is based on data from 2016-2020.

The key water quality parameter for determining nutrient pollution is chlorophyll a. The chlorophyll a standard is 40 micrograms per liter (µg/l) with a 10% exceedance allowance using a 90% confidence interval. This standard and the methodology to determine impairment has been approved by the EPA. Of the 9 monitoring stations established in the 2016 Study Plan, none are currently meeting the standard for chlorophyll a based on the 2022 NC Water Quality Assessment. Therefore, the associated portions of the lake were determined to be impaired. In addition to the continued chlorophyll a impairment, portions of the reservoir are impaired for turbidity and pH (note: both of these parameters are related to nutrient impairment).

Table 1: Jordan Lake Chlorophyll a Sampling (2016-2020)

Monitoring Station	Number of Samples	Number of Samples Exceeding 40 ug/L	Frequency of Sample Exceedance (%)
CPF055C	57	18	32%
CPF055D	57	10	18%
CPF055E	57	11	19%
CPF086C	57	43	75%
CPF081A1C	58	46	79%
CPF086F	57	39	68%
CPF087B3	57	22	39%
CPF087D	57	12	21%
CPF0880A	58	11	19%

SL 2016-94 and SL2018-5 established requirements for readoption of nutrient rules for Jordan Lake. Following receipt of the NC Policy Collaboratory report in December 2019, the readoption of the Jordan Lake Rules was initiated.

The monitoring station results are provided in the table to the left, and the 2022 Integrated Report Assessments are shown on the map below. If you have any questions, please contact Rich.Gannon@ncdenr.gov.

2022 Integrated Report Jordan Lake Assessments

(Exceeding Criteria Parameters are Labeled)