

What to Know About White Lake

It is one of the naturally formed Bay Lakes in Bladen County, NC

It is small and shallow so conditions can change relatively quickly



Inputs

Source water is primarily rainfall (>90%)

Groundwater/springs inflow varies with height of water table

Annual variation in lake levels/lake depths of 10-20"



pH

Recent rainfall pH change ≥ 1 unit

Normal lake pH now 6-7

Algae blooms can increase pH up to 2 additional units

pH during blooms now 8-9



Nutrients

Total Phosphorus levels generally equal to historic levels

The same trend holds for other Bay Lakes

Lake sediments are a storehouse for nutrients, particularly phosphorus

Boating activities can stir up the lake bottom,

delivering nutrients to fuel algae growth

Muddy water = higher nutrients

Total Nitrogen levels in lake water are now *3-8 times higher* than historic levels

Other Bay Lakes have seen two-fold increases

Rainfall is the primary source of nitrogen to the lake

Total nitrogen deposition is very high in this region of North Carolina, with a five-fold increase in ammonia deposition—this can be rapidly utilized by algae

Big rains are more frequent due to changing weather

Algae blooms can result from big rains, due to nutrients in rainfall