



Bond Lake FAQ

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PROJECT OVERVIEW

ORIGINAL CONSTRUCTION

Bond Lake Dam was designed by the Natural Resources Conservation Services (NRCS) in 1972 as a flood protection dam. The dam was originally classified as a low hazard structure, but has been reclassified by both the NRCS and the North Carolina Department of Environmental Quality (NCDEQ) as a high hazard structure due to downstream development. Bond Lake Dam currently provides flood protection to over \$2M in residential property and infrastructure annually.

CURRENT CONDITION

As the Local Sponsor, Wake County is responsible for the operation and maintenance of Bond Lake Dam. The dam is in good condition and there are no immediate dam safety concerns.

DAM ASSESSMENT

An initial, screening-level study was completed in 2018 and found that Bond Lake Dam does not meet current NRCS design criteria for high hazard dams.

PLANNING STUDY

Wake County, in cooperation with the NRCS, is currently developing a Supplemental Watershed Plan (SWP) to evaluate the possible rehabilitation of Bond Lake Dam to extend the longevity of the lake. The SWP is required in order to be eligible for federal cost-share assistance. Planning studies occur in the very early stages of a project before any design effort is undertaken.

FREQUENTLY ASKED QUESTIONS

WHAT IS THE PURPOSE OF THIS PROJECT?

A total of 10 watershed dams were built within Wake County as part of the Crabtree Creek Watershed Plan. The dams are being re-evaluated due to urban development, changes within the watershed, and updates to NRCS dam performance and design criteria. The current planning study will be used to identify and prioritize future rehabilitation work within the watershed.

WHAT OPTIONS ARE EVALUATED?

The SWP process must comply with NEPA, which outlines the possible options. To be eligible for cost-share assistance, all options must meet current NRCS design requirements. Additionally, all options must meet applicable NCDEQ criteria, as well as the standard of care for dam safety. Wake County is committed to preserving the longevity of Bond Lake and will evaluate options accordingly.

WILL THE LAKE BE DRAINED?

If Bond Lake Dam is selected for future rehabilitation, the lake may be temporarily drained to facilitate construction. However, all feasible, cost-effective options will be considered.

HOW LONG WOULD IT LAST?

The duration depends heavily on design elements that are not well defined at the current planning level. In general, the duration is expected to be approximately 6 months.

WHEN WOULD THE LAKE BE REFILLED?

Following the end of construction and approval by NCDEQ, Bond Lake would be refilled. The rate at which it returns to normal pool will depend on rain events within the watershed and may be controlled for monitoring purposes.

WHAT WILL HAPPEN TO THE FISH?

As part of the work, the existing fish population within Bond Lake will be recovered and relocated. The project team will coordinate with NCDEQ to determine where the fish will be relocated, whether it be downstream into the receiving stream or to another reservoir. Loss of a small percentage of the total population may occur, but all efforts will be made to minimize impacts.

WILL THE FISH BE RESTOCKED?

Once the construction work is complete and the reservoir is refilled, the fish will be restocked. This will provide long-term benefits by using native fish species that can grow into a high-quality, productive fishery. Impacts to recreational fishing will be temporary as the restocked fish population is established.

WILL OTHER WILDLIFE BE AFFECTED?

Any disruption to wildlife around Bond Lake will be temporary. While the lake is lowered and during construction operations, you may see a decline in wildlife activity, but this will recover after the habitat is returned to its current condition.

WILL SEDIMENT BE REMOVED?

Sediment storage is an important function of all NRCS watershed dams. The NRCS completed a sediment survey in 2018 and found that about 22% of the normal reservoir volume is occupied by sediment. Based on the rate of accumulation since the dam was completed, they estimate that Bond Lake has about 160 years of sediment storage remaining, so sediment removal will not be included in the current planning study.

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Planning Study Overview

ENVIRONMENTAL IMPACT OVERVIEW



Complete

Next Steps

The current study that is underway is known as a “Supplemental Watershed Plan – Environmental Assessment,” or a Plan-EA. While the study does include engineering evaluations related to the dam and spillway system, there is also an environmental and cultural impact component to the study that is based on meeting the requirements of the National Environmental Protection Act, or NEPA. The Plan-EA must also follow the “Principles Requirements and Guidelines for Federal Investments in Water Resources,” also known as PR&G.

During the initial phases of the Plan-EA, environmental scientists and cultural resource specialists review the project area and identify potential impacts (both positive and negative) to the surrounding environment, including water, wetlands, fish and wildlife, and threatened and endangered species. They also identify economic and social resources within the watershed that may be impacted by the project, such as the surrounding park and citizens that utilize the lake for fishing and recreation. A public meeting was held in August of 2023 to introduce the project to the public and solicit their feedback regarding such potential impacts.

Once all of the potential environmental, social, and economic impacts have been identified and inventoried, all of the proposed alternatives are evaluated for how their implementation may impact these resources.



The preliminary evaluation of this project includes consideration of erosion and sedimentation potential, impacts to farmland, water quality and wetlands, threatened and endangered plants and animals, forest resources, fish and wildlife resources, migratory birds and bald eagles, economic costs and benefits, cultural resources, and public health and safety. Each of the alternatives that have been presented have a finding of no significant impact (FONSI), which indicates that there are no long-lasting, detrimental impacts associated with the proposed work. The no significant impact finding is supported by the Natural Resources Conservation Service (NRCS) of North Carolina, who is Wake County’s partner on this project.

It is important to note that following completion of this planning study, the project will compete nationally with other potential watershed improvement projects for federal funds – both for the design phase and the construction phase of the project, each having a duration of 1-2 years, depending on the selected alternative.

Public concerns regarding the possible drainage of Bond Lake have been received by the project team, and are being incorporated into the Plan-EA. While selection of a structural alternative may include temporary drainage of Bond Lake to facilitate construction, the impacts to the aquatic environment and the surrounding habitat would be localized and short term. Prior to draining the lake, the existing fish population would be removed and relocated based on coordination with the North Carolina Wildlife Resources Commission (NCWRC). The final disposition of the fish would depend on where NCWRC determines to be the most appropriate temporary housing location but may include relocating the fish into a downstream lake or transporting the fish to an offsite reservoir with more capacity.

Following construction, the lake would be refilled, and the fish would be restocked by NCWRC. While we recognize that recreational fishing of the lake would be temporarily impacted for approximately one to two years following the re-stock, long-term benefits would be gained from restocking the reservoir with native fish species and building a high-quality productive fishery. The habitat surrounding the lake would also be temporarily impacted by drainage of the lake and construction activities, but these impacts are expected to be minor. Once the project is complete and the lake is restored, the surrounding habitat and local wildlife would return to their present condition.