

Background: About the Jordan Lake Rules

The Jordan Lake rules will change how development occurs in the watershed. In their current form, these rules will be the strictest watershed rules to date in North Carolina with the inclusion of measures that will require retrofitting of current development. All or a portion of four counties and sixteen cities will be impacted by these rules in the PTCOG region. Even those cities and counties that fall under Phase II stormwater regulations will have additional requirements.

Jordan Reservoir is a multi-use impoundment operated by the U.S. Army Corps of Engineers. The reservoir was formed with the construction of a dam on the Haw River in the Cape Fear River Basin. The lake covers an area of 13,940 acres at elevation 216 feet msl (*mean sea level*), the normal operating level. The lake is operated for flood control, water quality (low flow augmentation), fish and wildlife conservation, recreation, and water supply.

Jordan Reservoir consists of two distinct arms - the Haw River and New Hope Creek arms. The Haw River Arm of the lake has an average hydraulic retention time of five days and accounts for 70 to 90 percent of the annual flow through Jordan Reservoir. The New Hope Creek Arm of the lake has an average hydraulic retention time of 418 days. The Jordan Reservoir watershed encompasses 1,686 square miles and includes parts of Alamance, Caswell, Chatham, Durham, Forsyth, Guilford, Orange, Randolph, Rockingham, and Wake counties. It includes all or portions of the urban areas of Durham, Chapel Hill, Cary, Burlington, Greensboro, and several other small municipalities.

The Jordan Lake/Haw River Watershed is considered a **nutrient sensitive watershed (NSW)**. This means Jordan Lake and its source waters are nutrient enriched causing algal blooms and taste and odor problems in drinking water.

The B. Everett Jordan Reservoir (Jordan Reservoir) Nutrient Management Strategy and **Total Maximum Daily Load (TMDL)** was developed to satisfy state Nutrient Sensitive Water (NSW) requirements and a federally-mandated TMDL. Both the NSW and TMDL programs include the development of a calibrated nutrient response model to support a management strategy to control nutrients and meet the state **chlorophyll a** standard.

The Clean Water Responsibility Act of 1997 (often referred to as House Bill 515) included legislation to further address water quality problems in NSW waters (NC General Statute 143-215.1(c1) to (c5)). The act set total nitrogen (TN) and total phosphorus (TP) **NPDES** permit limits for facilities discharging greater than 0.5 MGD into the Jordan Reservoir/Haw River watershed. A 5-year compliance period for limits of 5.5 mg/L of TN and 2.0 mg/L of TP was established for qualifying wastewater facilities. The act provides conditions for an extended compliance period, including the development of a calibrated nutrient response model and the development of plans to optimize nutrient removal at the wastewater facility. The municipalities of Greensboro, Mebane, Reidsville, Graham, Pittsboro, and Burlington, and the Orange Water

and Sewer Authority (OWASA) were granted a compliance extension in 1999. Facilities that did not seek compliance are the City of Durham/Durham South wastewater treatment plant (WWTP) and the Durham County/ Triangle WWTP. Conditions associated with the extended compliance period were achieved and the calibrated nutrient response model was accepted by the Water Quality Committee (WQC) of the Environmental Management Commission (EMC) in July 2002.

The first draft of the Jordan Lake Rules, which provide a mechanism for the State to enforce the nutrient limits and implement the management strategy, was released in September 2005. The majority of local governments located in the Jordan Lake Watershed will be impacted by the rules. Proximity to an urbanized area will not matter. The main categories covered by the rules are as follows.

1. Reduction goals
2. Fertilizer applicators
3. Agricultural strategy
4. Stormwater management for new development
5. Stormwater management for existing development
6. Riparian buffers
7. Wastewater discharge requirements
8. DOT stormwater requirements