

## Jordan Lake rules timeline

- 1963 U.S. Congress authorized New Hope dam for flood control of downstream cities on Cape Fear River; litigation and impact studies delayed construction.
- 1982 <> Jordan Lake impounded and recreation areas opened to public  
<> Haw River Assembly incorporated as non-profit).
- 1983 Jordan Lake classified as a nutrient sensitive water.
- 1997 NC General Assembly enacts Clean Water Responsibility Act (CWRA), S.L. 1997-458. According to this timetable, rules to limit nitrogen and phosphorous inflows to Jordan Lake, and upgrades to wastewater treatment plants, should be finalized by 2003.
- 1999 Several Haw River municipalities sought and received a 'compliance extension' to delay new regulations and model the lake nutrients to build rules based on that.
- 2002 <> Upper New Hope arm of lake listed on EPA Impaired Waters List (303-d) for chlorophyll-a (algae).  
<> Environmental Management Commission (EMC) approved model for lake. As it turned out, that model showed tighter restrictions on pollution were needed.
- 2003 <> Department of Environment & Natural Resources (DENR) begins first stakeholder process to develop nutrient management rules that will address both the state CWRA and a federally mandated Total Maximum Daily Load (TMDL) plan.  
<> Town of Cary receives extensive taste and odor complaints about water drawn from Jordan Lake.
- 2005 <> EMC's Water Quality Committee votes to send draft rules to public comment, but in response to concern from stakeholders (organized by Greensboro and Burlington), EMC delays for more discussions.  
<> Clean Lakes Act, S.L. 2005-190, directs EMC to adopt permanent rules to protect reservoirs.
- 2006 <> Lower New Hope arm and Haw River arm of lake 303-d listed as impaired for chlorophyll-a (algae); Haw River arm also listed as impaired for high pH (alkalinity), an effect of the decomposition of algal blooms. Fish kill documented on Upper New Hope arm of lake.  
<> DENR hosts second stakeholder process with 27 meetings.
- 2007 <> EPA approves the TMDL for chlorophyll *a*.  
<> EMC votes to send draft rules to public comment in March. Comment period runs through August. EMC Commissioners hold series of 14 meetings to incorporate comments and revise rules, ending April 2008.
- 2008 EMC approves Jordan Lake nutrient rules in June. After series of five meetings, Rules Review Commission finishes approving rules in November.
- 2009 <> Disapproval bills introduced at the beginning of session meaning the rules will have to be approved by the legislature. Stakeholder negotiations ensue. S.L. 2009-216 (HB239) contains bulk of compromise, extending a long timeline for compliance and moving compliance date for upgrades to Greensboro's wastewater treatment plant from 2014 to 2016. Negotiated timeline projects new development standards being adopted by local governments by ordinance in 2012.  
<> S.L. 2009-484 (SB838) makes change sought by development interests to new development rule, to provide more flexibility in meeting load reduction targets, including buying offsets elsewhere in the watershed.

- 2011 S.L. 2011-394, Amend Environmental Laws 2011 (HB 119), Section 10, pushes back the deadline for Greensboro to upgrade its wastewater treatment plant from 2016 to 2018, if by the end of 2016 the city obtains a permit to build the upgrade.
- 2012 S.L. 2012-200, Amend Environmental Laws 2012 (SB 229), Section 9, pushes back the deadline for local governments to adopt ordinances requiring control of stormwater from new development from 2012 to 2014. Roughly half the jurisdictions in the watershed have already adopted new development ordinances, most in the last two years.
- 2013 <> SB 515 delays the Jordan Lake Rules for three more years. This will stall current efforts to reduce pollution going into the Lake from upstream sources, and allow new development upstream to be built without the better stormwater practices required under the rules passed in 2009.  
<> New state budget includes \$1.4 million in funding for an experimental demonstration using "Solarbee" aeration devices to see if the algae can be reduced by mechanical devices instead of stopping pollution at the source. (Experts say this technology only works in small bodies of water and could never work in a reservoir the size of Jordan Lake -14,000 acres.)
- 2014 <> EPA approves Addendum to the Jordan Lake TMDL to also manage high pH and turbidity  
<> In January a broken 55-year-old pipe at Burlington's wastewater treatment plant spilled 3.5 million gallons of rawsewage into the Haw River.  
<> Haw River named 9<sup>th</sup> most Endangered River in United States by American Rivers, mostly due to condition of Jordan Lake and stalled clean-up rules.  
<>The US Army Corps gave the green light to North Carolina in July to deploy 36 SolarBee water aerators in Jordan Lake. While the experiment is ongoing, the State has put on hold the rules to reduce pollution entering Jordan Lake. Excessive nutrient flow into the Lake's watershed from wastewater treatment plants, and stormwater from cities, suburbs and farms upstream at the rate of 4 million pounds of nitrogen and 500,000 pounds of phosphorus per year. As long as the rules are delayed, each developer building in the Haw River watershed can spend less on stormwater controls. Under the federal Clean Water Act, those developments will all eventually have to be retrofitted, with the costs paid by local taxpayers instead.
- 2015 <> The state released its first assessment on whether SolarBees are improving water quality in the Morgan Creek and Haw River Arms of Jordan Lake. The results for the August 2014 - August 2015 period showed no change in the amount of chlorophyll *a*, and the pH has actually gotten worse. There was also no change in the amounts of bluegreen or green algae compared to control areas.  
<> The General Assembly extended the use of the Solarbees into 2018, while continuing to delay efforts to reduce pollution flowing into Jordan Lake.
- 2016 <> Dept of Environmental Quality (DEQ), formerly DENR, issued a report in March "*Survey of In Situ Strategies for Mitigation of Water Quality Impairments in North Carolina*:". Nutrient management approaches that rely heavily on these technologies instead of reducing nutrient inputs to the watershed would appear to disregard the fundamental premise of the Clean Water Act."  
<> The DEQ announced May5 that it was discontinuing the SolarBee project, after 21 months of data indicated no significant improvement in water quality. The General Assembly discussed funding a study to see if mussels could be used to filter pollution out of the waters of Jordan Lake – even though mussel populations have plummeted in the Haw River due to pollution and sediment. By the time the session ended, that idea was discarded. But the budget had language that delayed implementation of the Jordan Lake rules until 2019, and includes a provision that allows all impervious development in the Jordan Lake watershed built between July 2013 and December 2020 to *not* be counted as "built upon area". This means no one will take responsibility for new development water pollution – in conflict with the U.S. Clean Water Act.
- 2017 <> NC Budget Includes funding for "experiment" to put chemicals in Jordan Lake to kill algae. In late June, the Senate overruled Governor Cooper's veto of the state's budget, which included a \$1.3 million pilot project in Jordan Lake using chemically based algaecides to mitigate nutrient pollution. Like the failed Solar Bee

experiment, algaecides have never been conducted in a water body as large as Jordan Lake, and never in a drinking water reservoir. Killing algae would do nothing to address the cause, which is nutrient pollution from upriver. This proposal was pushed forward by former House Speaker, Harold Brubaker, now a lobbyist for SePro, the company that will be awarded the contract for the project. The proposal submitted to the Army Corps by SePro would “demonstrate the effectiveness” of algaecides and phosphorus locking chemical applications to the drinking water supply. The SePro proposal would apply PAK®27 algaecide to a 750acre area. This is a has replaced the copper-based algaecides, and therefore is relatively new; and long term effects of application have not been accessed. The SePro proposal would also apply copyrighted and patent protected PhosLock, and the only scientific articles cited about this chemical are written and funded by SePro themselves.

<> In Nov. 2017, the US Army Corps of Engineers concluded that the proposal by SePro to use chemicals to kill algae in Jordan Lake would irreparably harm the drinking water source for more than 300,000 people. SePro would be unwilling to remove the fill after the pilot program ended, because it would be too expensive, according to the letter. “Cost is not an acceptable justification for not addressing the adverse impact,” the Corps countered. The permanent loss of water storage volume, the Corps wrote, “is an unacceptable adverse impact” to all five of the lake’s congressionally authorized purposes: water supply, flood control, public recreation, fish and wildlife, and downstream water quality. The chemicals contained in the algaecide could harm aquatic life, and lanthanum, a soft metal compound of phosphorus- locking clay, “would likely accumulate in certain tissues of fish in the lake” the Corps wrote. In some instances, the chemical harm is unknown, but state officials believe the number of the fish would decrease, harming not only the wildlife that feed on them, but cutting into the recreational use of the reservoir. If SePro, via DEQ, still chooses to pursue the pilot project, it would have to prepare an Environmental Assessment or even a more involved Environmental Impact Statement. Both those processes, required by federal law, entail public notice and comment.