

**Preliminary DWR  
Jordan Lake SolarBees Study - \$1.9MM  
Section 14.3A. of S.L. 2013- 360**



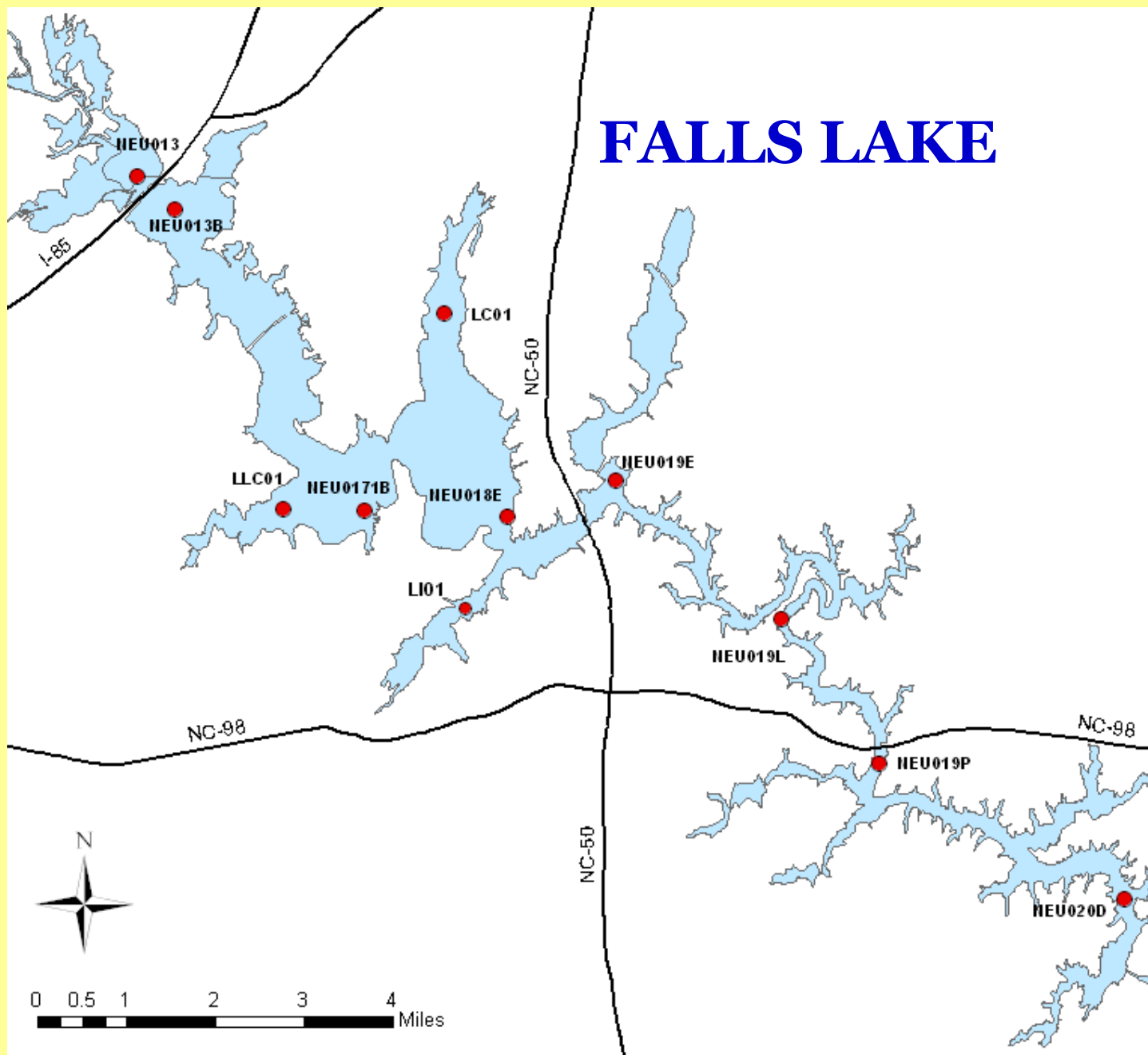
# Did Water Quality Improve?

historical January 2006 -August 2015

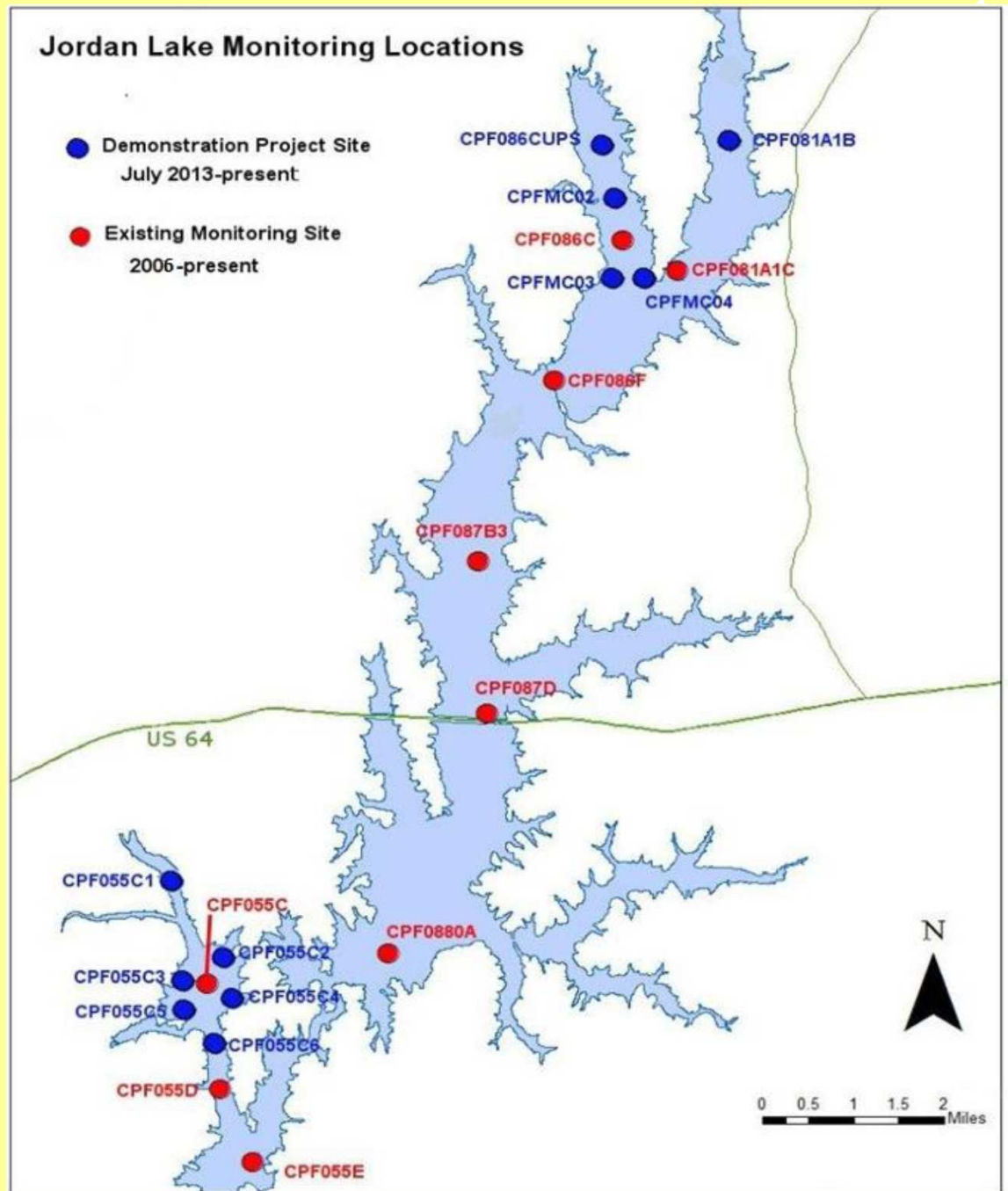
SolarBees August 2014 through August 2015

- Analysis of pH and Chlorophyll *a*  
– compared to historical trends
- Statistically results for pH and Chlorophyll *a*  
-near SolarBees versus controls.
- Analyzed shifts in phytoplankton composition near SolarBees  
using algal similarity indices based on densities
- Statistically compared relative abundances of Cyanobacteria  
to Chlorophyta among treatment and control sites.

# FALLS LAKE



# Jordan Lake



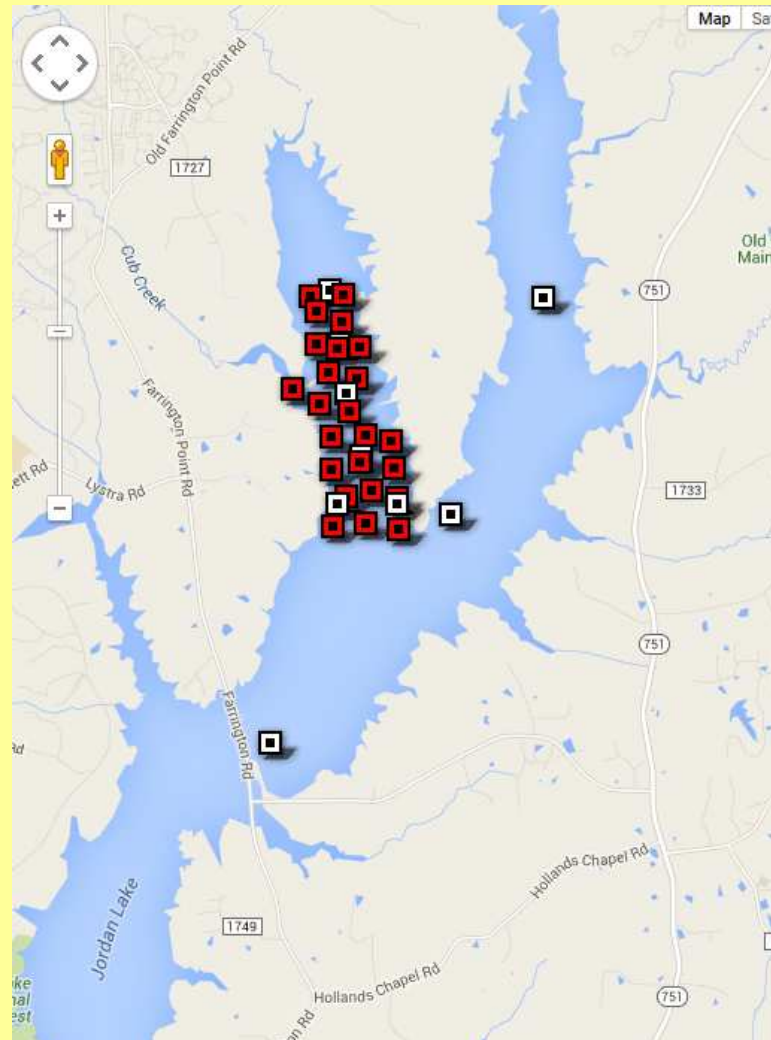
# Comparisons

## Falls

## Jordan

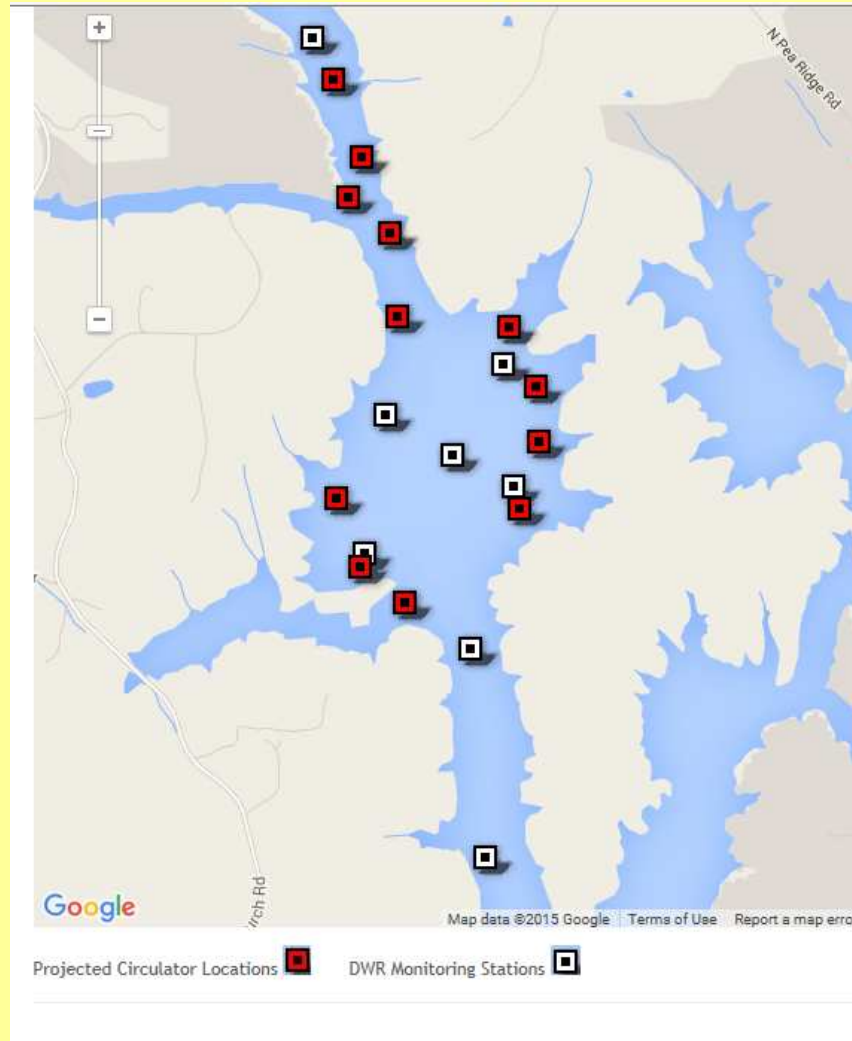
- |                                   |           |                  |
|-----------------------------------|-----------|------------------|
| • Storage Conservation Pool ac/ft | • 131,395 | • <b>215,130</b> |
| • Surface Area acres              | • 12,410  | • <b>13,940</b>  |
| • Drainage Area sq mi             | • 770     | • <b>1690</b>    |
| • Shore Length miles              | • 175     | • <b>180</b>     |
| • Length miles                    | • 28      | • <b>16</b>      |

# Morgan Creek Arm - Jordan Lake



About 24  
SolarBees

# Haw River Arm- Jordan Lake



About 12  
SolarBees

# pH Results

## Morgan Creek & Haw River Results

- similar to historical conditions, % exceedances > average
- no statistical difference was determined by t-tests from long term sites compared to averaged pooled values from SolarBee sites
- Median pH values during SolarBee period not significantly different from historical conditions.



# Chlorophyll Results

## Morgan Creek & Haw River Results

- similar to historical conditions
- no statistical difference was determined by t-tests from long term sites compared to averaged pooled values from SolarBee sites
- percent exceedance values for chlorophyll *a* are close to historical average in both the Morgan Creek and Haw River SolarBee areas.
- Median Chl *a* values are considered not significantly different from historical conditions.

# Phytoplankton Composition Results

*Bray-Curtis Similarity Index on pairs of project treatment / control sites*

- phytoplankton community composition **was similar at all pairs of treatment versus control sites** during the SolarBee study period
- **no statistical differences** in relative abundances of blue-green algae and green algae at the three project treatment vs control site comparisons.
- Blue-green algae and green algae relative abundances **were not significantly difference** at any of the three project treatment versus control site comparisons

## 2015 SESSION LAW 2015-241 HOUSE BILL 97

- **SECTION 14.5.(a)**  
Up to \$1.5 million from CWMTF to continue project.  
Extend or modify contracts by **12/01/15**  
ending on or after **10/15/18**.
  
- **SECTION 14.5.(b)**  
Contracts not subject to normal statutes
  
- **SECTION 14.5.(c)**  
Rules Jordan nutrient management shall be effectively delayed three additional years or one year after the completion of the project, whichever is later. **(2019)**
  
- **SECTION 14.5.(d)**  
Study, Survey, and evaluate in situ strategies,  
assess efficacy in other water bodies,  
Consider in situ in development of basinwide water quality management plans.  
Provide report on this study **no later than April 1, 2016**.