



The IBT story of Western Wake Regional Water Reclamation Facility

Lower Neuse River Basin
Association

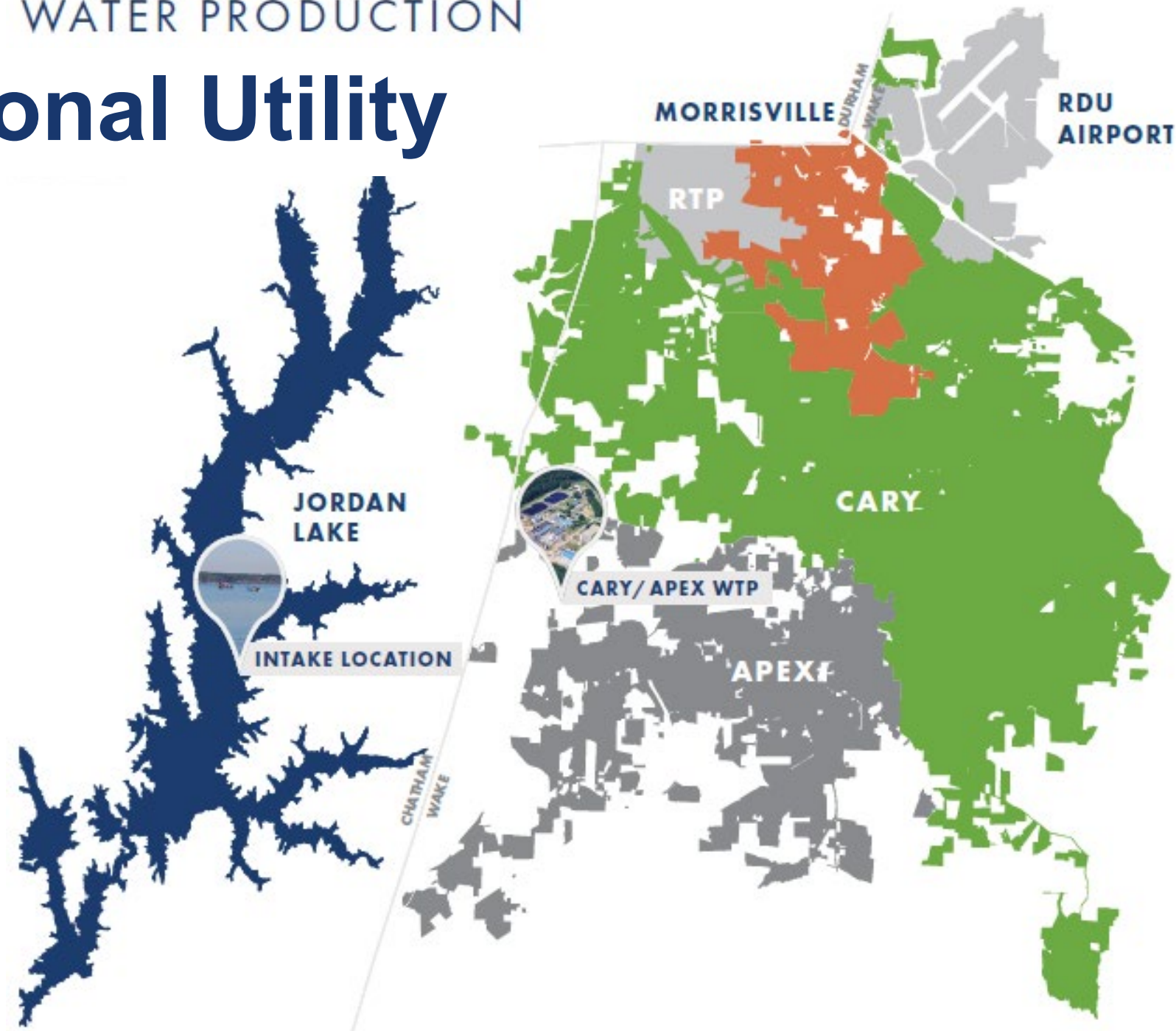
July 28th & 30th 2026

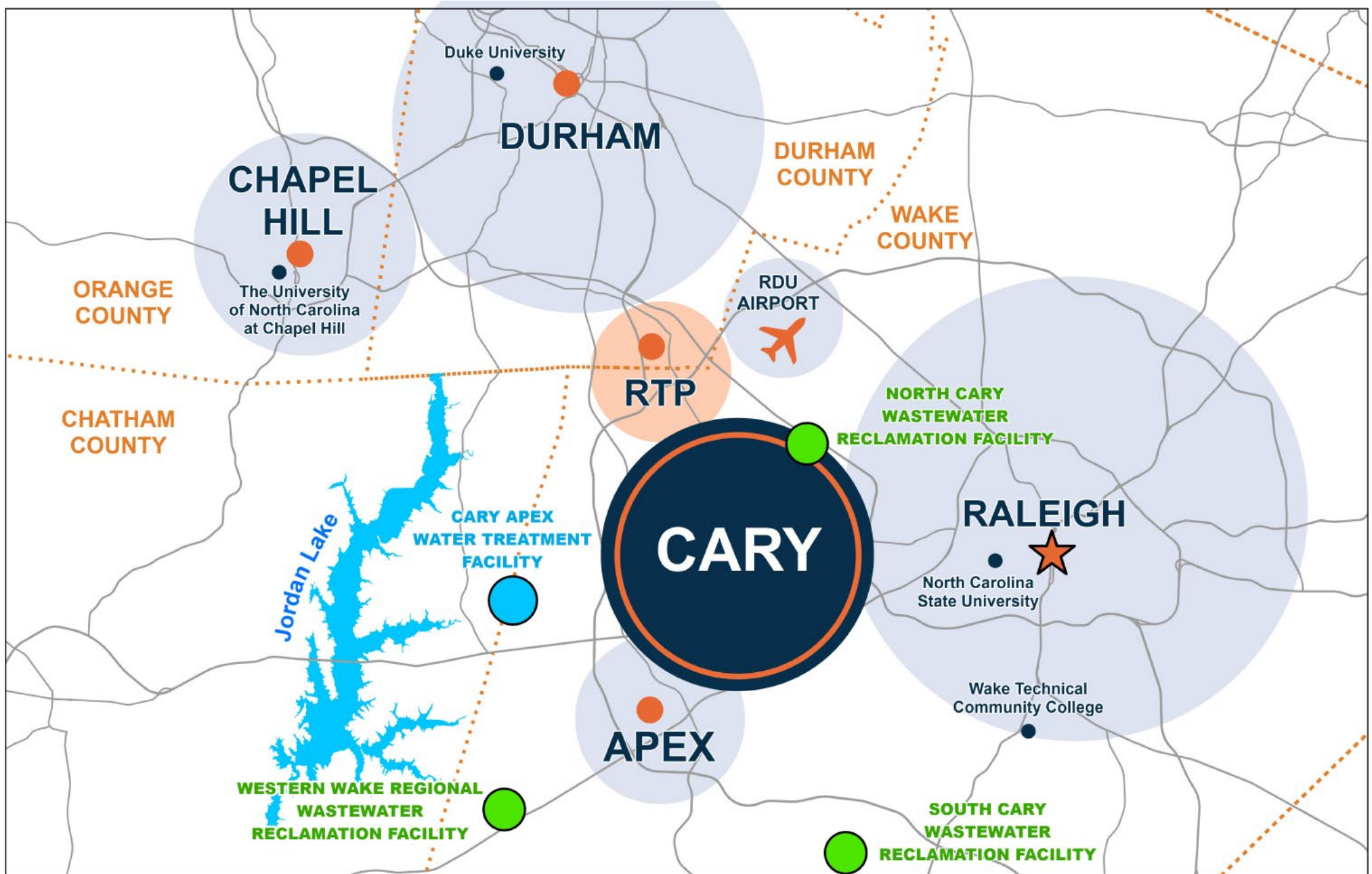




Cary is a Regional Utility

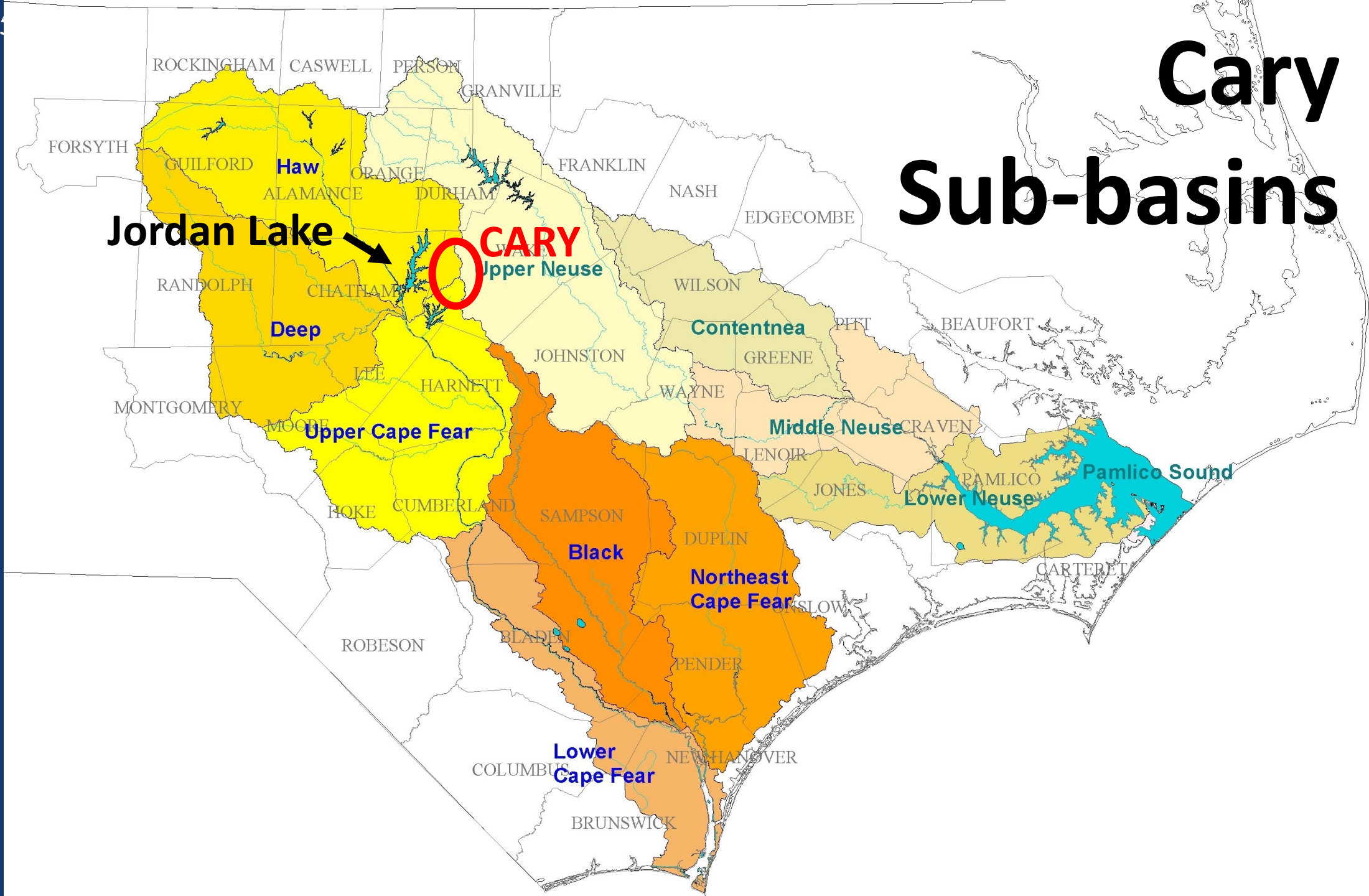
- **Serving...**
 - Cary
 - Morrisville
 - RDU Airport
 - Wake RTP
 - Apex
 - Chatham County
- **75,000 Meters**







Cary Sub-basins



“ An interbasin transfer the movement of surface water from one river basin into another. The actual transfer is the amount of water not returned to its source basin”



Cary's IBT Story

Cary Water
System

CAWTF
Opens

WW to
Durham

WWRWRF
Opens

1988

2001

1923

1993

2011

2014

Jordan Lake Round
1 Allocation

Inter Basin Transfer (IBT)
Certificate with return requirement

1870s - a small Railroad Town

- Page Walker Hotel & Chatham Railroad

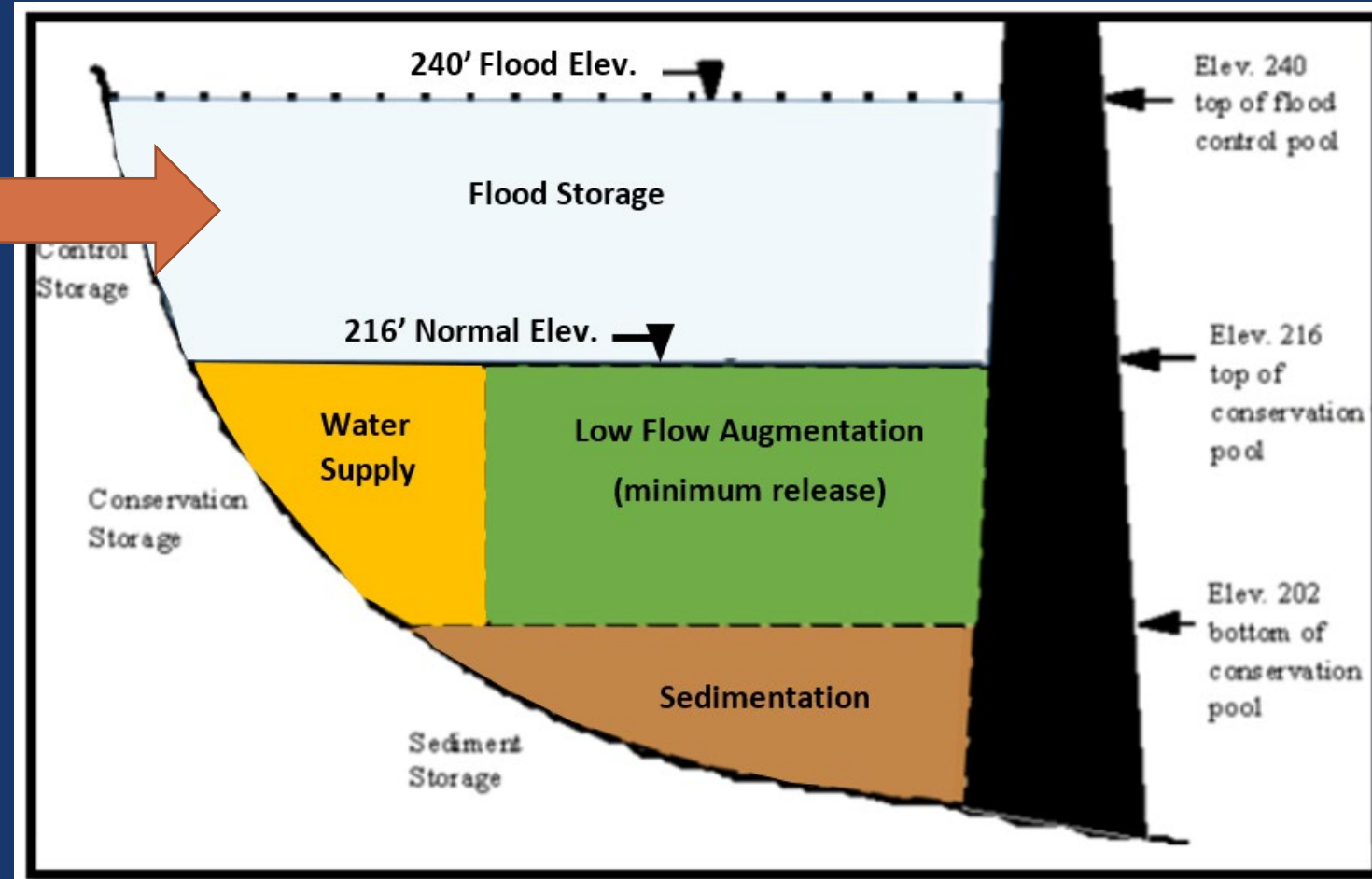


1945 – Floods in Fayetteville prompt COE



1960s-80s – COE builds Jordan Lake

- Primarily for flood protection
- Conservation pool has water supply and low-flow support during drought



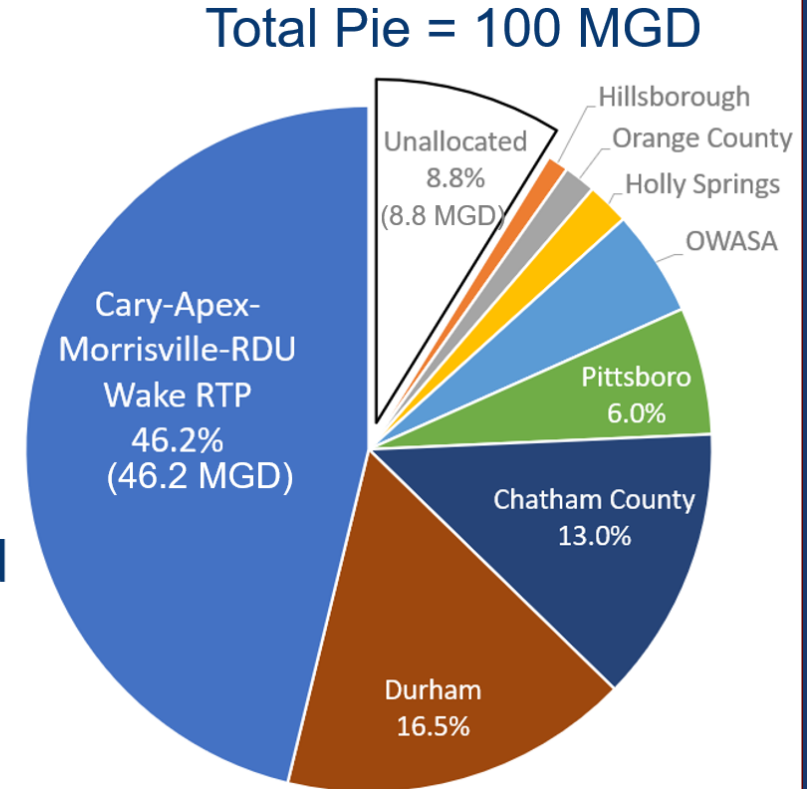
Durham Water Transfer

- Leverages Durham's Jordan Lake allocation
- Mutual Aid Agreement facilitates access
- 2 of 3 interconnections being used
 - Surles Court
 - Hwy 55 Pump Station
- **Total ~ 5.5 MGD currently**

**Jordan Lake Supply
= 100 MGD**

91.2% is allocated

8.8% (8.8MGD)
remains unallocated





Jordan Lake Intake & Pump Station

Intake is 510 ft off shore



Intake Screens at Jordan Lake





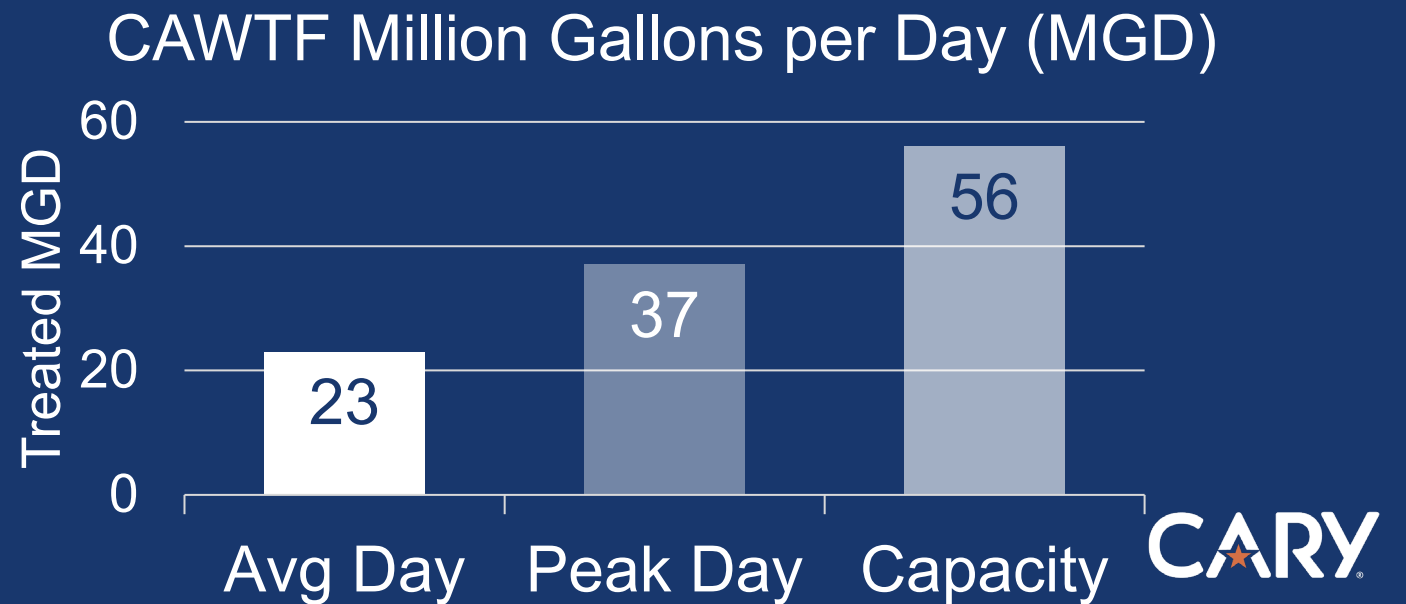
Cary-Apex Water
Treatment Facility

Jordan Lake -
Raw Water Intake

~ 6 Miles

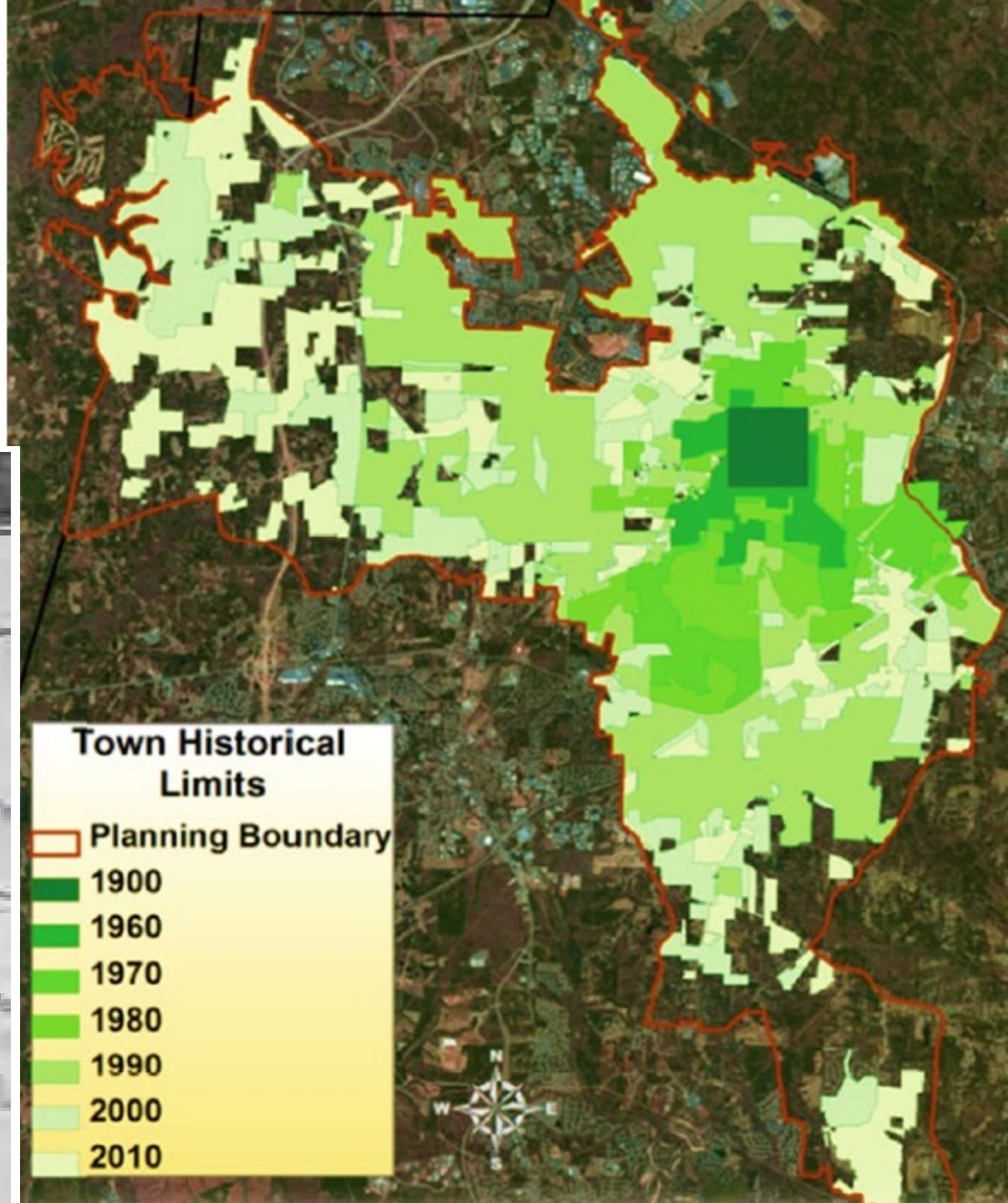


Cary/Apex Water Treatment Facility (CAWTF)



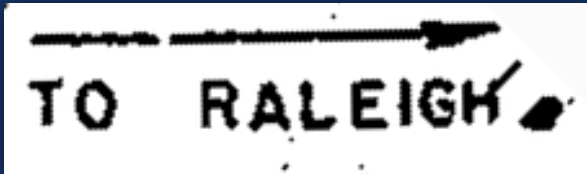
1960s Research Park

- To keep students in NC & bring businesses into NC



Cary's Wastewater History

- 1920's Cary's 1st WRF
 - 0.1 MGD by the 50's
- 1960's-1980's - Raleigh



- 1980's- today – Cary's 3 WRFs
 - 1983 - North Cary WRF opens at 4 MGD, now 12 MGD
 - 1989 - South Cary WRF opens at 6.4 MGD, now 12.8 MGD
 - 2014 Western Wake Regional at 18 MGD

Cary Operates 3 Wastewater Treatment Facilities



North Cary Water Reclamation
Facility (12 MGD Capacity)



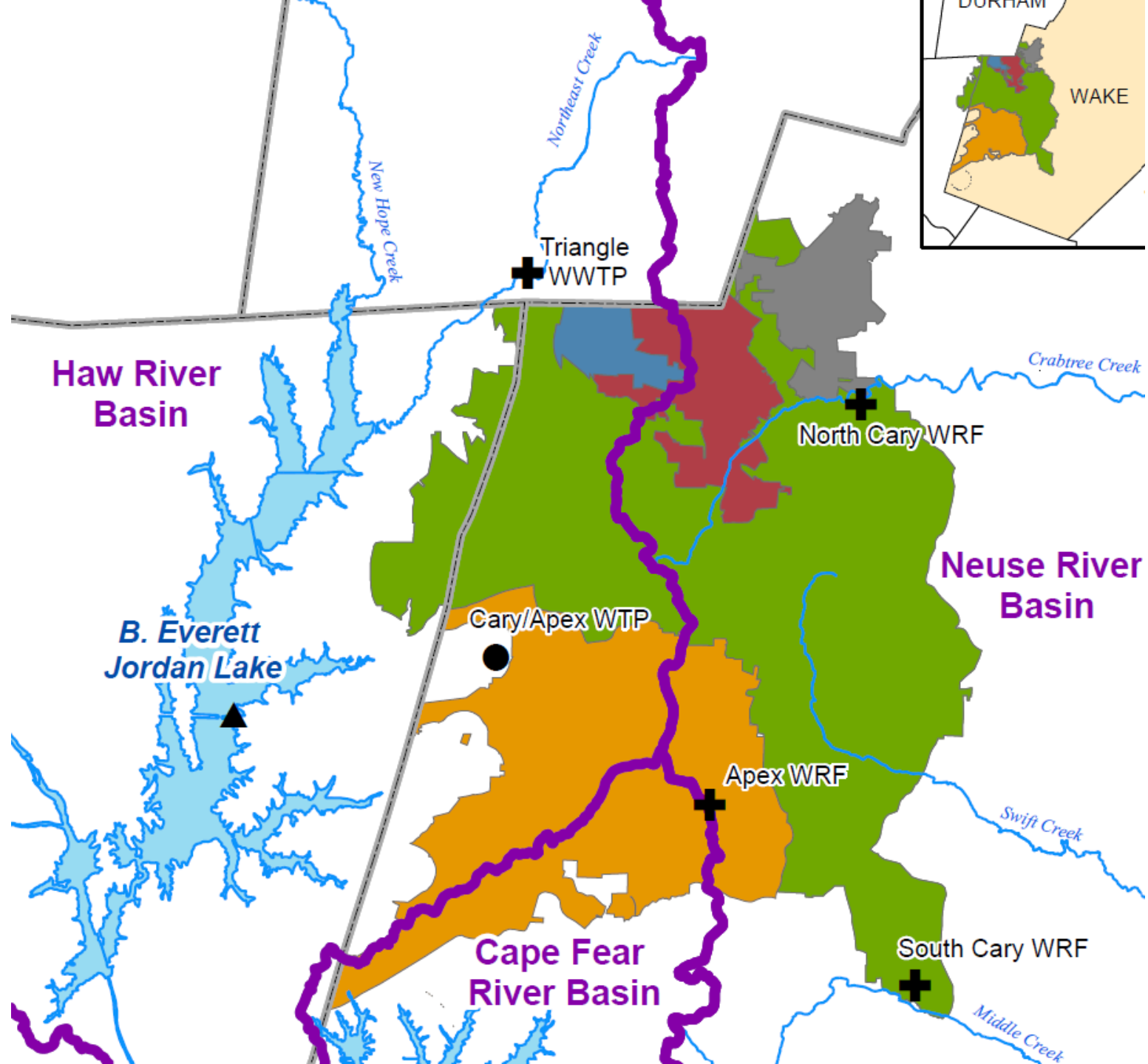
South Cary Water Reclamation
Facility (12.8 MGD Capacity)



Western Wake Regional Water
Reclamation Facility (18 MGD
Capacity)

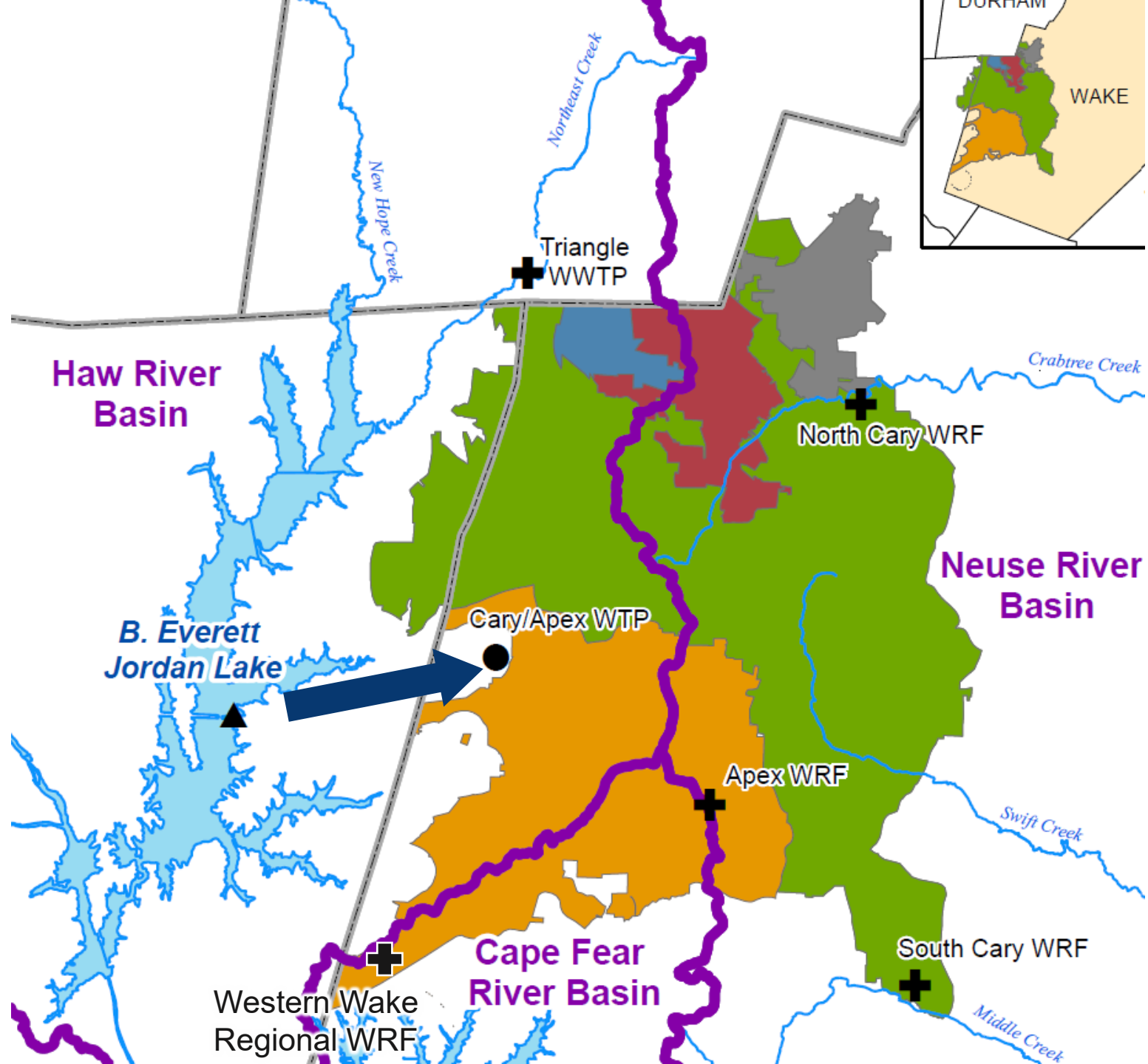
Service Area

- Cary
- Morrisville
- RDU Airport
- Wake RTP
- Apex
- Chatham County



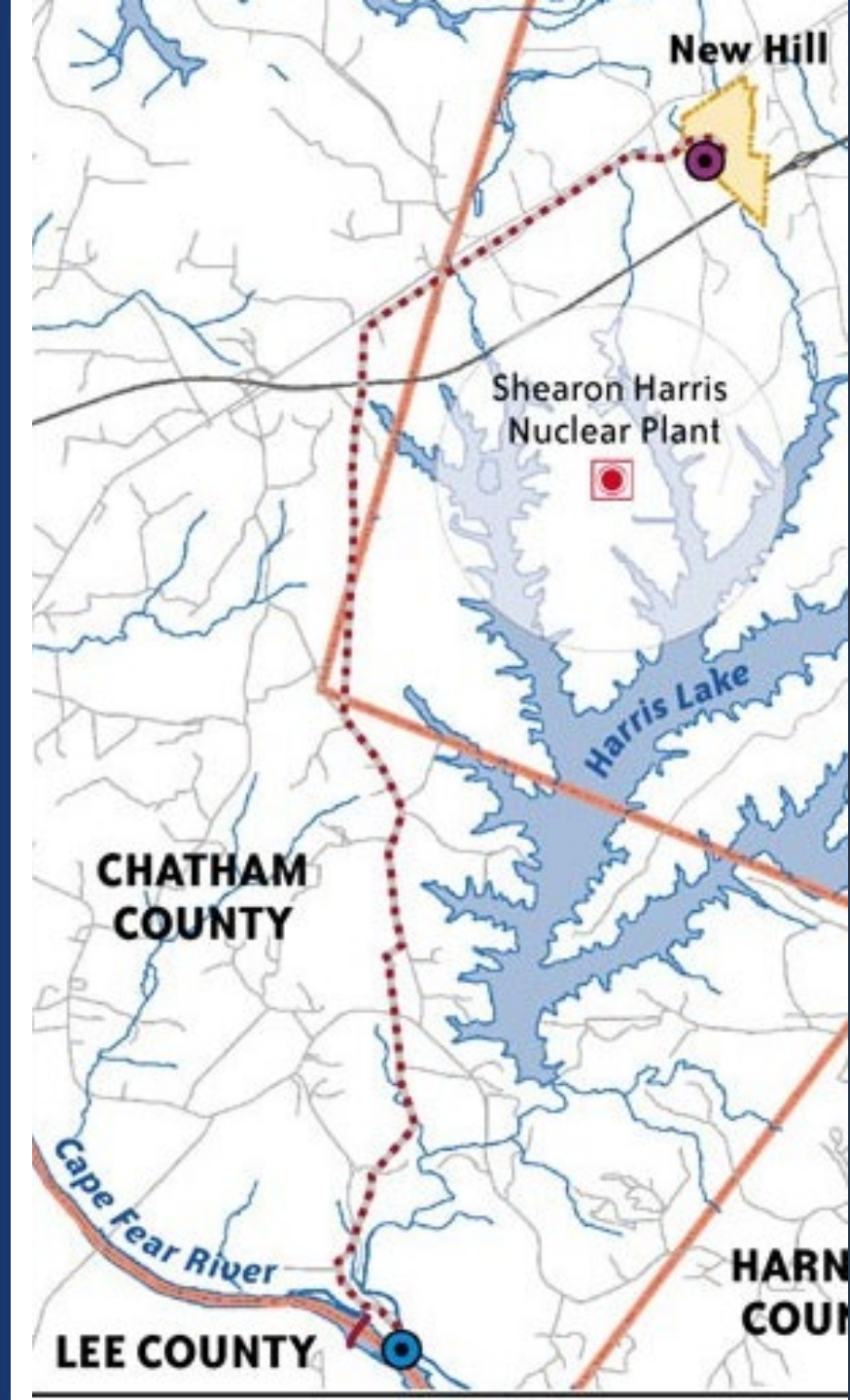
Cary/Apex IBT Overview

- Jordan Lake allocation
- Jointly-owned Cary/Apex Treatment Facility (CAWTF)
- Serves ~310,000 people
- Co-applicants for IBT certificate with Apex
 - Haw to Neuse (inter)
 - Haw to Cape Fear (intra)
- Jointly-owned Western Wake Regional Water Reclamation Facility (WRF)



Cary/Apex's IBT Story

- Invested \$250M in the return of water to the Cape Fear River
 - Western Wake Regional WRF
 - 11.5 mile pipeline
- 2015 Certificate shifted from daily limit to max month



How are IBT's regulated?

- 1993 Statute establishes authority
- Certificate required for...
 - New transfers of > 2 MGD
 - Increase to existing transfers of >2MGD or 25% above 1993 average
- Applies to sub-basins as well
- Issued by Environmental Management Commission (EMC)



Why it Matters?

- Protect downstream interests
- Verify No Significant Impact per Environmental Impact Statements (EIS)
 - Sufficient flow to downstream communities
 - Support equality of economic development
 - Preserve ecology of stream



Environmental Assessment

FOR THE TOWNS OF CARY, APEX AND MORRISVILLE AND WAKE COUNTY

Interbasin Transfer Certificate Modification

PREPARED FOR



Division of Water Resources

512 N. Salisbury Dr., Raleigh, NC 27604

PREPARED BY

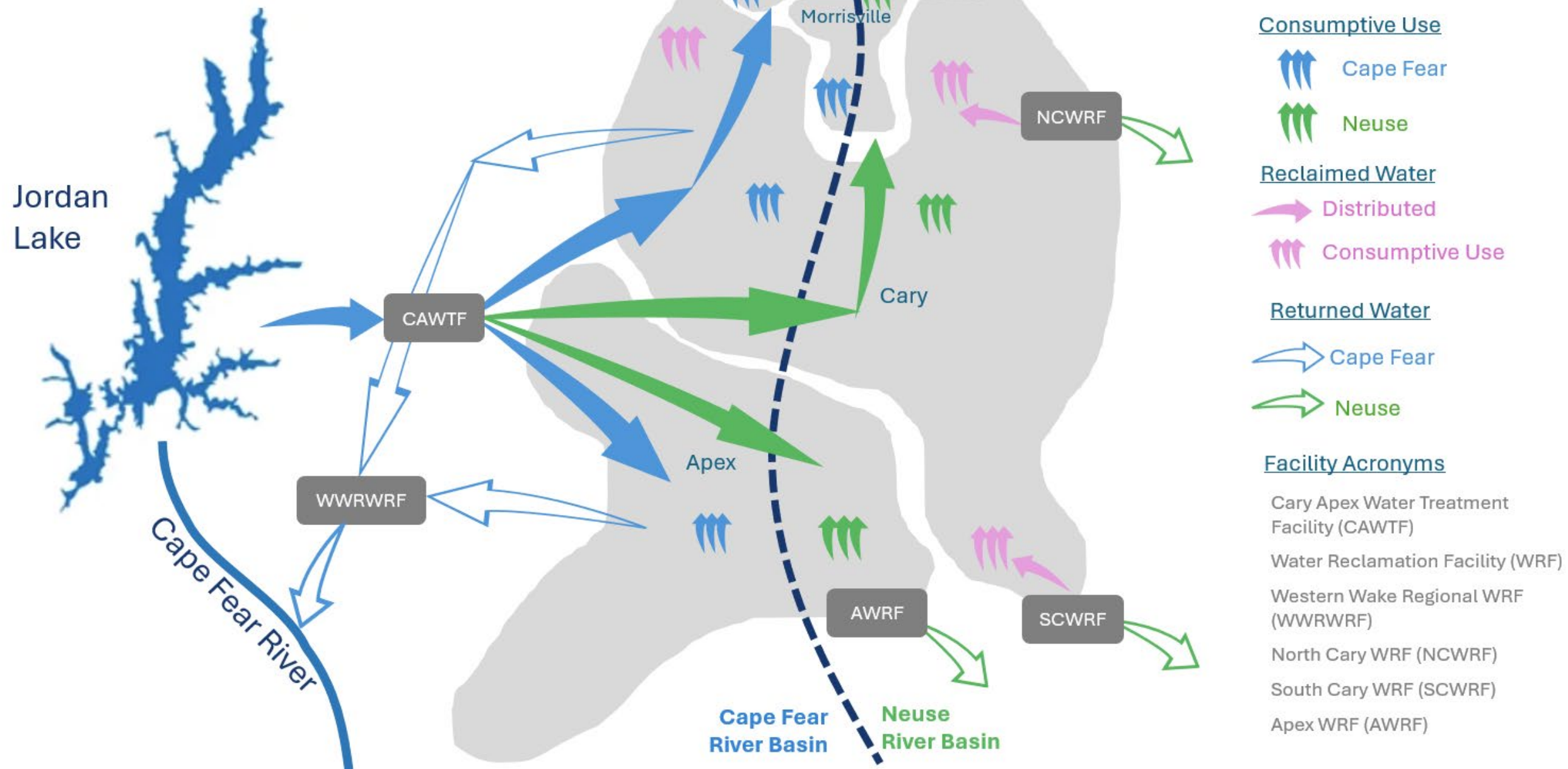
CH2MHILL®

Brown and Caldwell

DECEMBER 2014

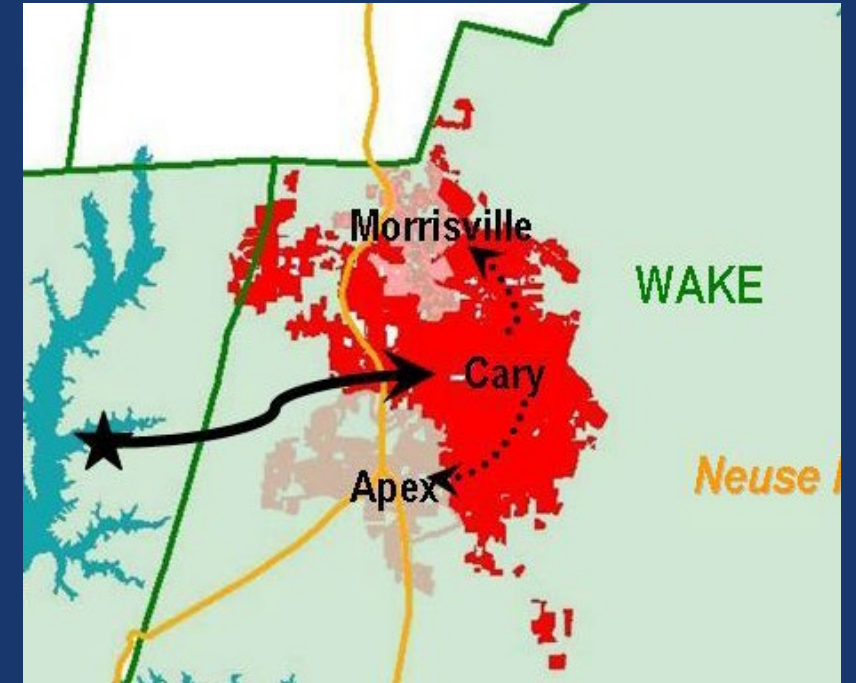


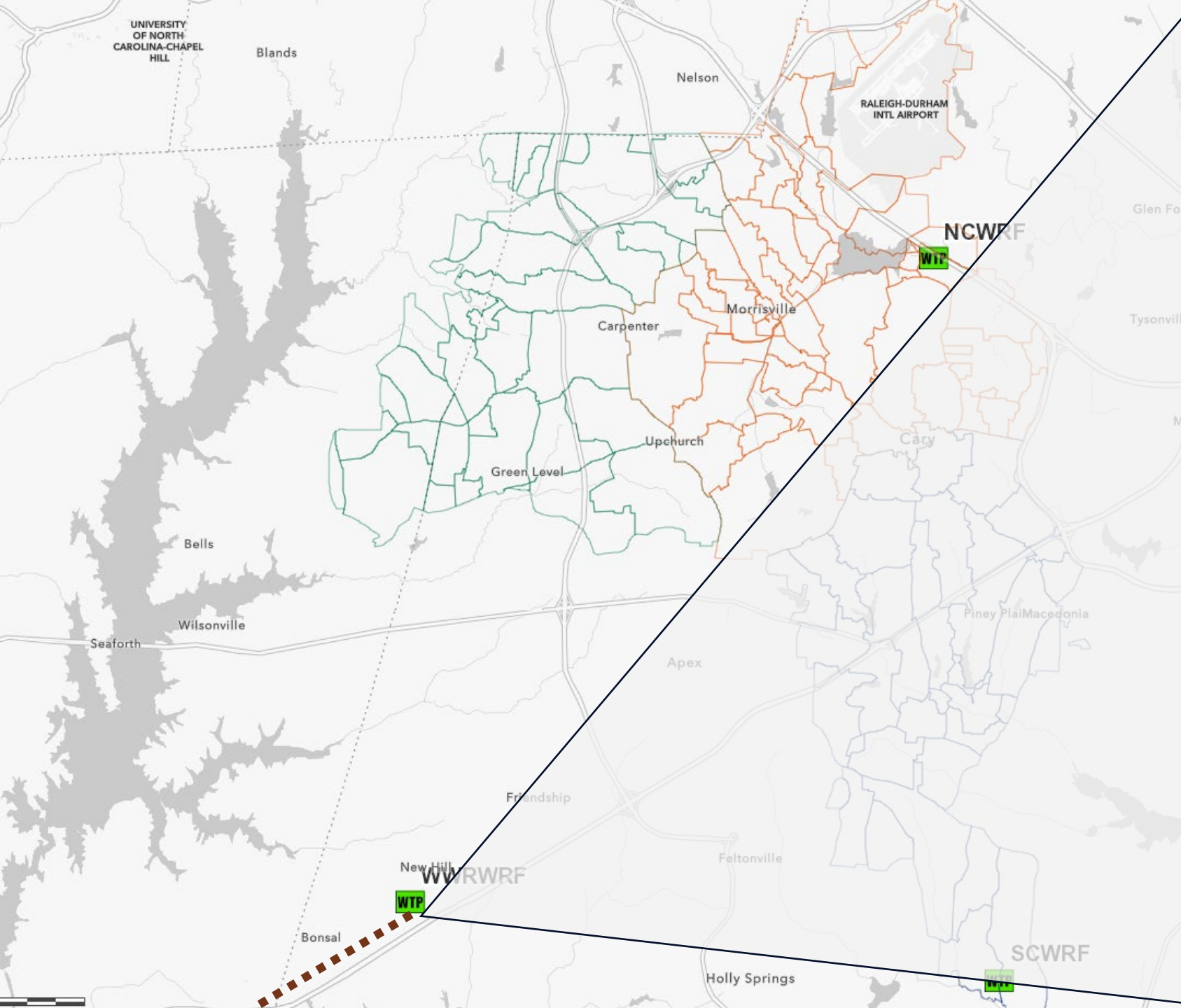
Mechanics of Inter Basin Transfer (IBT)



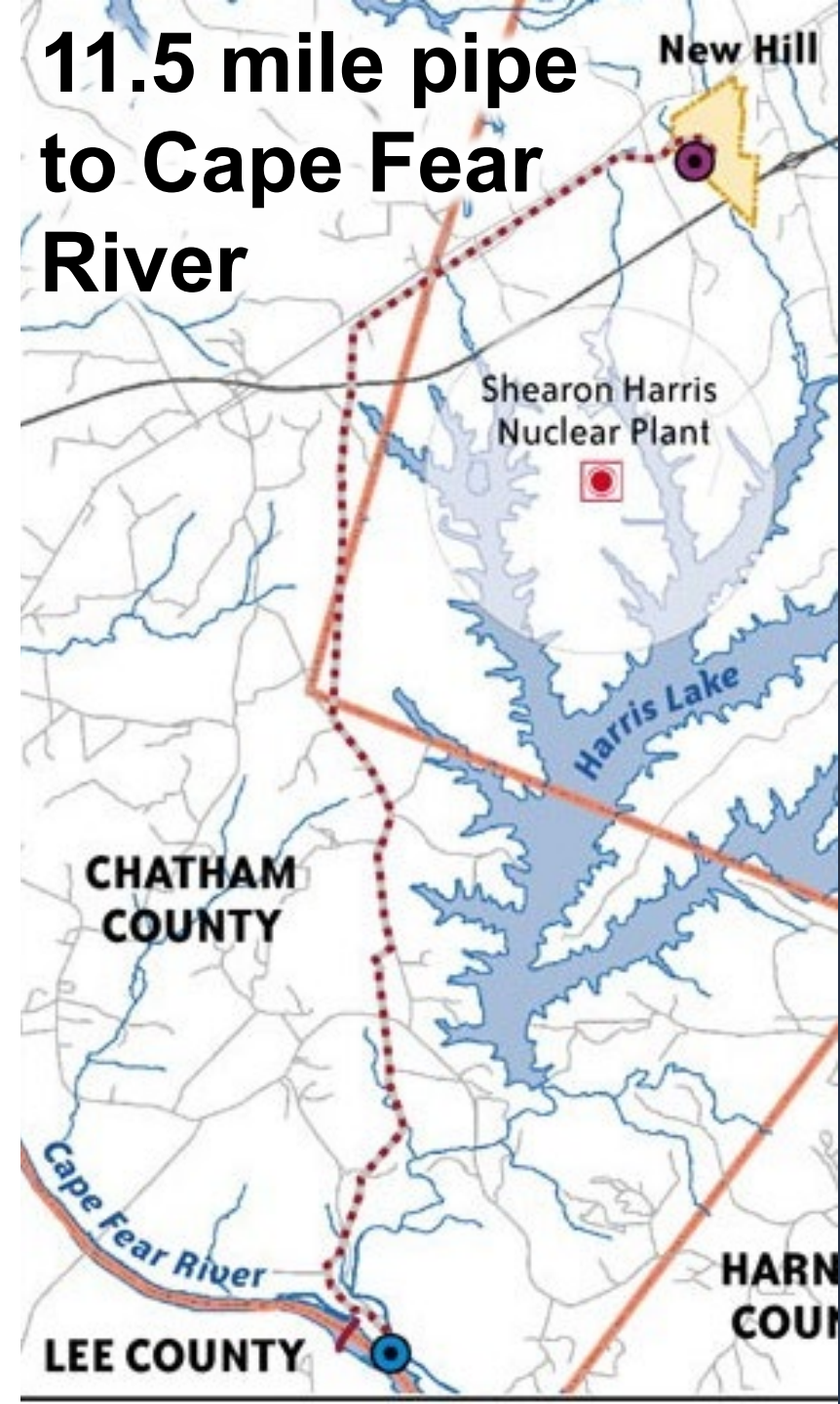
Cary's Inter Basin Transfer (IBT) Story

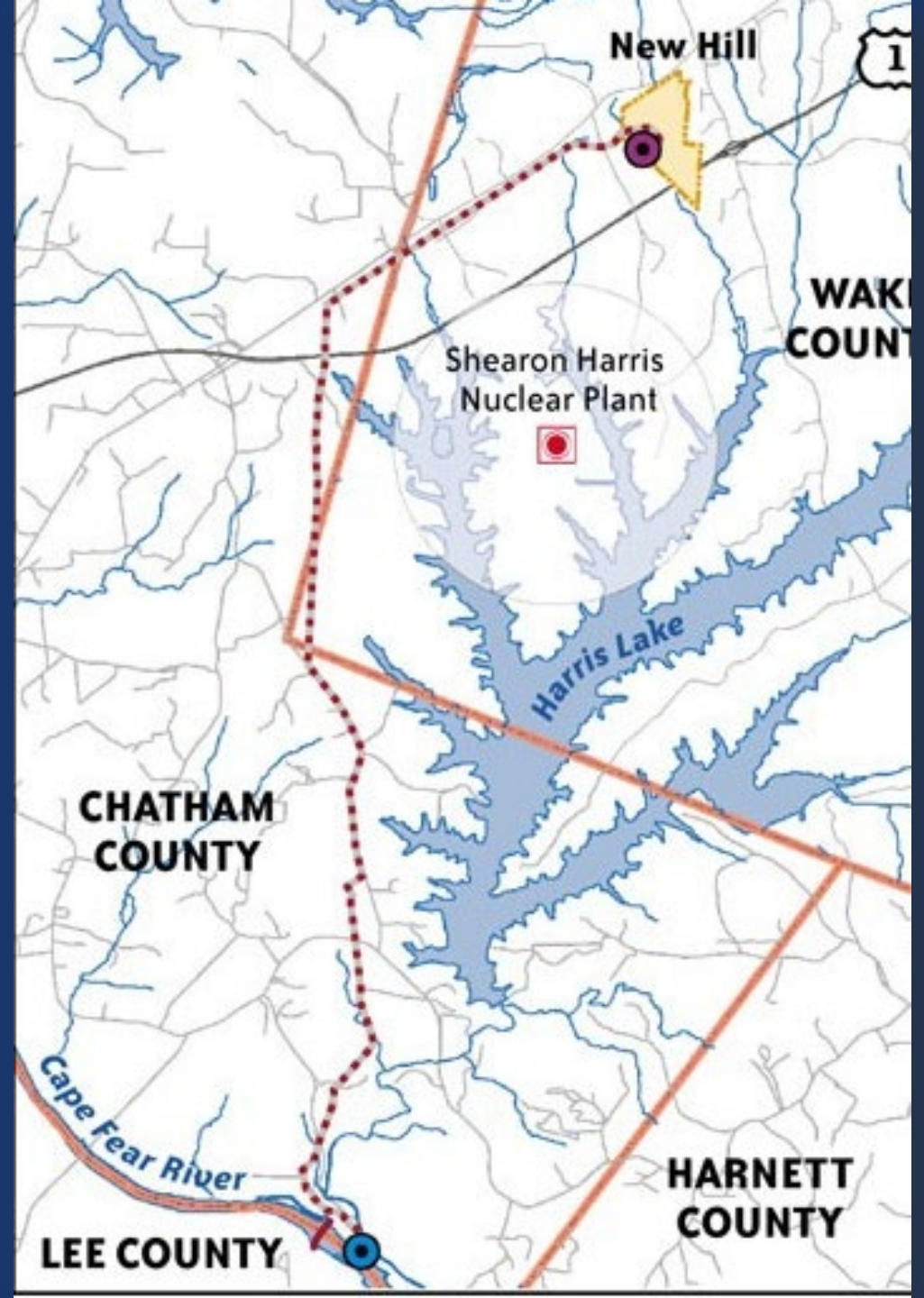
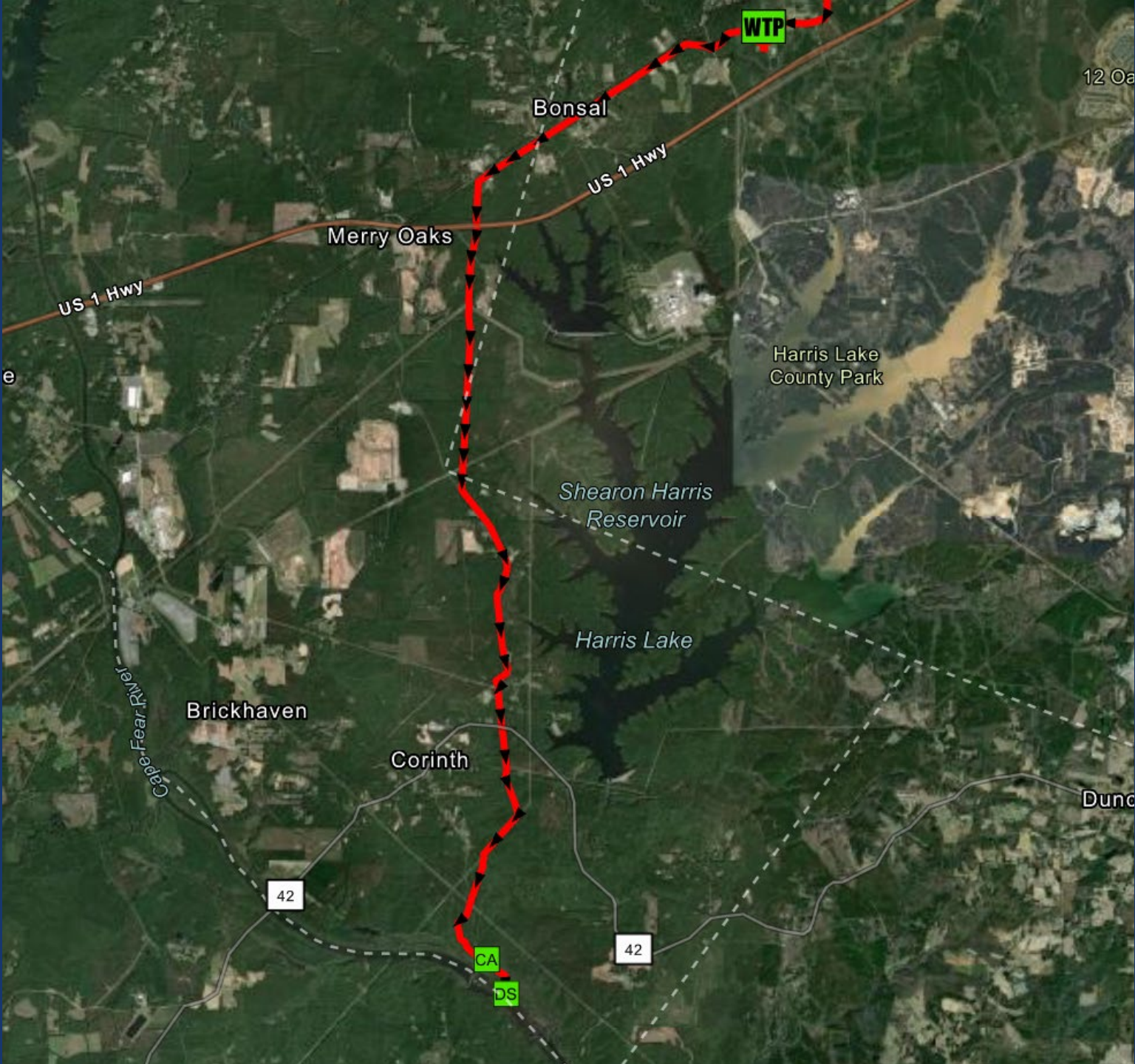
- **1989 IBT certificate (16 MGD)**
 - Preceding the opening of the Cary/Apex Water Treatment Facility in 1993; Following the first allocation from Jordan Lake in 1988
- **2001 IBT certificate (24 MGD)**
 - Included requirement to start returning treated wastewater to the Cape Fear Basin by Jan. 1, 2011
- *****2011 Cary sends wastewater to Durham County*****
- *****2014 WWRWRF Opens*****
- **2015 IBT certificate (31MGD)**





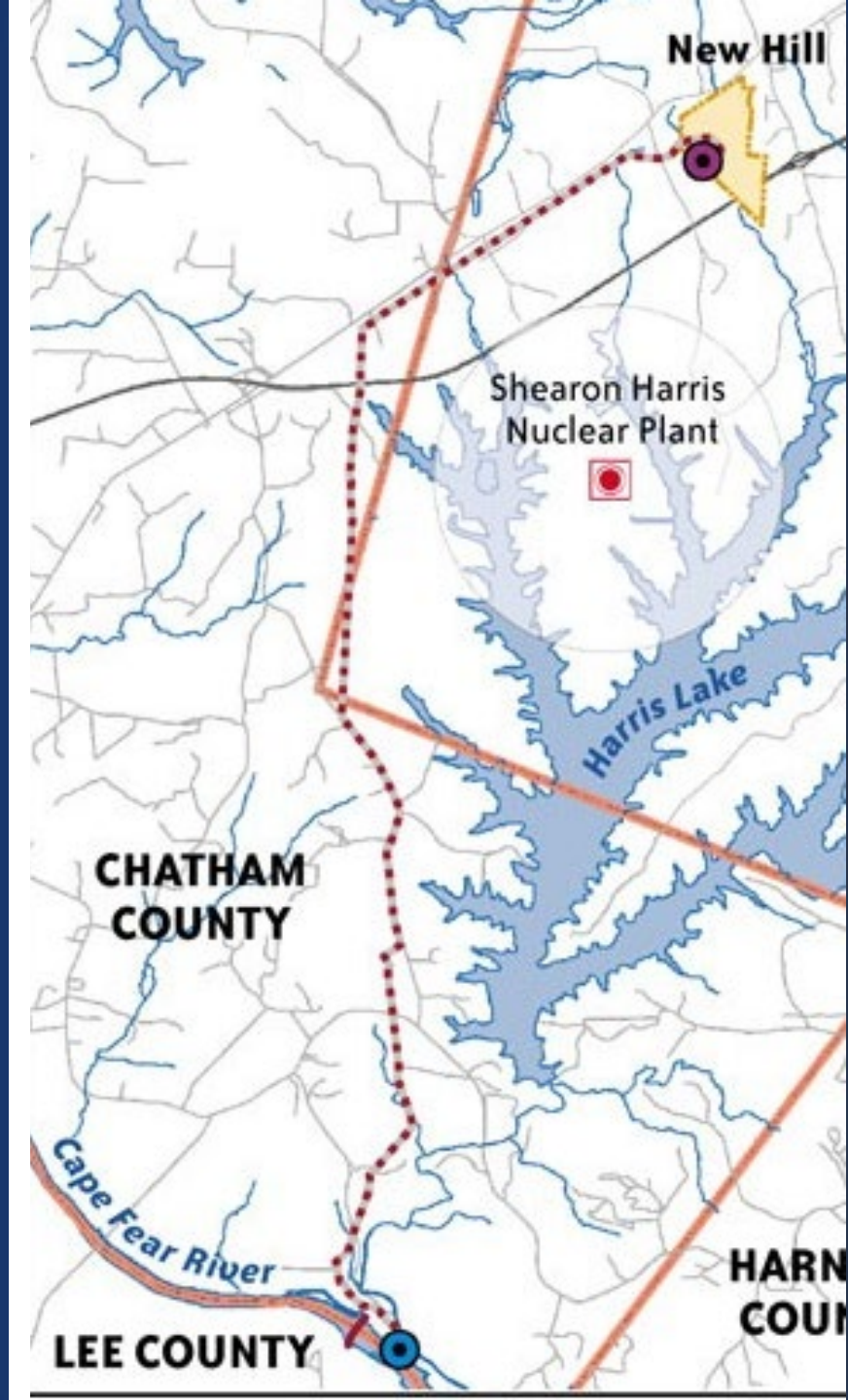
11.5 mile pipe to Cape Fear River





Cost to Return

- Required to by DEQ
- Not easy but important
- Invested in 11.5 mile pipeline
- 2011 Value = \$250M
- ~double today

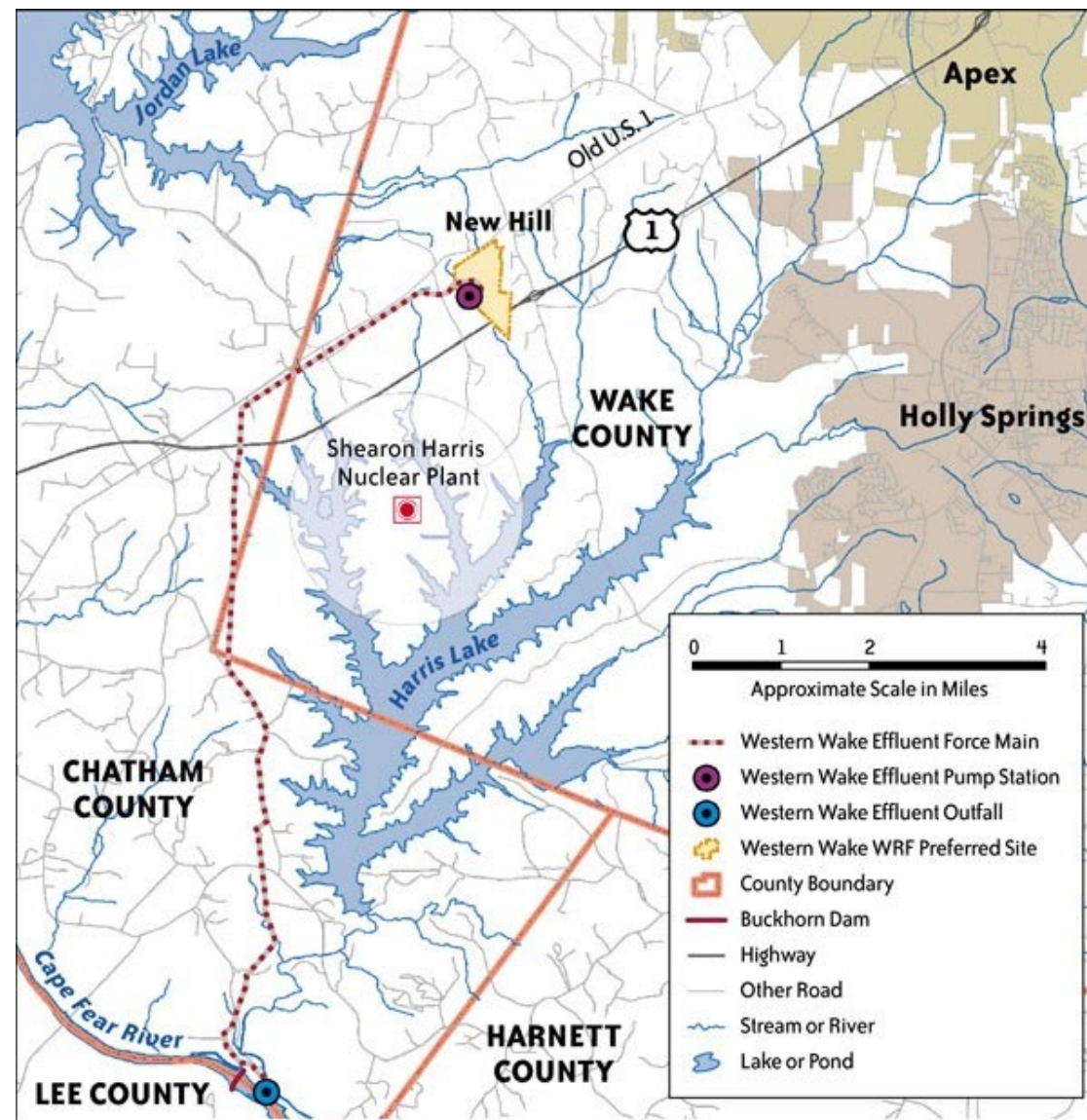




Western Wake Partners

Western Wake Partners

*Cary, Apex &
Morrisville*



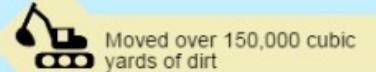
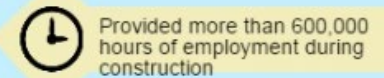
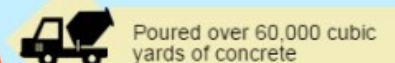
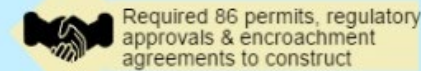
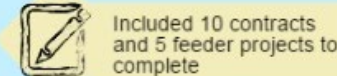
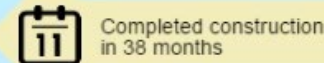
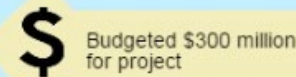
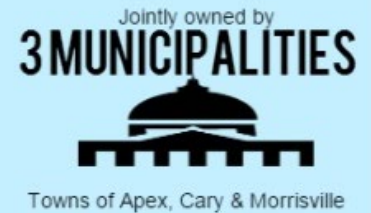
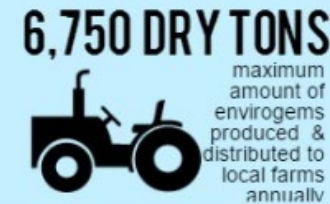
Power of Partnerships

- Economies of scale
- Operational Flexibility



BY THE NUMBERS

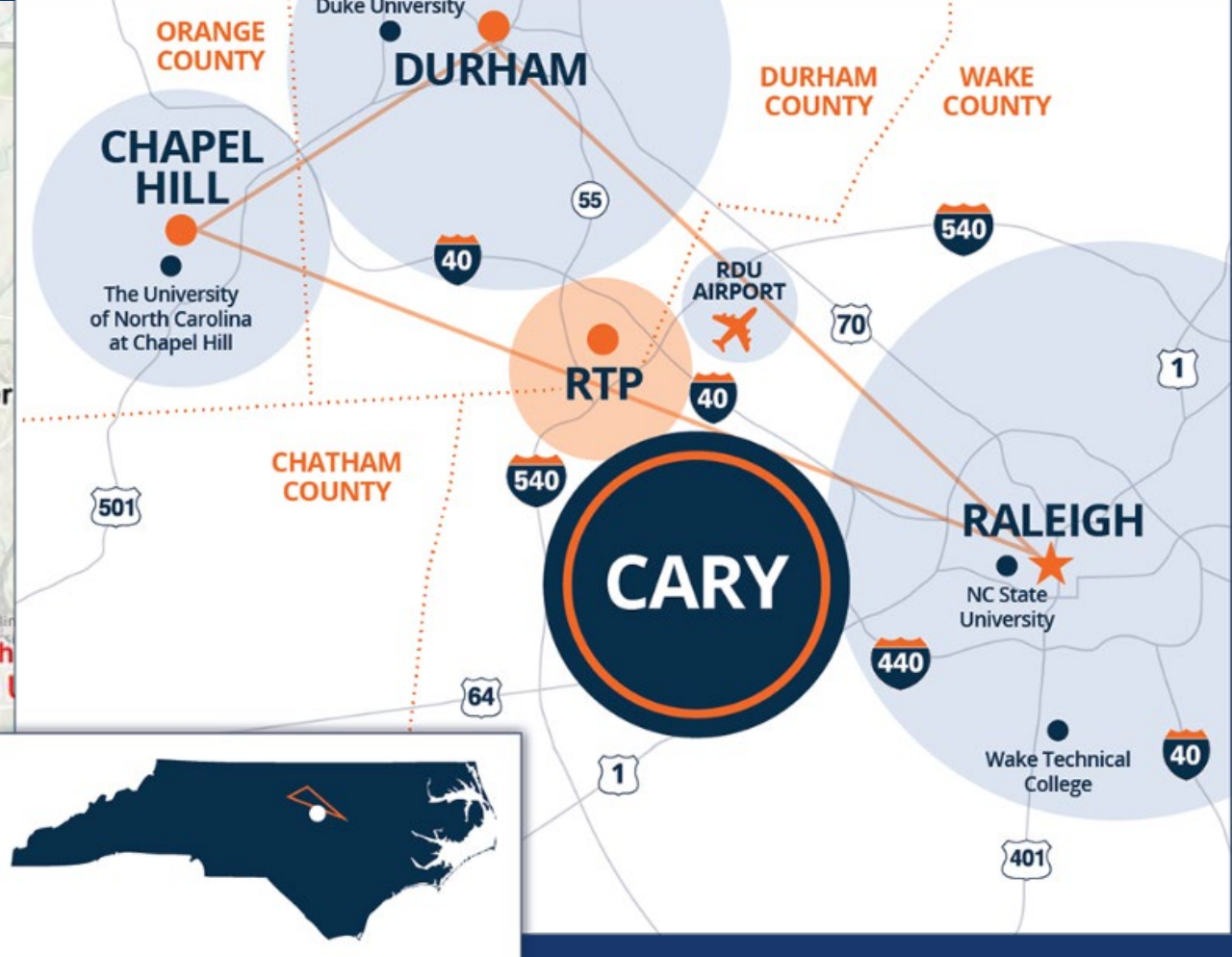
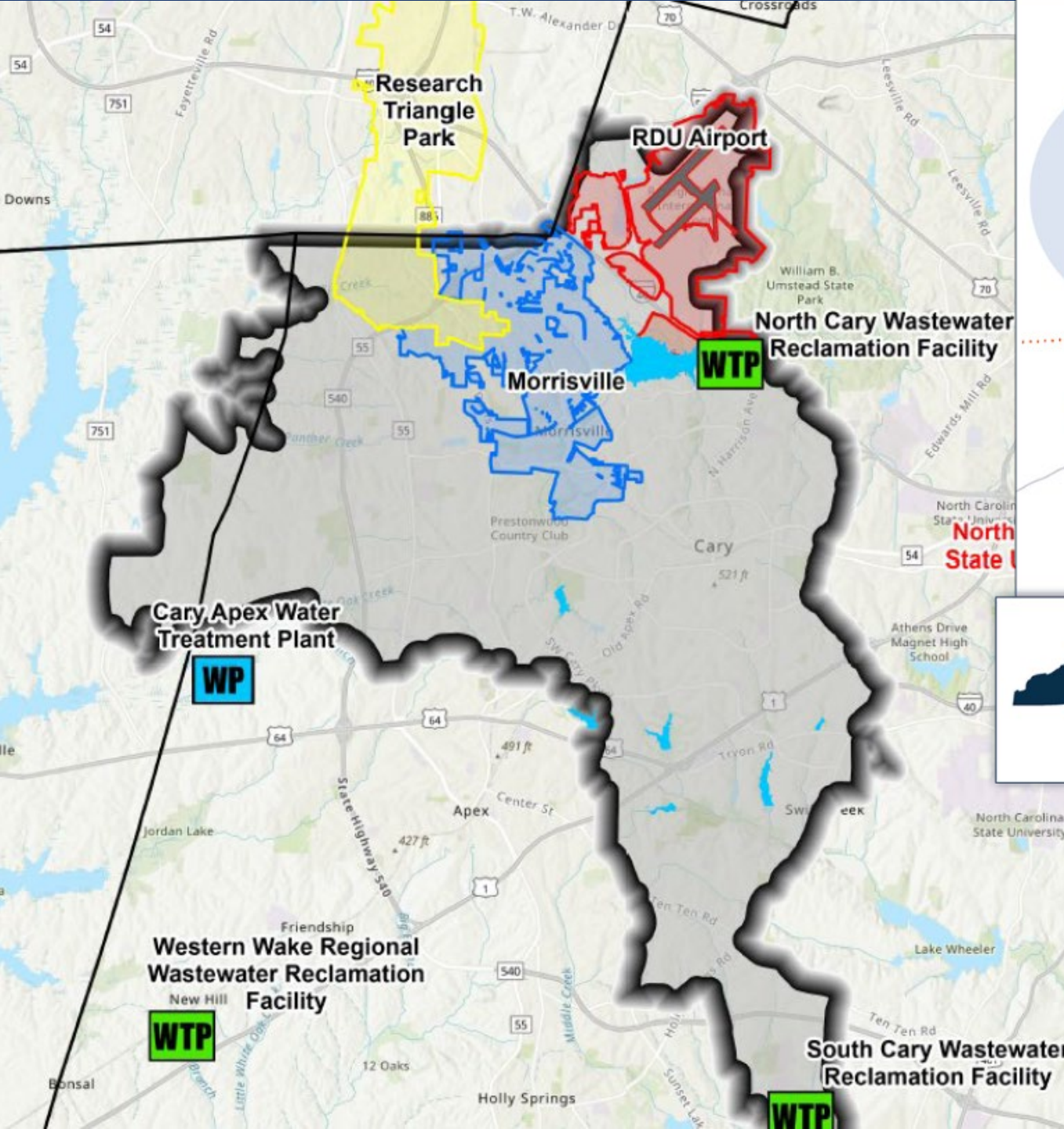
The Western Wake Regional Water Reclamation Facility has the capacity to treat wastewater from 150,000 customers in Apex, Cary, Morrisville, RDU Airport and parts of RTP



UNDER CONSTRUCTION

"WESTERN WAKE PLANT" AT WWW.TOWNOFCARY.ORG

(919) 469-4090



Cary is a Regional Utility





Western Wake Regional WRF

This aerial photograph captures the Western Wake Regional Wastewater Treatment Plant. The central feature is a large array of rectangular aeration tanks, arranged in a grid-like pattern. To the left of these tanks is a cluster of administrative and support buildings, including a prominent red-roofed structure. To the right, there are additional buildings and a parking lot. The facility is surrounded by lush green trees and vegetation. A road or path runs along the right side of the plant, and a small body of water is visible in the upper left corner.



Western Wake Regional WRF Ownership Shares

66%

CARY
11.8 MGD

34%

APEX
6.2 MGD



Western Wake Regional WRF Current Flows

48%

CARY
3.7 MGD

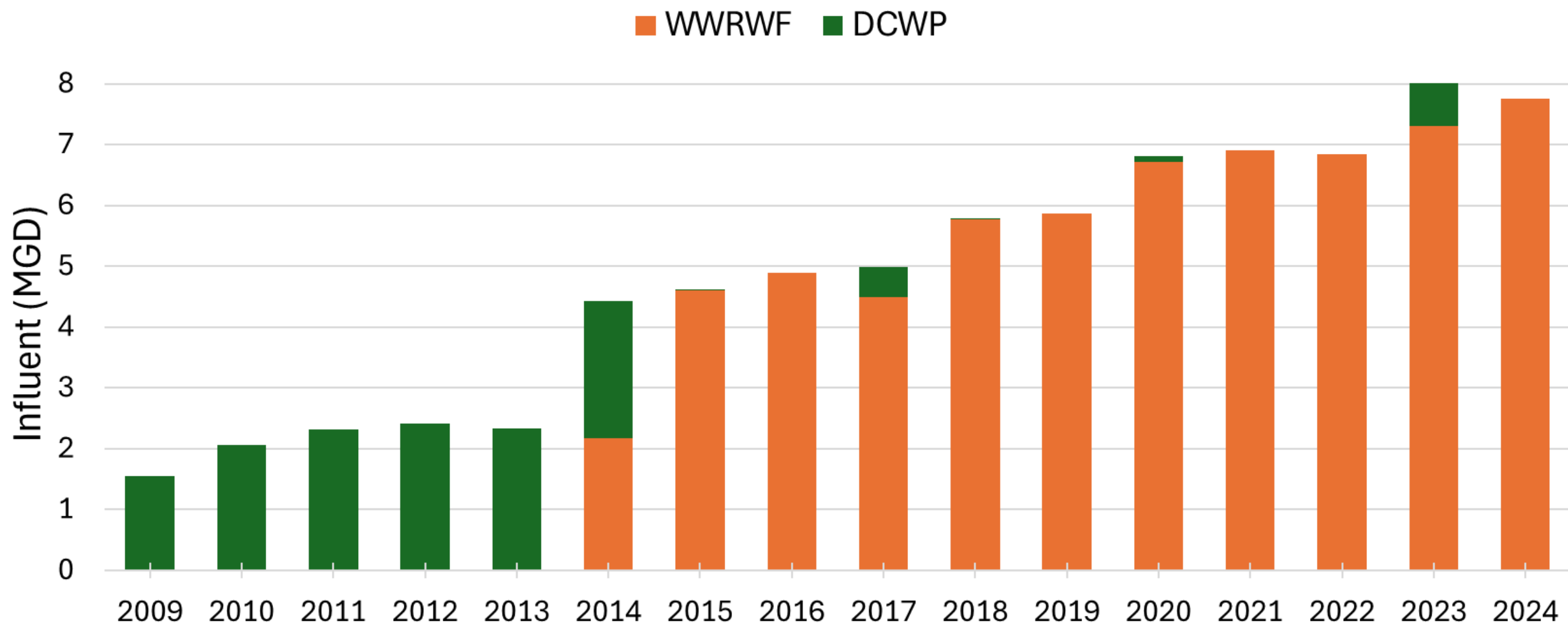
52%

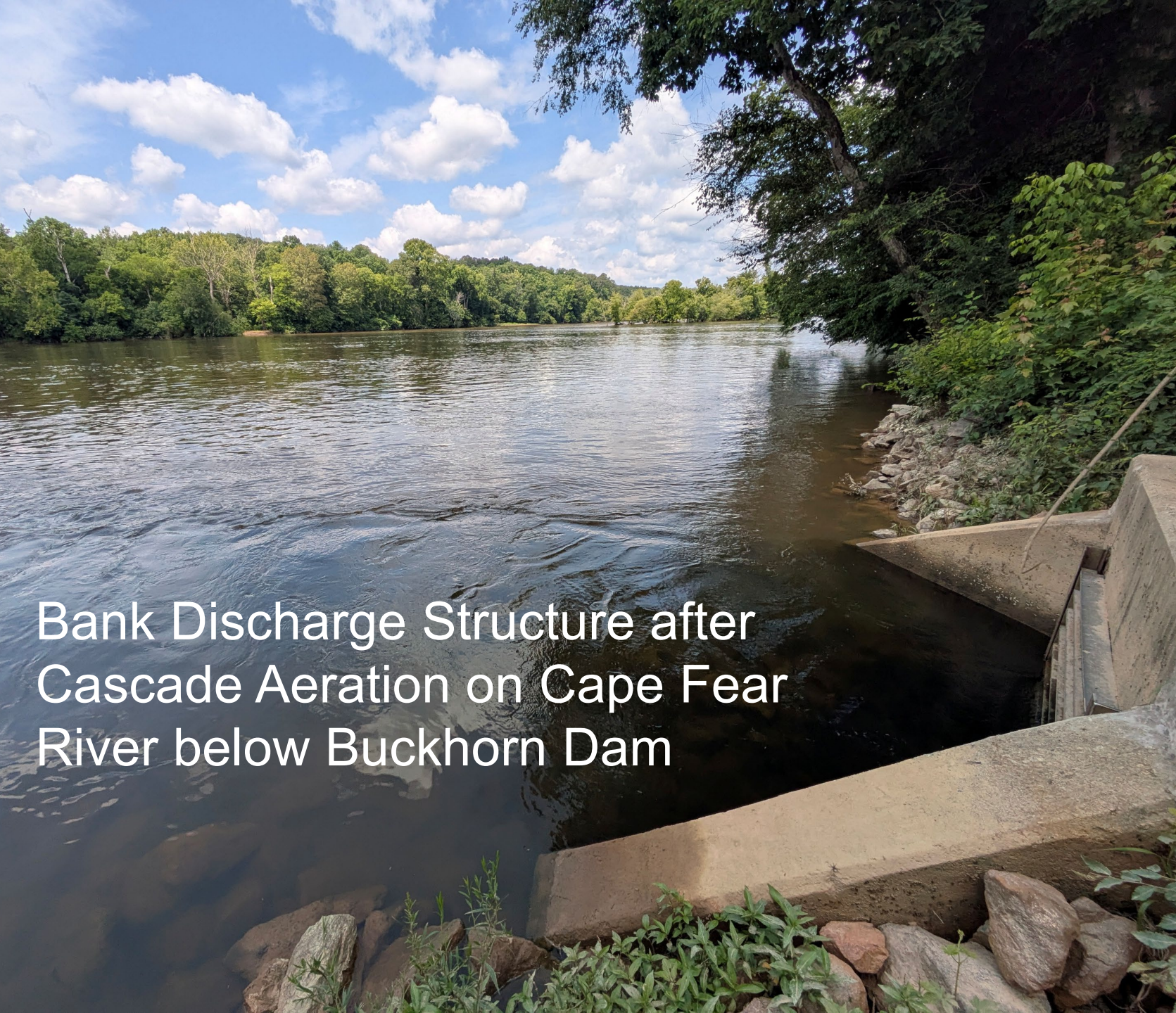
APEX
4.1 MGD



Returned Flow to the Cape Fear

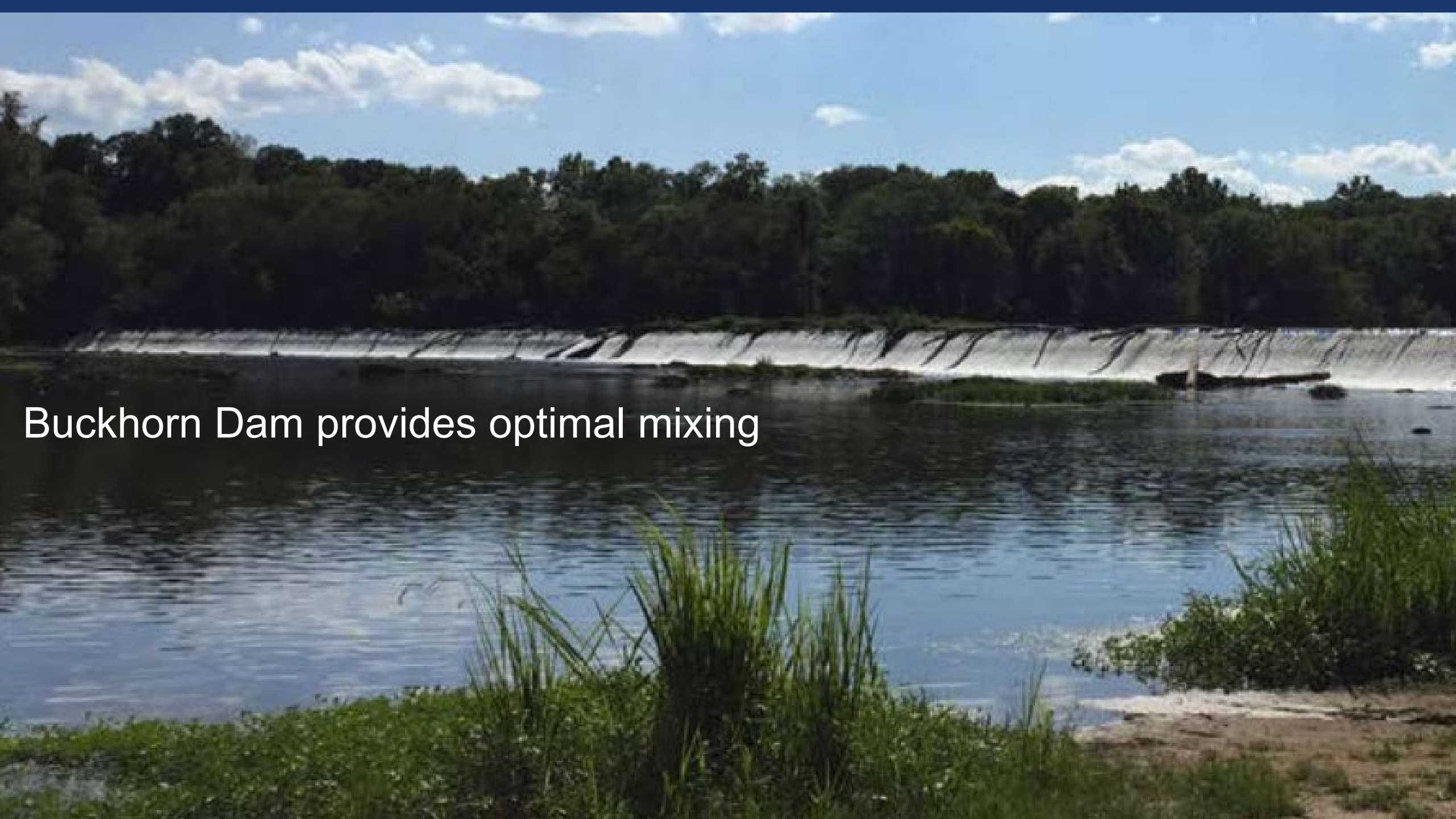
by Durham County Wastewater Plant (DWP) & WWRWRF





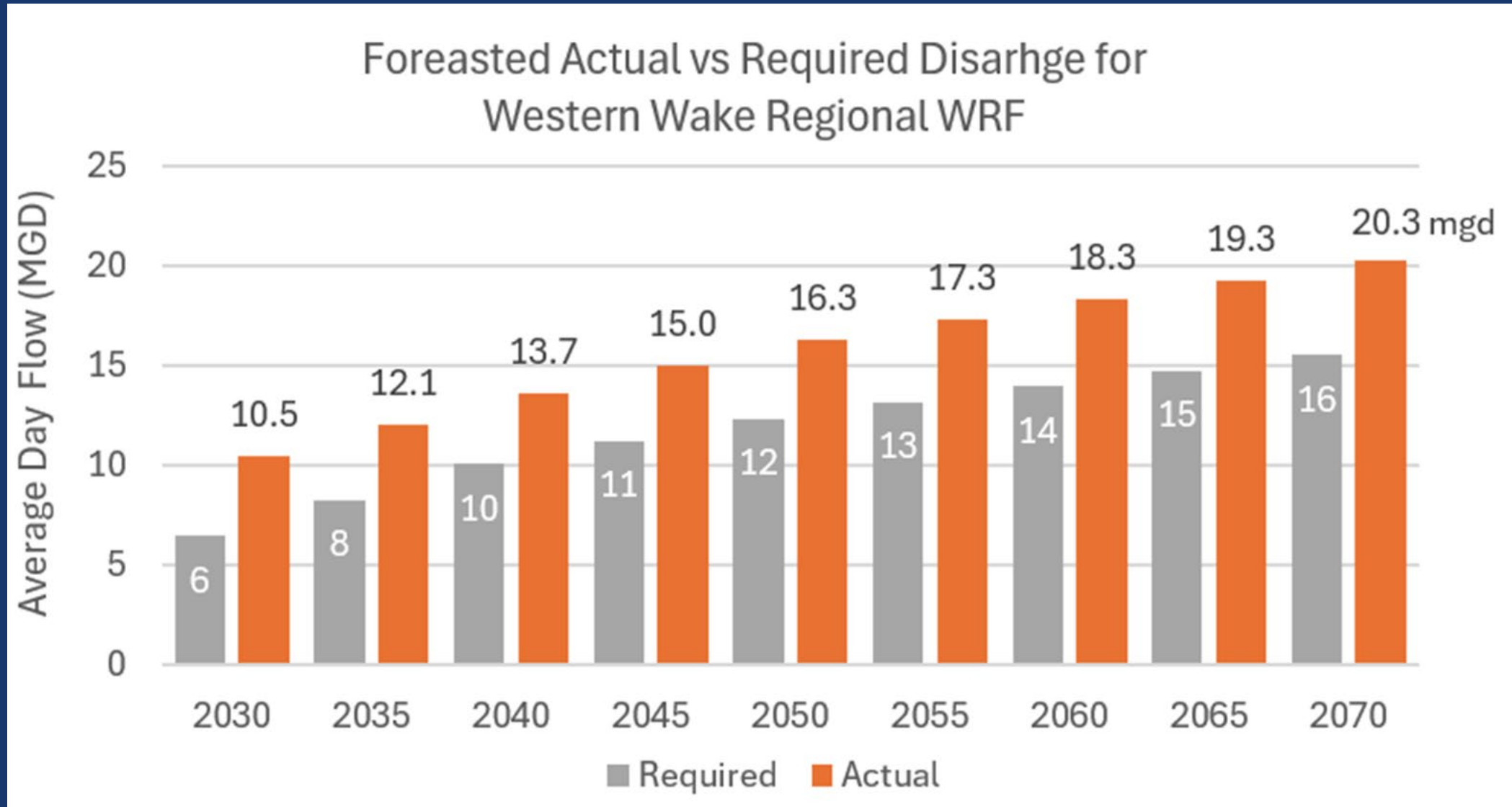
Bank Discharge Structure after
Cascade Aeration on Cape Fear
River below Buckhorn Dam





Buckhorn Dam provides optimal mixing

Following through on promise to return more



W-W-R-W-R-F – Western Wake Regional WRF

Wastewater Treatment and Biosolids Drying for Western Cary, Wake RTP, Western Morrisville, and most of Apex



Vital Statistics

- Began Operating in summer 2014
- 18-MGD Facility
- 225 Acres
- Serves ~128,000
- 66% Owned by Cary
- 34% Owned by Apex
- Receiving Stream: Cape Fear River

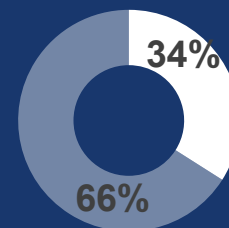


Western Wake Regional Water Reclamation Facility

3500 Reclamation Rd, New Hill

- Facility Manager: Josh Cummings
- Full-time Employees: 19
- Treatment Capacity: 18 MGD
- FY26 Operating Budget: \$7.4M

■ Ownership:



■ Apex
■ Cary

**Began
Operation:
2014**

CARY

Questions?