CARY, NORTH CAROLINA
1871

Western Wake Communities Interbasin Transfer Requirements: Update on Progress in Returning Water to the Cape Fear River Basin

Towns of Apex, Cary, and Morrisville and Wake County (RTP South)

July 9, 2008

Presentation Topics

- Drought Management
- Background on IBT Certificate requirements
- Planning for New Wastewater Facilities
- Regulatory process
- Discharge options
- Schedule for Project
- IBT Compliance
- Discussion

Water Resources Management

- **Conservation program**
  - **Conservation rate structure**
  - **Public education program**
  - **Ordinances**
  - **Drought stage related water restrictions**
  - **Incentives**
    - Rain barrel kits at cost (rain barrels offered since FY04)
    - High Efficiency Toilet rebates
    - Turf Buy Back
    - Warm Season Grass Incentive for New Development

New since March 2008

- **Water reclamation program**
- **Integrated Water Resources Management Plan**

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IBT Certificate

- Issued in July 2001
- Certificate holders include Towns of Cary, Apex and Morrisville and Wake County (RTP South)
- Requirements
  - Max day IBT of 24 mgd
  - Several conditions

Condition 1 of Western Wake Communities IBT Certificate

- After 2010, water supplied from the Haw Basin shall be returned to either the Haw or Cape Fear Basin
- Certificate includes a formula for calculating the required annual return amount

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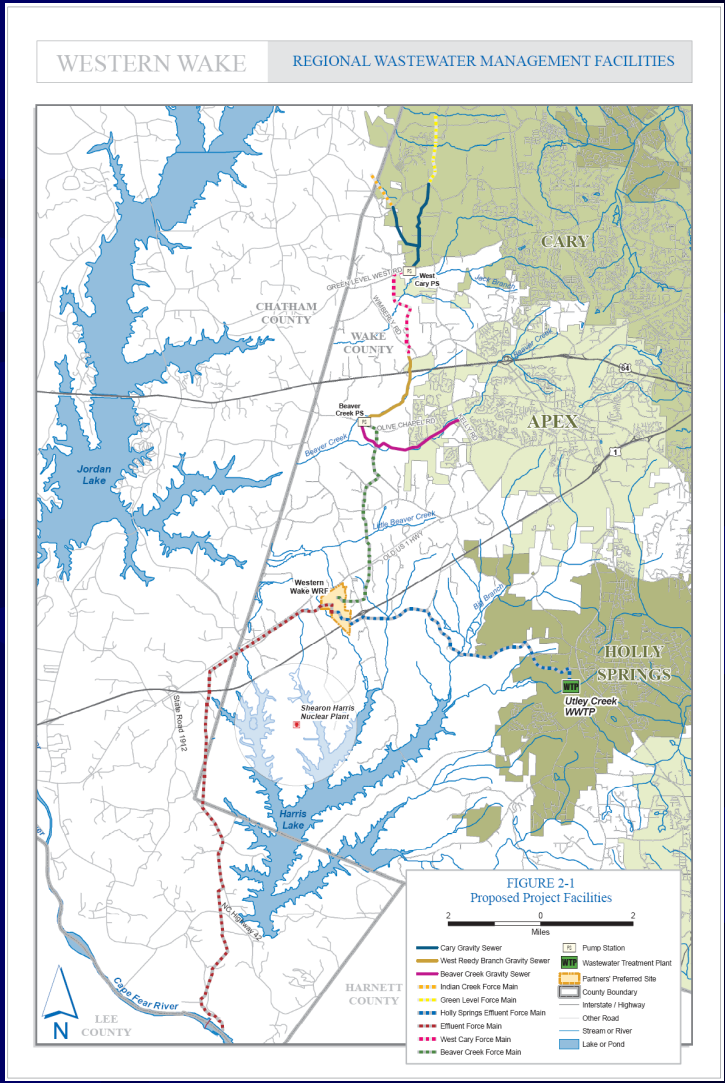
Western Wake Regional Wastewater Management Facilities

Description of Proposed Regional Project

- 2 raw WW pump stations, 16.4 miles pipeline
- 18 mgd WRF (1st phase)
- Effluent pump station, 13.4 miles pipeline



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NEPA EIS Status

- 12 Project Delivery Team Meetings held
  - Three alternative WRF sites identified and evaluated
  - Environmental justice issues reviewed
  - Discussion topics for EIS presented
- Public information program initiated
- Internal preliminary draft EIS being reviewed by USACE and Project Planning Group
- Next steps
  - Preliminary Draft EIS Review by PDT
  - Draft EIS Public Notice, Comment Period and Hearing
  - Final Draft EIS Public Notice and Comment Period
  - Record of Decision

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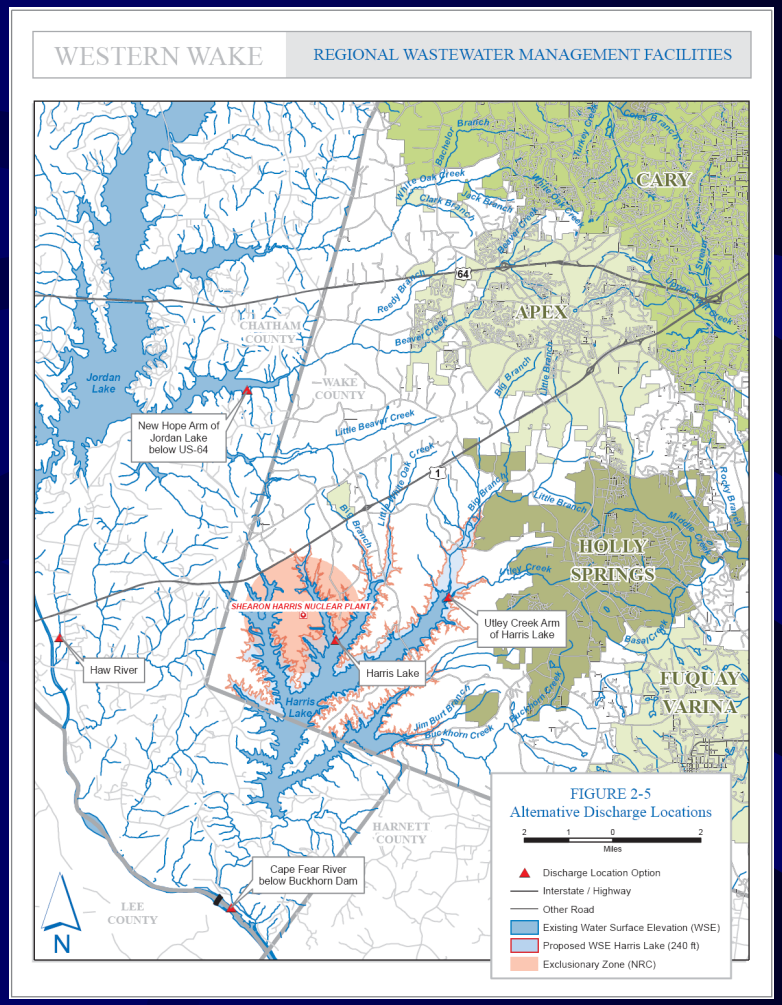
WRF Discharge Alternatives

- Discharge locations considered
  - Jordan Lake
  - Harris Lake
  - Cape Fear River
    - above Buckhorn Dam
    - below Buckhorn Dam
- Speculative permit limits received for Cape Fear River below Buckhorn Dam

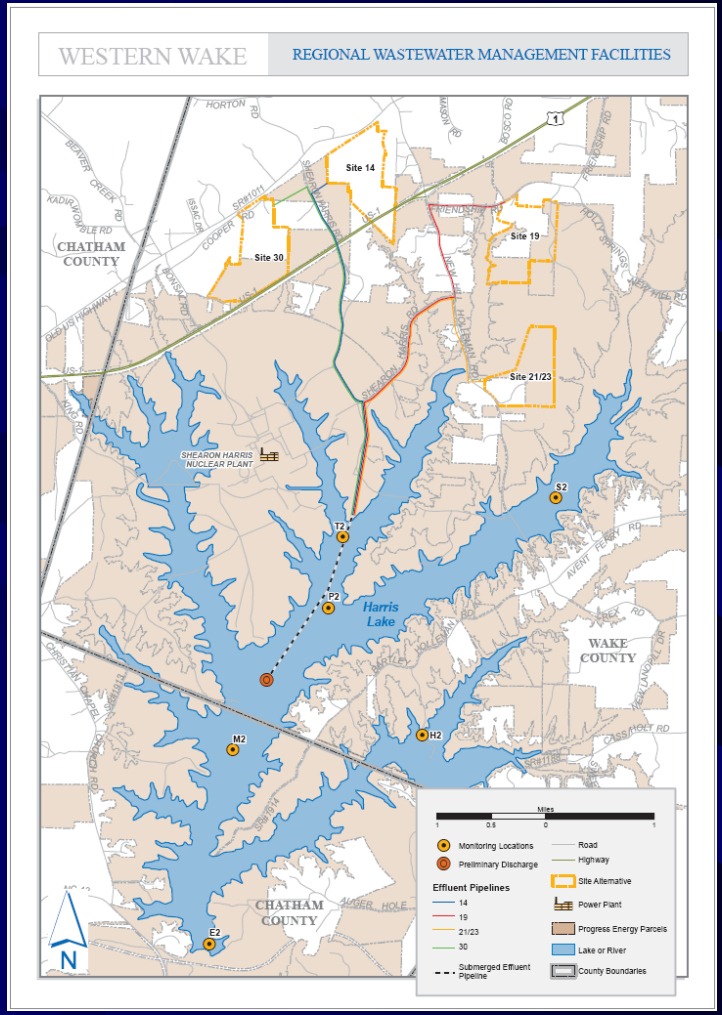


Potential Harris Lake Discharge

- Previously discouraged as a discharge option by DWQ
  - DWQ recommended removal of Holly Spring discharge from Utley Creek
  - Detailed nutrient response model required
- Issue has re-emerged because
  - Drought
  - Proposed expansion of Shearon Harris Nuclear Power Plant
  - Need for additional water from the Cape Fear River to augment Harris Lake watershed
  - Partners' effluent line going to the Cape Fear River

Renewed Harris lake Discussions

- Partners and Progress Energy met and discussed options
- Potential benefit to a lake discharge
  - Reduced length of effluent lines
  - Reduced pumping for Progress in future
  - More options for water management
- DWQ has indicated a calibrated lake nutrient response model is required
- Modeling effort underway



Harris Lake Modeling Process

- Modeling approach (Feb 2008)
- Modification of monitoring program (March 2008)
- Development of watershed and lake models (May 2008)
- Model Calibration
  - Technical memorandum in process (June 2008)
- Model sensitivity to discharge (July 2008)
- Preliminary model report (July 2008)
  - Preliminary assessment of discharge feasibility
- Updated model analyses and reports (Dec 2008)
  - Basis for speculative limits decision by DWQ

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Schedule (with Cape Fear River Discharge)

2007-2009

- Development of Environmental Impact Statement by USACE including:
  - Public comment period on Draft EIS
  - Public hearing
  - Publication of Final EIS
  - Record of Decision

2008-2009

- Application for and receipt of permits:
  - NPDES permit issued by NCDENR
  - 401 Certification issued by NCDENR
  - 404 Wetlands permit issued by USACE
  - Authorization to Construct permits issued by NCDENR

2010-2013

- Construction

2013

- Operation of facilities begins

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IBT Certificate Compliance Actions

- Return of Water to Haw or Cape Fear Basin after 2010
  - Cary has ILA with Durham County for up to 5 mgd of capacity at the Triangle WWTP
  - Projected required average return for 2011 of 2.1 mgd
- Reclaimed water master plan
  - Average day reclaimed water use of 1.3 mgd
  - Max day reclaimed water use of 4.8 mgd
- Max day IBT compliance is an issue
  - Exacerbated by delay in Western Wake WRF
  - Options to address issues are being considered

Continued Compliance

- Condition 1 of Certificate
  - Return of reclaimed water to Haw River subbasin via Durham Co. WRF meets condition requirements
- Max day IBT compliance options
  - Purchase water from Neuse Basin utility
  - Build facilities to transfer water on max day
  - Request modification of IBT certificate

IBT Considerations with a Harris Lake Discharge

- Harris Lake is in the Cape Fear Basin
- Condition 1
  - Requires return to either the Haw or Cape Fear Basins
- Max day transfer
  - 24 mgd from Haw to the Neuse Basin
- Discharge to Harris Lake may require modification of IBT certificate
- Option may not be feasible
  - Time frame for DWQ approval
  - Potential IBT certificate modification

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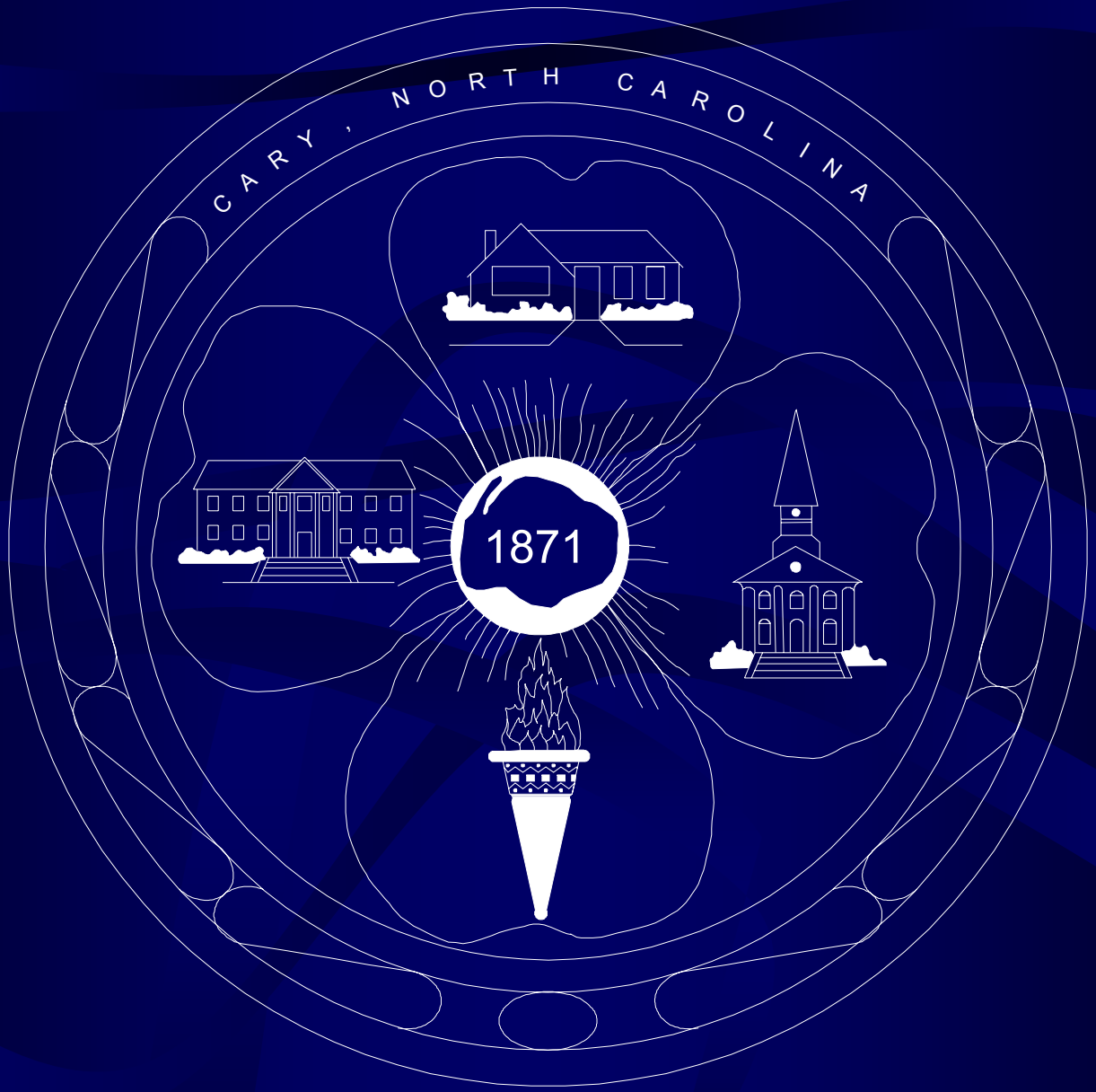
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