

*Final Determination
Interbasin Transfer Certificate
for Pender County*



Water Allocation Committee
July 11, 2018

Department of Environmental Quality

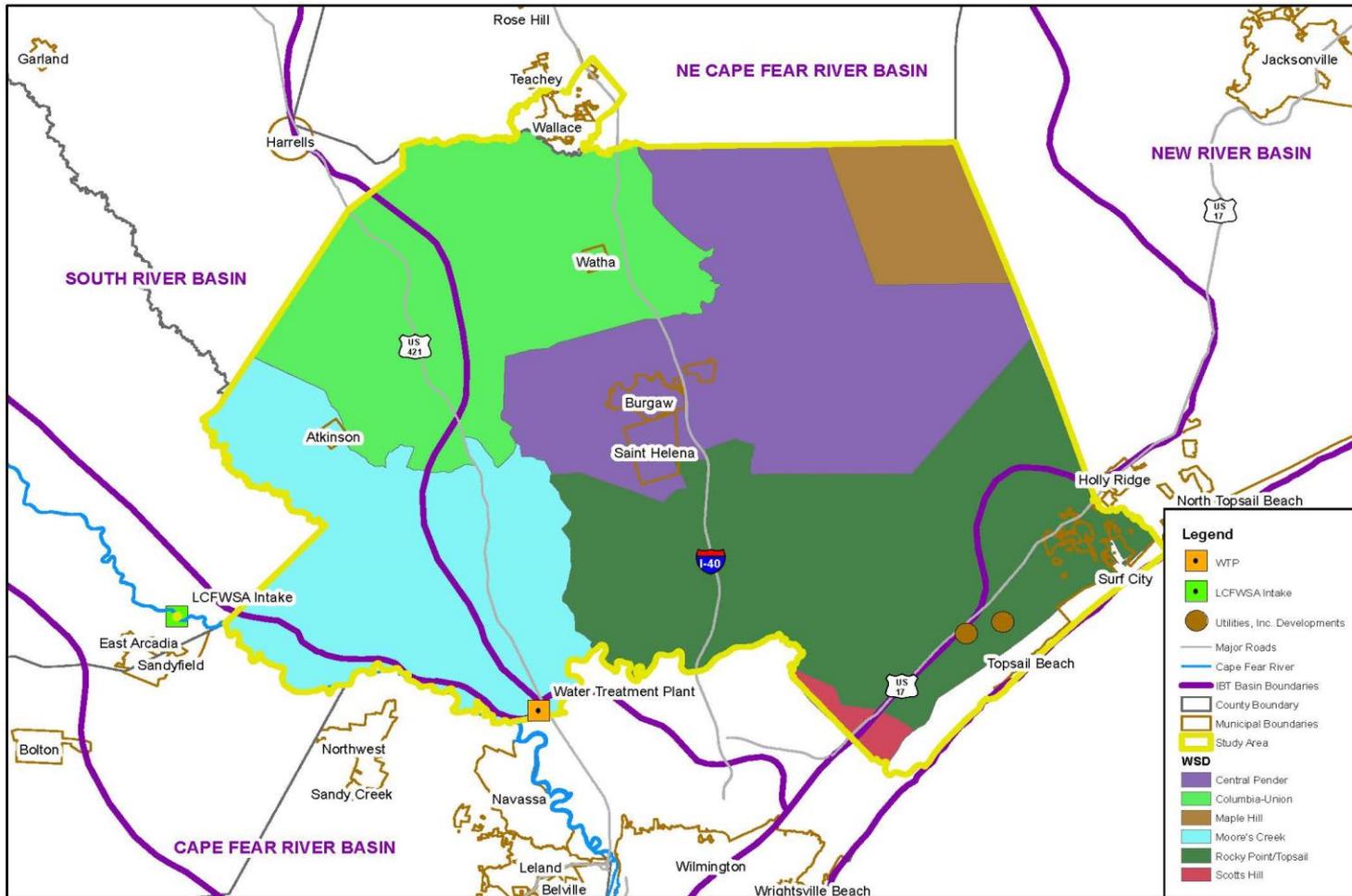


Requested IBT Certificate

Primary Applicant:	Pender County
Source Basin:	Cape Fear River
Receiving Basin:	Northeast Cape Fear River, South River, & New River
Grandfathered Allowance:	N/A
Total Requested IBT (2045 Demands):	14.5 MGD (avg day/max mth)

New Certificate, following G.S. 143-215.22L(w)

Pender County and IBT Basins



Legend

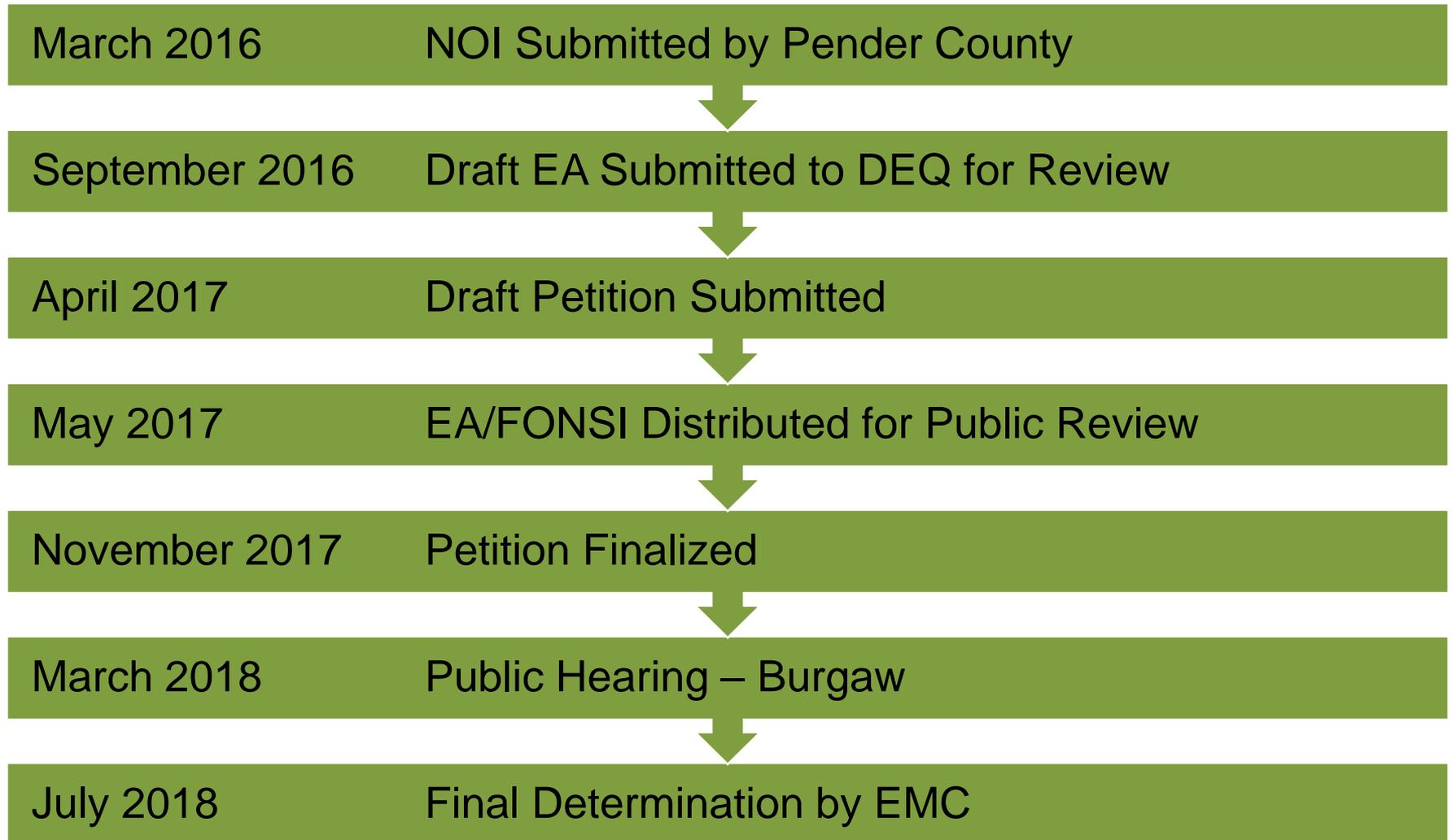
- WTP
- LCFWSA Intake
- Utilities, Inc. Developments
- Major Roads
- Cape Fear River
- IBT Basin Boundaries
- County Boundary
- Municipal Boundaries
- Study Area

WSD

- Central Pender
- Columbia-Union
- Maple Hill
- Moore's Creek
- Rocky Point/Topsail
- Scotts Hill



Project Timeline



Final Determination: Factors to be Considered - §143-215.22L (k)

The EMC shall specifically consider:

1. The necessity, reasonableness, and proposed uses of water transferred
2. Present and reasonably foreseeable detrimental effects on the source basin
3. Cumulative effects on the source major river basin of any water transfer or consumptive water use currently authorized or projected in a Local Water Supply Plan.
4. Present and reasonably foreseeable beneficial and detrimental effects on the receiving basin
5. The availability of reasonable alternatives to the proposed transfer
6. Use of impoundment storage capacity, if applicable
7. Purposes and water storage allocations in a US Army Corps of Engineers multipurpose reservoir
8. Whether the service area of the applicant is located in both the source and receiving basin
9. Any other facts or circumstances reasonably necessary

1. Necessity, Reasonableness, and Uses of Proposed Transfer

- The county's existing water supply will be insufficient to meet projected water demands through 2045
 - Anticipated population growth of county
 - Expansion of service area to parts of county not currently served
- Projected water transfer needed is expected to grow from 1.3 mgd (2015) to 14.5 mgd (2045)
- Current water supply:
 - Raw water from Cape Fear River via contract with LCFWASA
 - Limited to 2 mgd due to IBT threshold
- Co-applicants for IBT certificate request:
 - Towns of Burgaw, Surf City, Topsail Beach
 - Town of Wallace (in Duplin County)
 - Utilities, Inc. (Belvedere Plantation and Olde Pointe)

2. Present and Reasonably Foreseeable Future Detrimental Effects on the Source River Basin

- CFNRBHM (Cape Fear and Neuse River Basin Hydrologic Model) was the model used to evaluate potential impacts from proposed IBT under current (2010) and future (2045) basin-wide water demands.
- Future (2045) IBT model scenario with proposed IBT shows minimal impact.
- River stage levels are not expected to be significantly affected either above or below L&D #1. The model predicted river stage will always remain above the dam crest elevation.

Model Scenario Comparison – Cape Fear River Statistics Below L&D1

Scenario	Average	Median	10 th Percentile	5 th Percentile
2010 Baseline – River Flow (cfs)	5,297	3,055	858	649
2045 Baseline – River Flow (cfs)	5,214	2,971	825	606
2045 Requested IBT – River Flow (cfs)	5,196	2,953	805	585
Difference from 2010 Baseline (cfs)	-101	-102	-53	-64
Difference from 2010 Baseline (%)	-1.9	-3.3	-6.2	-9.9
Difference from 2045 Baseline (cfs)	-19	-18	-20	-21
Difference from 2045 Baseline (%)	-0.4	-0.6	-2.5	-3.5
2045 Maximum Withdrawal – River Flow (cfs)	5,112	2,881	747	538
Difference from 2010 Baseline (cfs)	-185	-174	-111	-111
Difference from 2010 Baseline (%)	-3.5	-5.7	-12.9	-17.1
Difference from 2045 Baseline (cfs)	-103	-90	-78	-68
Difference from 2045 Baseline (%)	-2.0	-3.0	-9.7	-11.6



3. Cumulative Effect on the Source Major River Basin of Any Water Transfer or Consumptive Water Use

- Modeling indicates that downstream flow impacts on the Cape Fear River would be minimal and would be mitigated by the implementation of Water Shortage Response Plans.
- Potential for additional low flow/lower stage days to occur; however stage always remains above dam crest.
- In-stream flow patterns will not be significantly impacted, which protects in-stream aquatic habitat and fish passage access.

4. Present and Reasonably Foreseeable Future Beneficial and Detrimental Effects on the Receiving River Basins

- Beneficial effects: supporting the projected population growth and associated development, as well as planned and anticipated expansion of service area
- Possible SCI from development and urbanization will be mitigated by implementation of existing federal, state, and local protection programs
- Wastewater collection and treatment

5. Availability of Reasonable Alternatives to the Proposed Transfer

1. No action.
 2. Increase IBT to meet projected water needs by using the available supply from the Cape Fear River (Preferred Alternative).
 3. Avoid or minimize an increase in IBT by discharging treated wastewater effluent to the Cape Fear River basin.
 4. Avoid or minimize an IBT increase by using surface water sources in the respective South River, Northeast Cape Fear River, and New River basins.
 5. Avoid or minimize an increase in IBT by using coastal water sources and desalination treatment process.
 6. Avoid or minimize an increase in IBT by using groundwater as a source.
 7. Avoid or minimize an IBT increase by utilizing additional water resources management tools.
- Alternative 2 is PCU's preferred alternative. The other alternatives present significantly greater technical, environmental, and/or economic challenges.

6. Applicant's Present and Proposed Use of Impoundment Storage Capacity

Not applicable – the water to be withdrawn and transferred is not stored in an impoundment.

7. Consistent with Purposes of U.S. Army Corps of Engineers' Multi-Purpose Reservoir

Not applicable – the water to be withdrawn and transferred is not stored in a multipurpose reservoir constructed by the United States Army Corps of Engineers

8. Whether the Service Area is Located in Both the Source and Receiving River Basins

The water transferred via the proposed IBT would eventually serve customers throughout Pender County. Following ongoing and planned expansion, the service area will include the source and receiving river basins.

9. Any Other Facts or Circumstances that are Reasonably Necessary

Specific conditions in the proposed IBT certificate:

- Submittal for approval within 90 days of receipt of Certificate
 - Water Conservation Plan
 - Drought Management Plan
 - Compliance and Monitoring Plan
- Quarterly Monitoring Reports
- Ability to reopen, amend, and modify the Certificate, if necessary
- Applicant may not resell water transferred pursuant to the Certificate to water systems that are not co-applicants on the Certificate [Towns of Burgaw, Surf City, Topsail Beach, Wallace, and Utilities, Inc. (Belvedere Plantation and Olde Pointe)]

Public Hearing Comments on Petition

- One public hearing was held on the petition for an IBT certificate in March 2018
- Four oral comments
- Written comments received from two individuals

Public Comment Themes

- Concern about how much water can be removed from the Cape Fear River without the river being compromised
- Lack of scientific knowledge regarding the long-term effects of IBTs
- Support for IBT:
 - Will provide a more reliable water source for co-applicants and parts of Pender County reliant on groundwater
 - Will provide greater system capacity to meet future water demands given area's projected growth and expansion of service area
 - Encourage Pender County to develop source water protection plan and to develop a conservation and restoration plan

Final Determination: Burden and Standard of Proof

§ 143-215.22L (m) Specific Findings

“The Commission shall grant a certificate for a water transfer if the Commission finds that the applicant has established by a preponderance of the evidence all of the following:

- 1) The benefits of the proposed transfer outweigh the detriments of the proposed transfer. In making this determination, the Commission shall be guided by the approved environmental document and the policy set out in subsection (t) of this section.
- 2) The detriments have been or will be mitigated to the maximum degree practicable.
- 3) The amount of the transfer does not exceed the amount of the projected shortfall under the applicant’s water supply plan after first taking into account all other sources of water that are available to the applicant.
- 4) There are no reasonable alternatives to the proposed transfer.”

Action – Request WAC Support

The Division of Water Resources is requesting that the Water Allocation Committee move the requested Interbasin Transfer Certificate for Pender County and its co-applicants to transfer up to 14.5 mgd from the Cape Fear River IBT Basin to the Northeast Cape Fear River, South River, and New River IBT Basins to the full EMC at their July 12, 2018 meeting for a final determination.

Questions?



Department of Environmental Quality

