

A person wearing a dark wading vest and light-colored shirt is standing in a shallow, rocky stream. The water is clear and flows over the rocks. The stream is surrounded by dense green foliage and trees, creating a lush, natural setting. The lighting is bright, suggesting a sunny day.

NC Department of Environmental Quality  
Division of Water Resources (DWR)  
Basin Planning Branch

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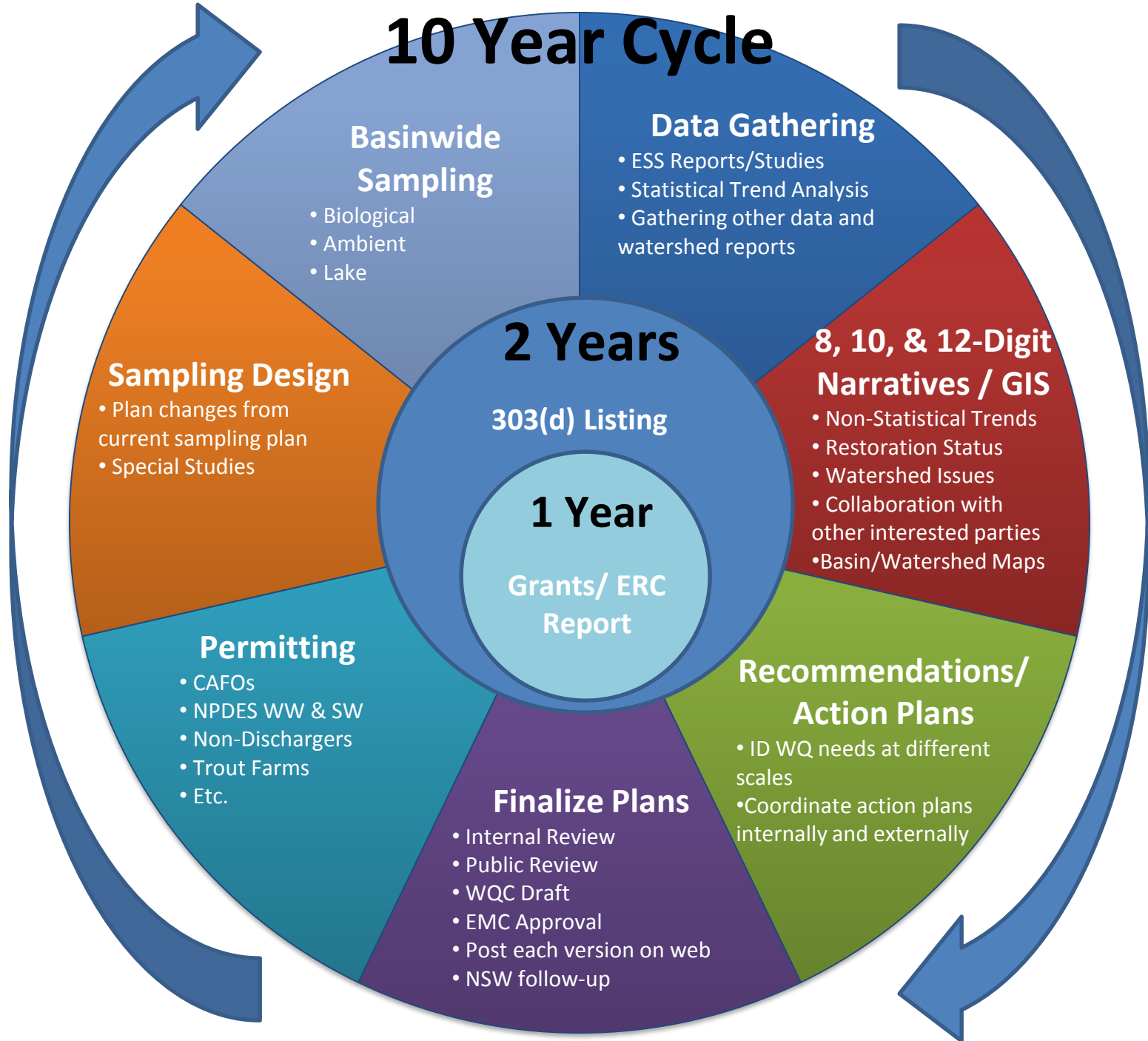
April 2018

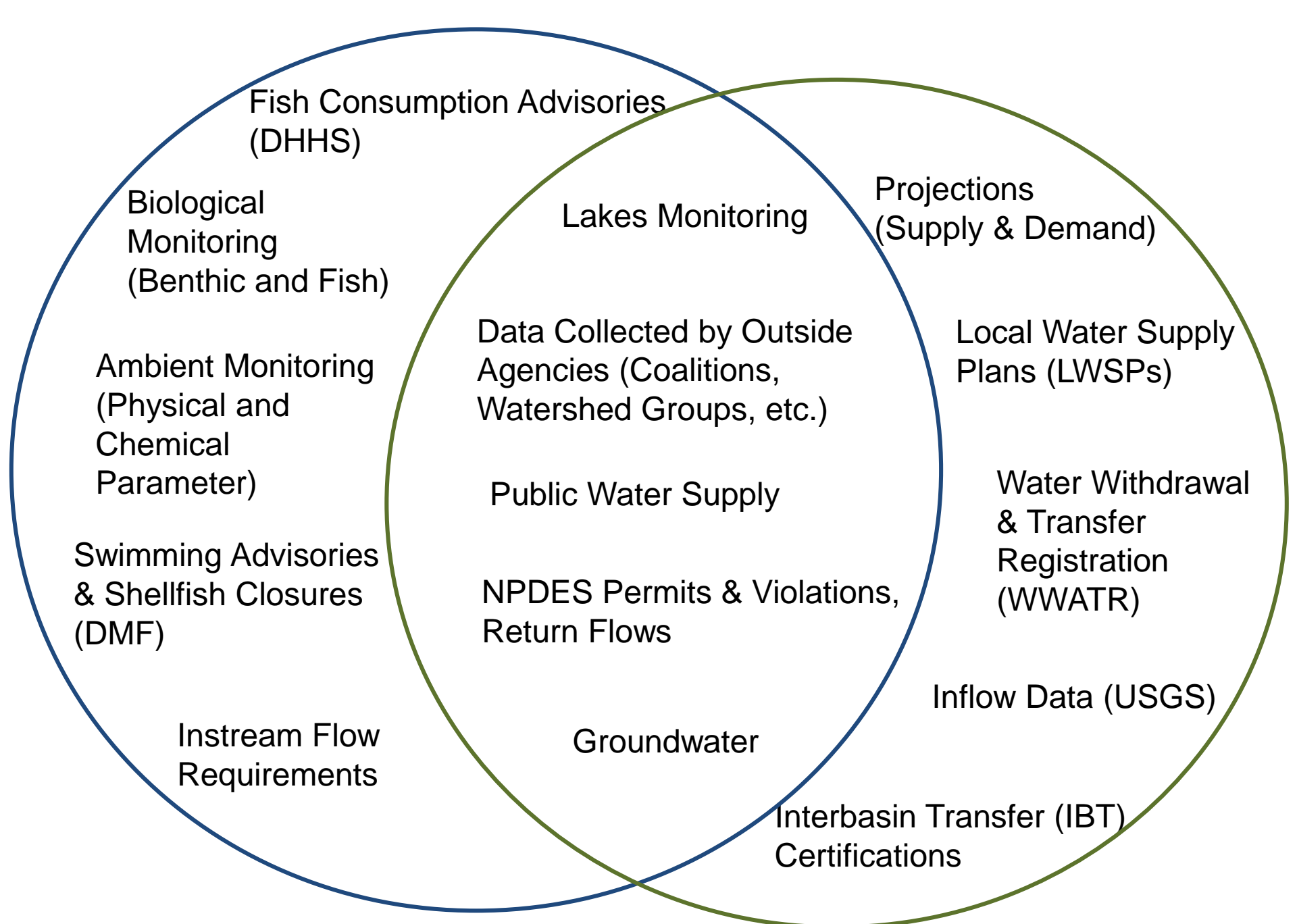
# Water Resource Basin Plans

- Primary vehicle for consolidating data collected and issues identified by all water related resource agencies
- Provide a single location to present the water quality and water quantity related evaluations developed by state agencies
- Provide a platform for resource agencies to highlight water related issues that are important to each agency's mission
- Watershed-based approach to river basin water resource management
- Considers the cumulative impacts to all activities across a river basin (point and nonpoint sources of pollution)



# 10 Year Cycle







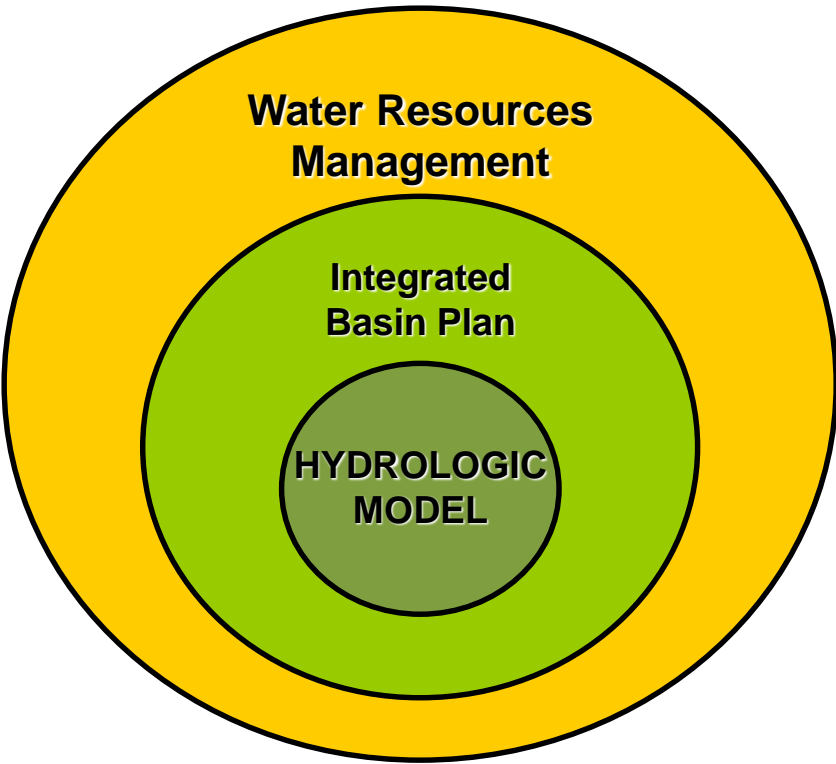
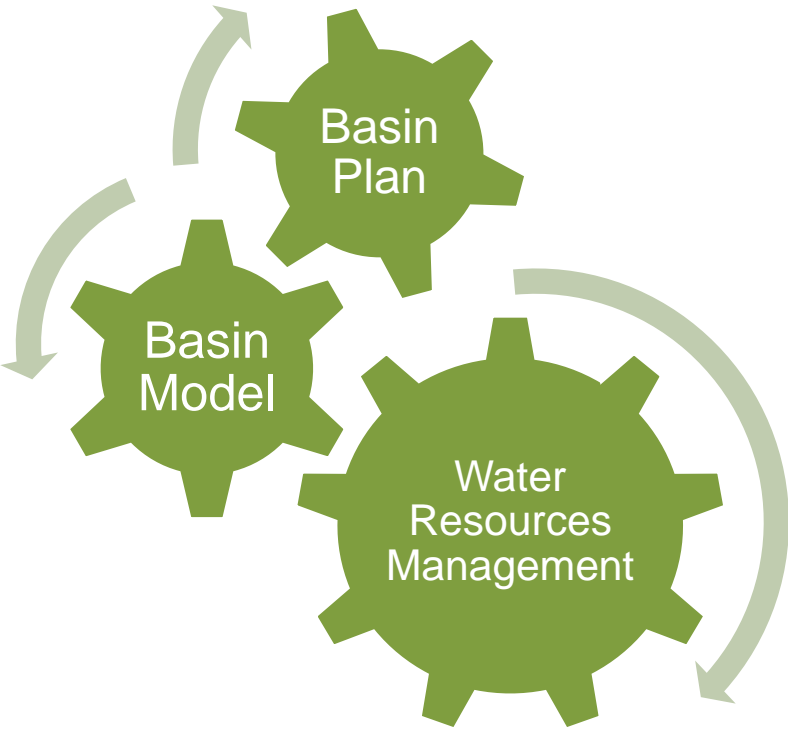
# Surface Water Quality Assessment

- Waters are assessed based on parameters of interest and determined to be:
  - Supporting**  
(meeting standards/criteria)
  - Impaired**  
(exceeding standards/criteria)
  - Data Inconclusive**  
(data does not allow for an assessment to be made)
  - No Data**
- Data that is collected is used to generate the Integrated Report (303(d)/305(b))

<http://deq.nc.gov/about/divisions/water-resources/planning/classification-standards/surface-water-standards#WQSTables>

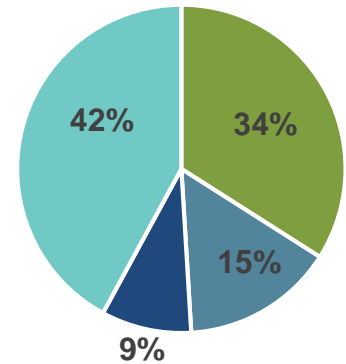
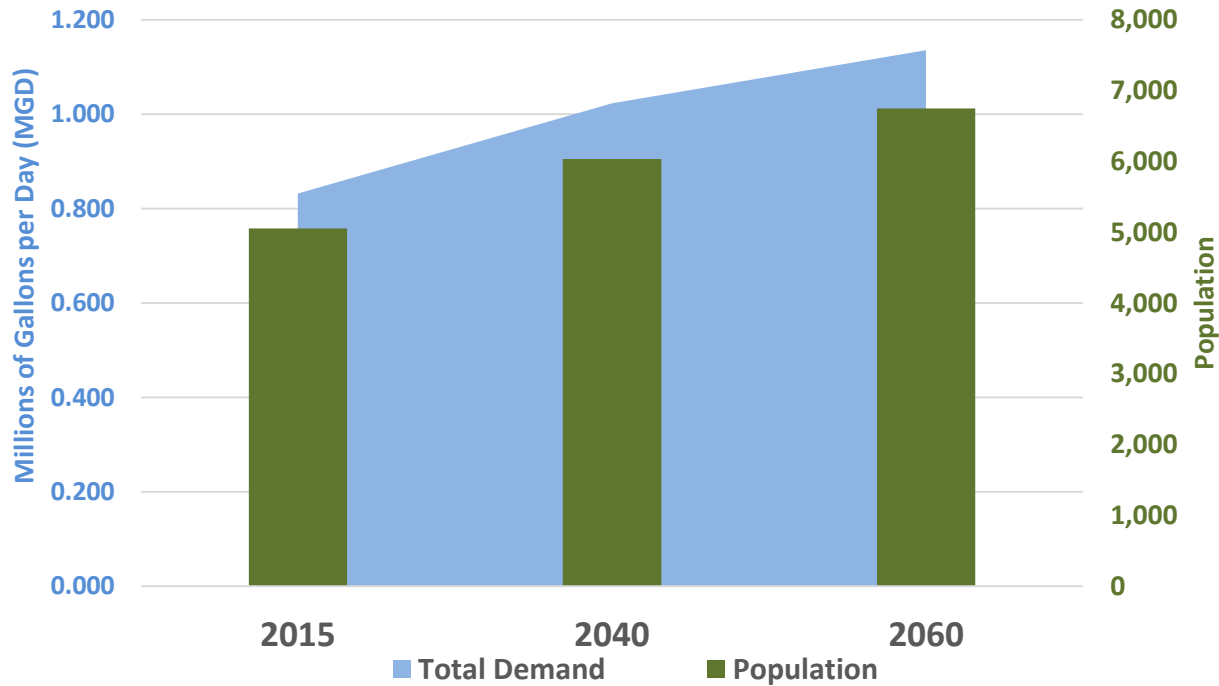


# Water Resources River Basin Management



# Water Quantity

## Current and Projected Water Use and Population Local Water Supply Plans (LWSP)



- Residential
- Non-Residential
- System Processes
- Unaccounted-for Water



# Water Quantity Using Hydrologic Modeling

- Models need to answer 3 questions:
  - Locations and time when yield may be inadequate to meet all essential uses.
  - Locations and times when yield may be inadequate to meet all needs.
  - Locations and times ecological flow may be adversely impacted.
- Models are not rule-making and will not change any existing regulations nor will they add new regulations.

“All models are wrong, but some are useful”

Andrew Gelman, Professor of Statistics, Columbia University





# Water Quantity Using Hydrologic Modeling

- Models can also answer water resource planning issues as the relate to:
  - Identifying alternative sources for water supply
  - Developing and implementing water shortage response plans (are triggers adequate or can they be improved)
  - Impacts related to generating hydroelectric power
  - Impacts to recreational areas (rivers, lakes, boat launches)



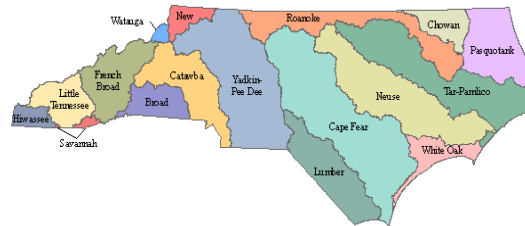
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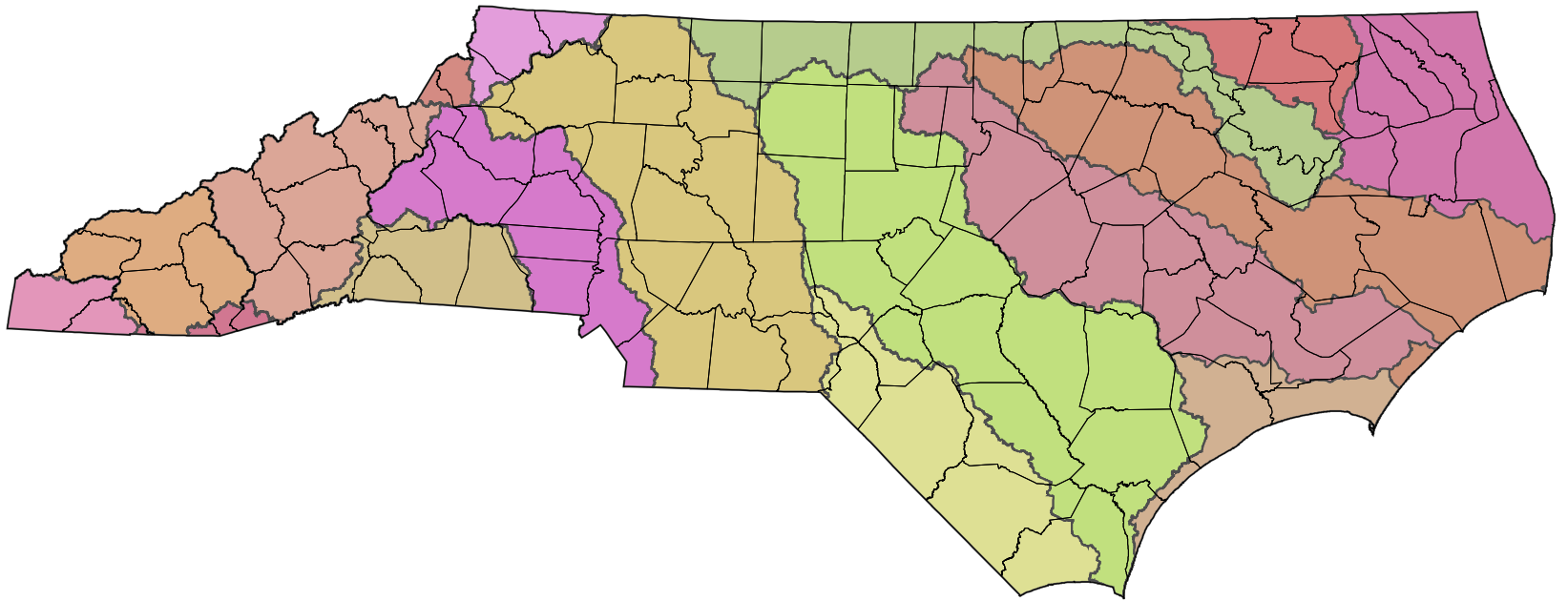
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# Towns desperate for water



Above, Clint Beam, a Shelby firefighter, monitors a jury-rigged Shelby County water system to Shelby. Using the fire truck







# KEY ISSUES THAT SHAPE CURRENT NC WATER PLANNING

## Drought of 1998-2002

### Towns desperate for water



Above: Clint Deary, a Shelby firefighter, monitors a jury-rigged system that County water system to Shelby, using the fire truck as a pump.



## 2007-08 Drought

### Fontana Lake (Sept 9-10, 2007)



### 2008 Report of the Water Allocation Study of the NC Environmental Review Commission



## Interbasin Transfer

### South Carolina vs. North Carolina - Key Facts

- ❑ Case originates in the Supreme Court. South Carolina seeks an equitable amount of the Catawba River which starts in North Carolina and flows into South Carolina.
- ❑ October, 2007 - Granted
- ❑ October, 2009 - Argued
- ❑ December, 2010 - Dismissed

# *New (July 2011) and Watauga (draft 2017) River Basins*

- ❑ High volumes and velocity of stormwater
- ❑ Increased water temperatures and sedimentation
- ❑ Aging and/or failing septic tanks
- ❑ Livestock access to streams
- ❑ Lack of riparian buffers

