

# North Carolina's Water Allocation Study

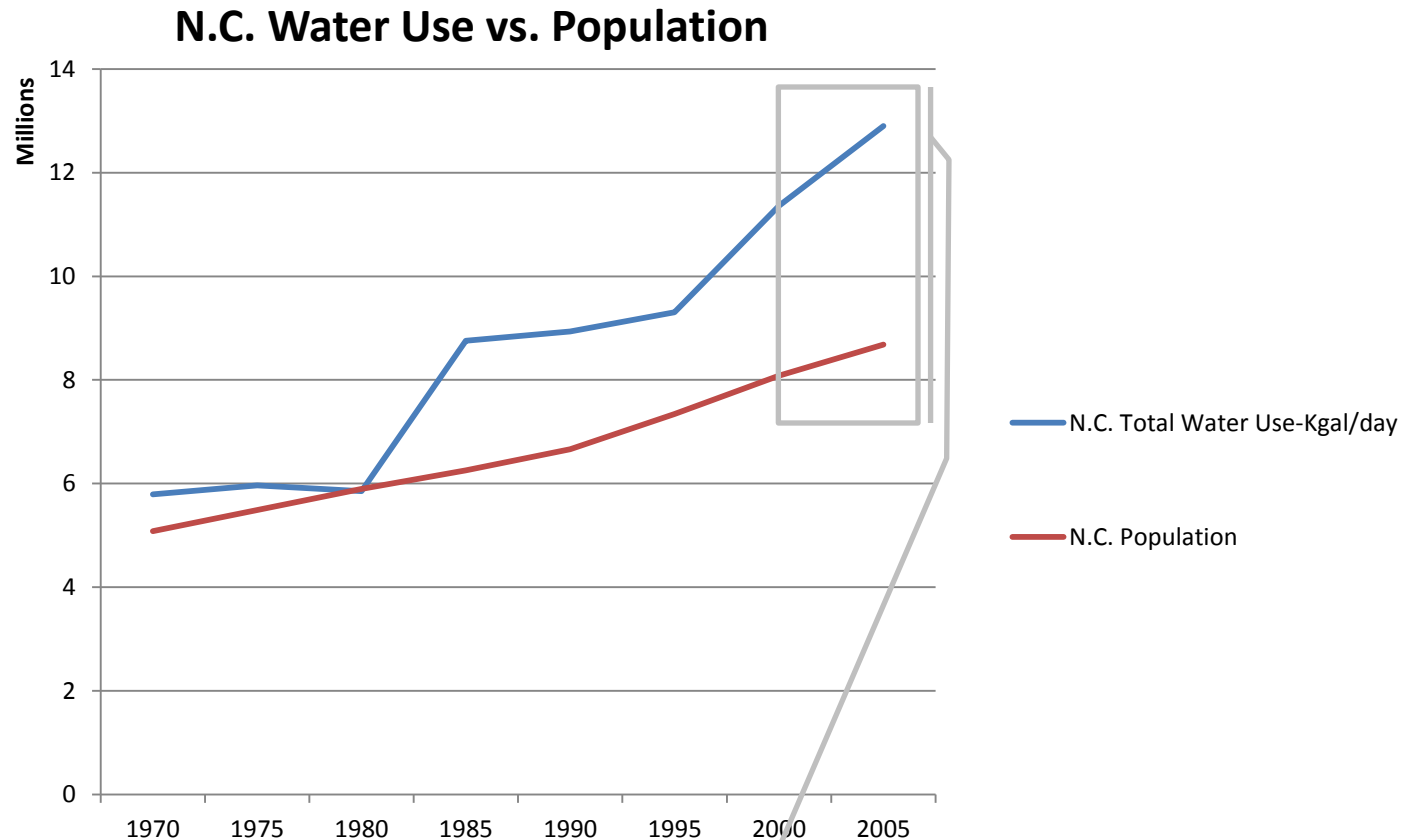
## Report on Phase II to the Environmental Review Commission

By the Principal Investigators

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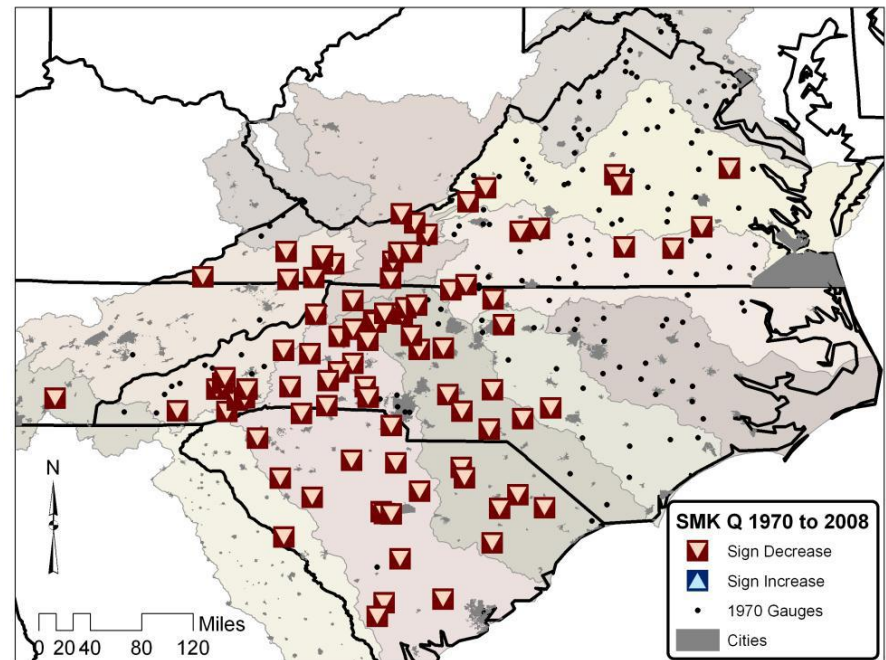
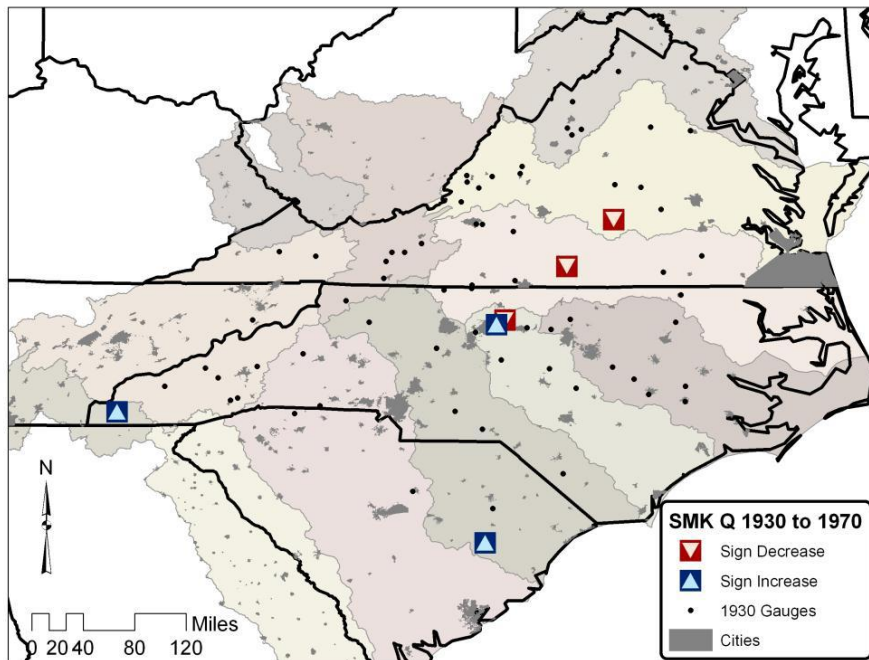
January 18, 2011

# Water use is still rising...



*Fig. from 2008 WAS report, updated with final USGS water use data from 2005*

...while supply is *finite*  
and quite possibly *shrinking*



Changes in regional streamflow, 1930-1970 and 1970-2008. Seasonal Mann Kendall statistic; statistically significant (inflated  $P < 0.05$  - more conservative) gauges have a direction, otherwise gauges are represented as a dot. Patterson, Lauren (UNC-CH, ongoing dissertation research 2010).

# Some good planning is underway...

- 2010 river basin modeling legislation gave direction to DENR on the approach to models
- Basinwide and regional water resource planning efforts are springing up where there is a ***driver***
  - Catawba water management group
  - Greenville metro area
  - Lumber River, through the COG
  - Jordan Lake Partnership in the Triangle
  - French Broad WR Study Committee
  - ....

...and where these efforts take a hard look, they find *future shortages*

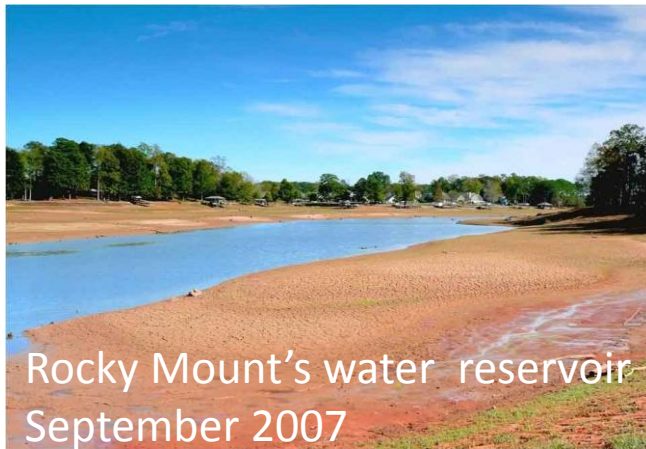
- **Catawba Use Study:** *likely shortages in 30-40 years*
- **Neuse basin modeling results:** *“six systems may not be able to withdraw the amounts of water needed to fully meet their demands in the 2050 demand scenario [assuming historical flows continue]” (also not considering ecological flow needs or drought response plans)*

# Water conflict will continue to rise...

- Legislature will see this in part as requests to tinker with the interbasin transfer law and other assorted statutes
- Courts will continue to take cases with unpredictable results
- DENR will, we hope, continue to try to integrate water programs.
- But where is the driver for integration, reform and action?



...there will be less secure future water supplies in NC and more of this ...



# ...without further legislative action.

- We have studied water management systems elsewhere in the region, the country and the world.
- North Carolina still has a chance to be not just a place of ample precipitation and minimal regulatory intrusion, but also a place where water supplies are maximally secure.
- But this will not happen spontaneously.



# We recommend....

- Continue to work with stakeholders on policy goals and water withdrawal permitting
- Enact a moratorium on water withdrawals for development of shale gas until hydrologic models show no harm to existing water users
- Continue to fund development of hydrologic models in all river basins

# We recommend...

- Request reports on the Upper Neuse and Catawba-Wateree regarding future shortages
- Integrate water quality and quantity planning starting with the Neuse River Plan in 2012 and the Cape Fear River Plan in 2013
- Is consolidation of reporting requirements a priority?

# We also recommend....

- Continue Treasurer & DENR coordinated review of water system finances
- Consider the GA Water Stewardship Act to increase water efficiency
- Phase out use of drinking water and phase in use of stormwater and reclaimed water for irrigation

# And finally we recommend

- Preserve and increase water storage
  - Status of existing dams and reservoirs?
  - Acquire NC's share of Kerr Lake's water supply
  - Evaluate potential for off-line storage (GA)
  - Direct DENR to consider stormwater capture and reuse as part of its stormwater regulatory programs
  - Provide authority to preserve reservoir sites

# Conclusions

- Full report available via legislative staff and at <http://water.unc.edu>
- Thank you for the chance to work on this critical set of economic and environmental issues