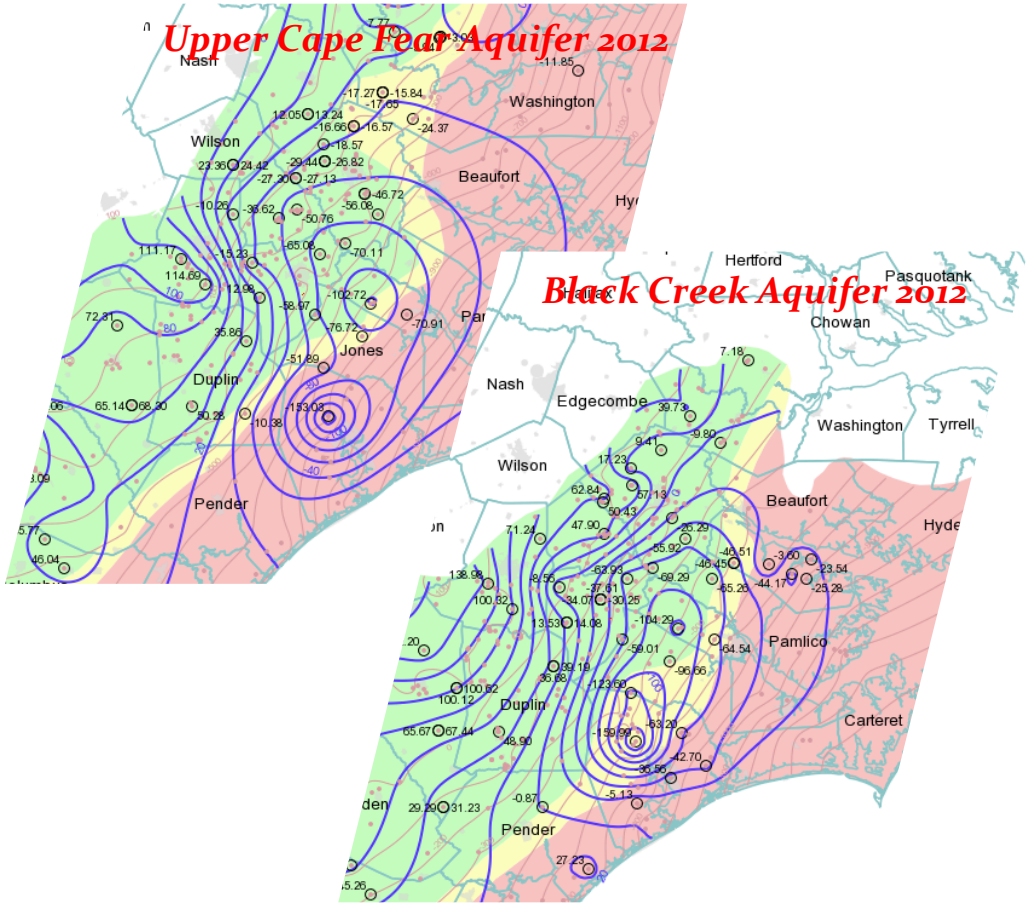
2013 CCPCUA Assessment

Central Coastal Plain Capacity Use Area



Nat Wilson

Division of Water Resources

Ground Water Management Branch

Water Allocation Committee &

Environmental Management Commission

Meetings

Archdale Ground Floor Hearing Room

November 13 & 14, 2013

Introduction & Conclusions

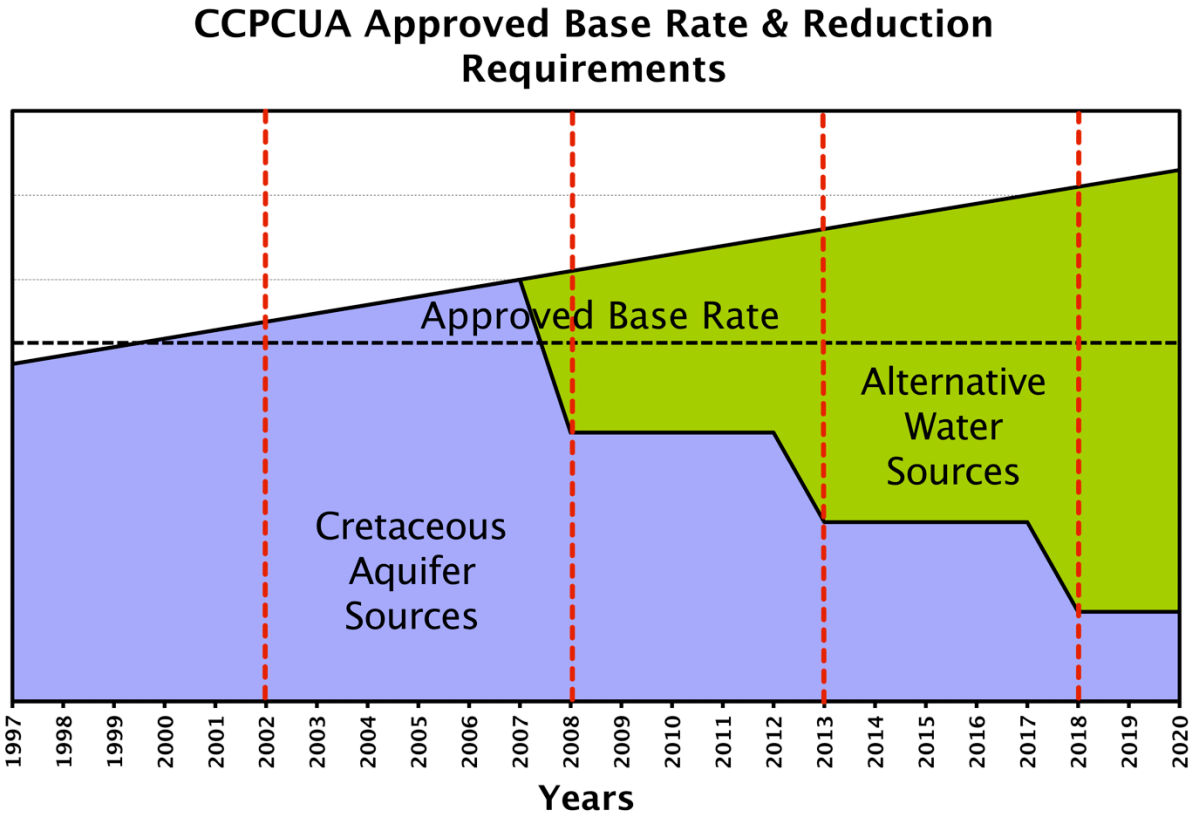
- CCPCUA assessment background
- Current aquifer conditions
- Public comments
- Criteria driven permit review

- No changes to reduction zone map or percentages
- Use provision .0502 (p) to allow more flexibility to manage reductions

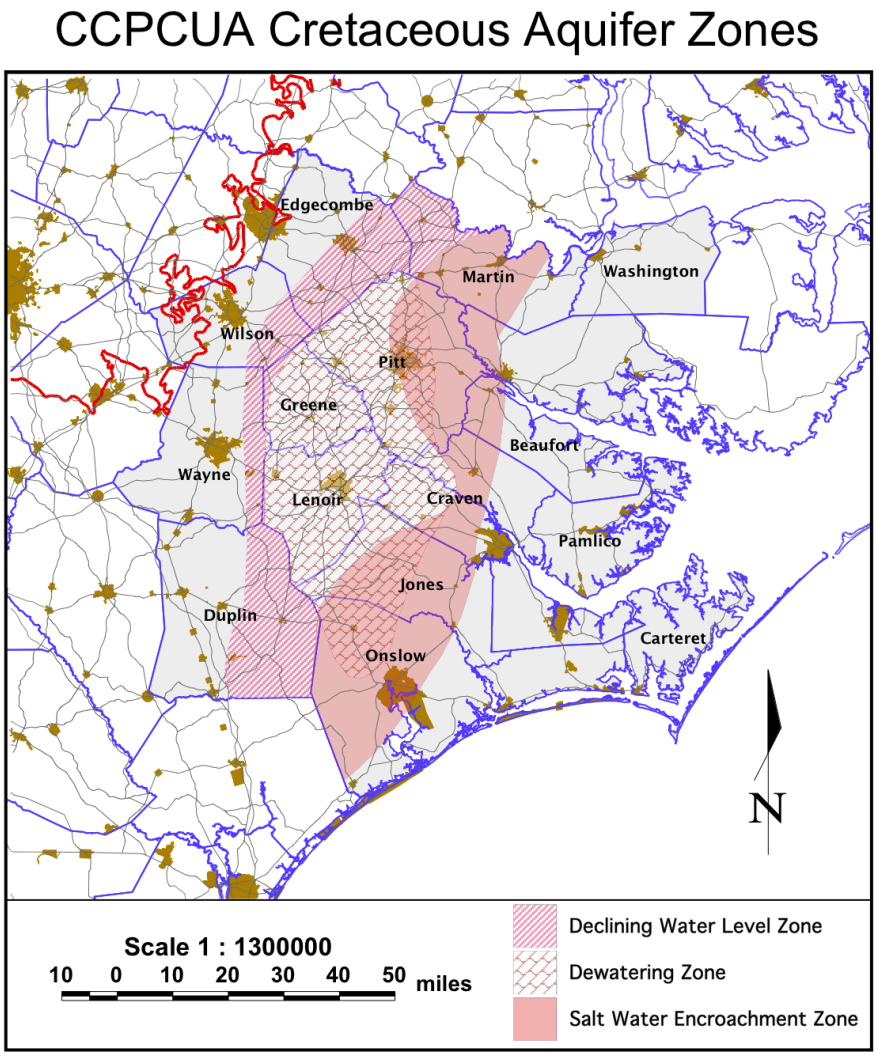
CCPCUA Assessment Report for 2013

CCPCUA Assessments

- 15A NCAC . 0503(7) requires an analysis of aquifer data in 2008, 2013 and 2018.
- These years coincide with each phase of reduction.



How much recovery?



- Reduction zones dictate the percentage reduction from an approved base rate
- Permit holders are asking “give us a number” or “what recovery is necessary?”
- DWR needs more flexibility than broad brush zones

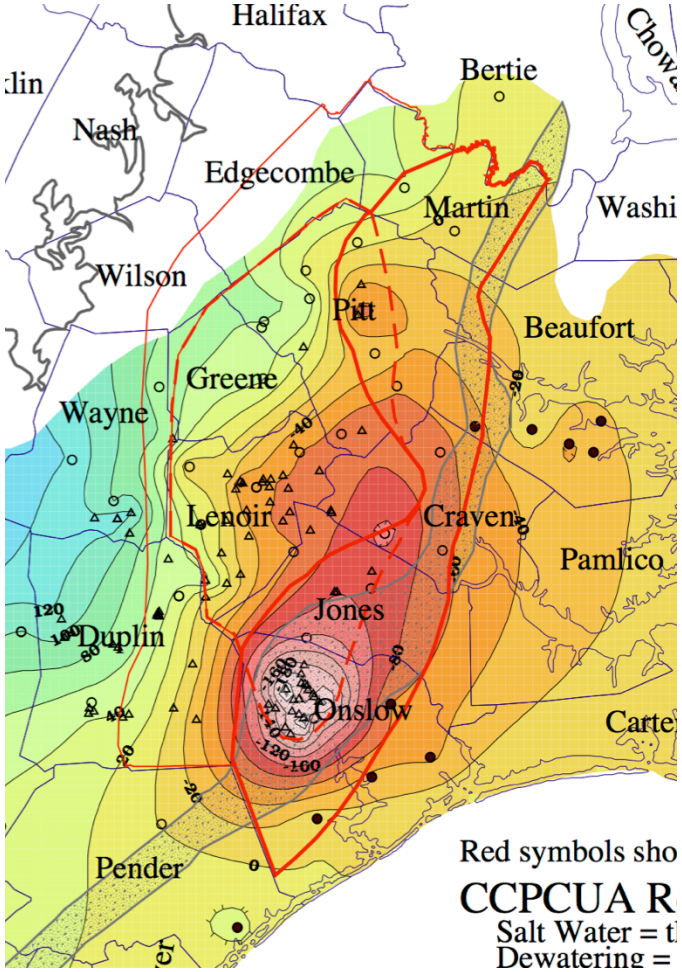
DWR Network & CCPCUA Reporting

- CCPCUA requires reporting of daily water withdrawals by source
- Monthly static and pumping water levels
- Annual sampling and chloride analysis

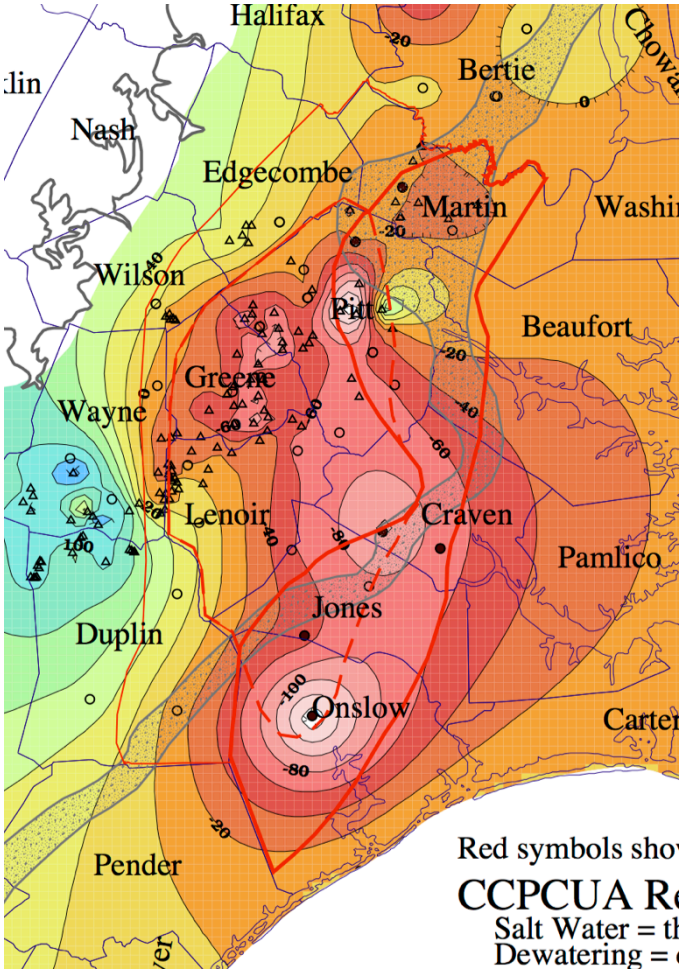
- 616 wells at 209 sites statewide, 182 new wells at 55 sites since 1998
- Automatic recording equipment at over 80% of wells
- Chloride sampling every 2 – 3 years

2012 Pot Map vs. Reduction Zones

Black Creek Aquifer

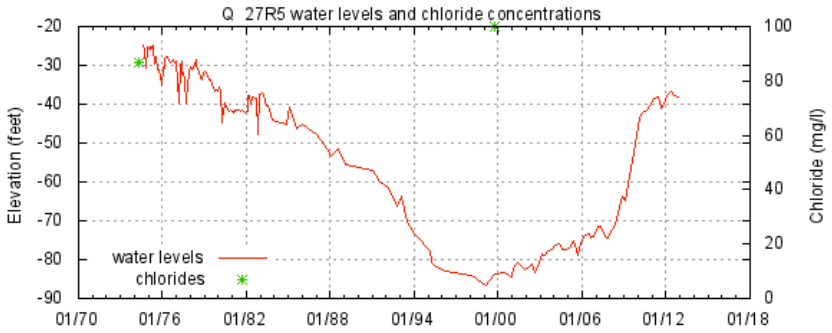


Upper Cape Fear Aquifer

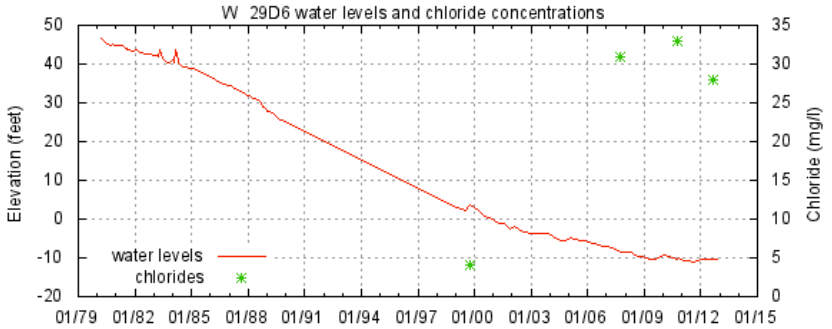


DWR Hydrographs

Kinston Yard Station, Lenoir County

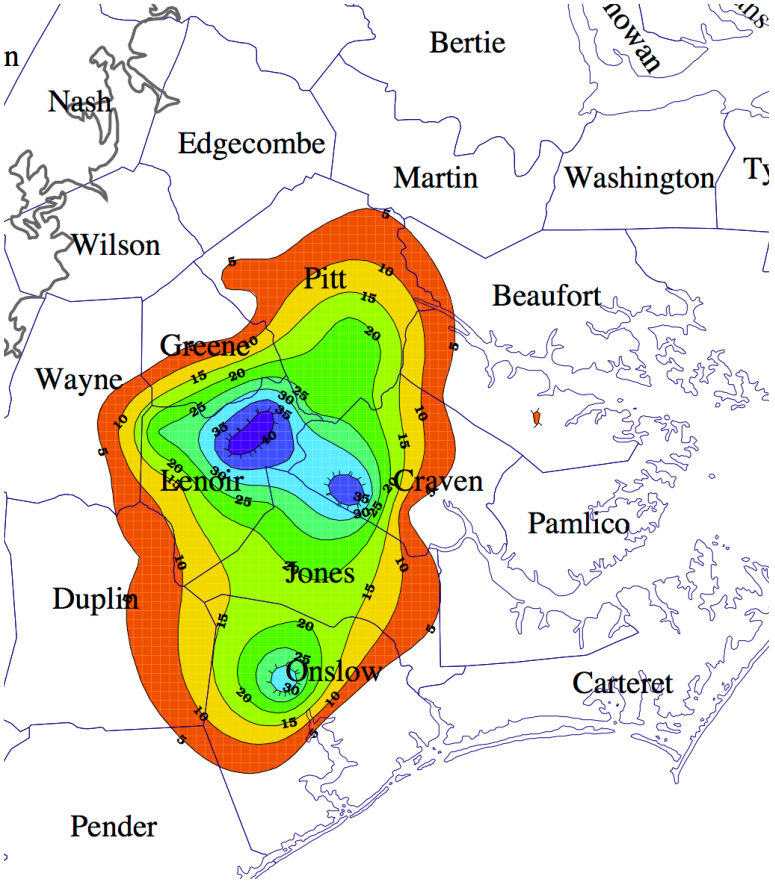


Chinquapin Station, Duplin County

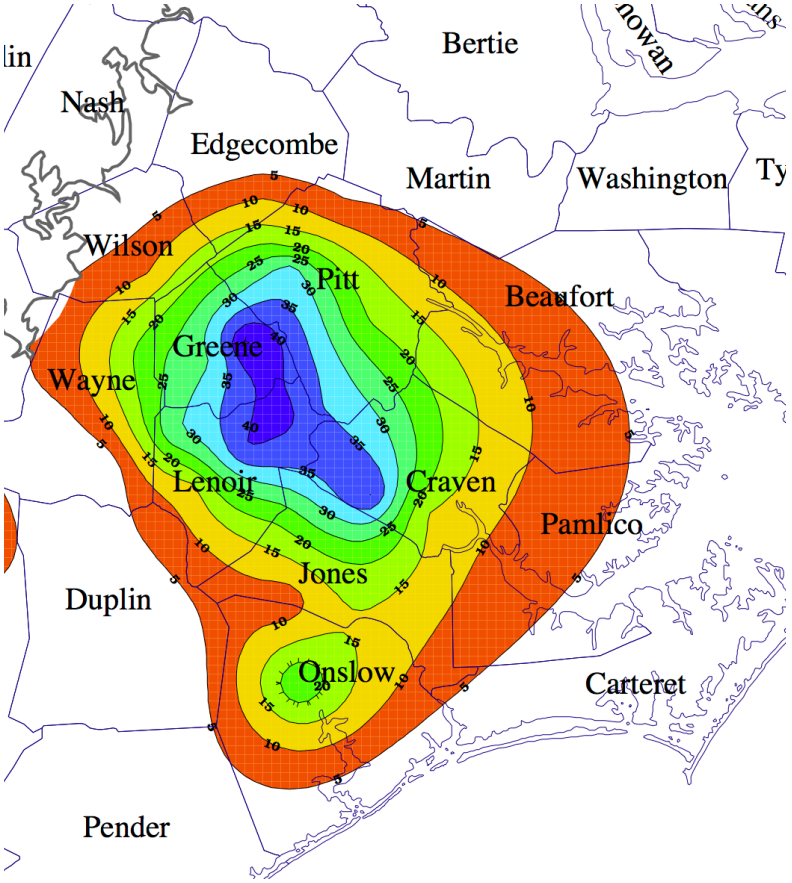


- Mixture of water level responses depending on location and aquifer
- Major rebounding of water levels after 2008
- New surface water intake on the Neuse and 75-90% cutback in withdrawal from the Cretaceous aquifers

Cretaceous Aquifer Rebound

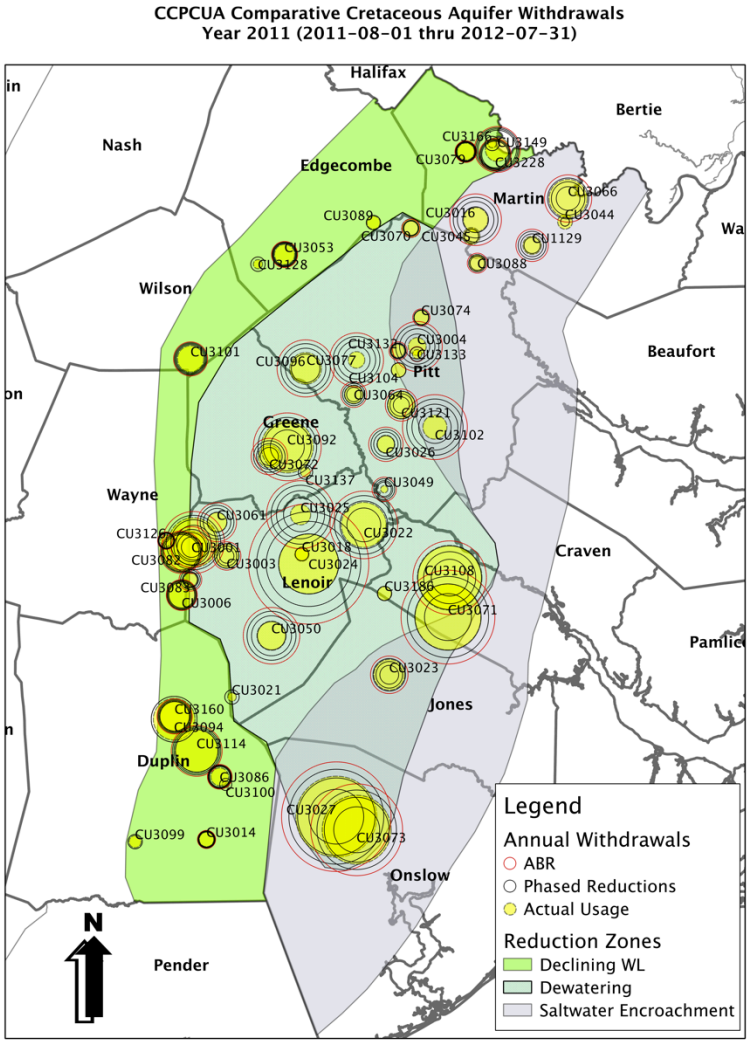


Black Creek Aquifer



Upper Cape Fear Aquifer

Ground Water Level Improvements



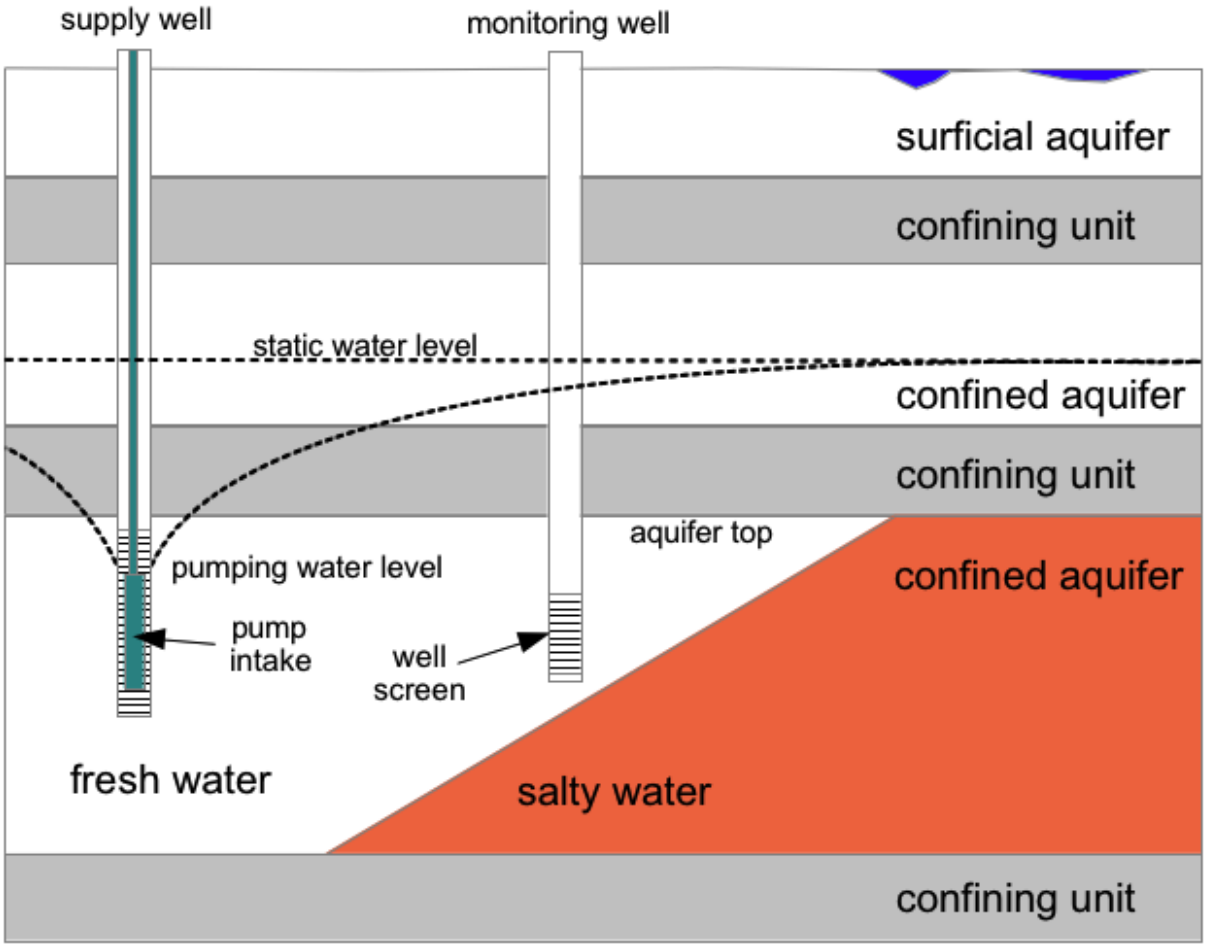
- Data sources
  - Hydrographs
  - Rebound maps
  - Comparative usage maps
- The center of the rebound area is stable
- A large portion of water demand has switched to other sources
- Overall withdrawal outside the saltwater encroachment zone appears to be sustainable

Proposed Changes to Permit Review Process

- Division needs flexibility to offer permit holders a different plan than reduction schedule in rule
- Only offer different plan if reduction wells meet certain criteria
- Economic hardship may be a valid factor for a different reduction plan

- Static water level trends must be level or upward trending
- Pump intakes must be above aquifer top
- Pumping water levels must be above aquifer top
- Chloride concentrations are fresh with no upward trend

Criteria Diagram



Temporary Permits

- Where aquifer conditions meet specific requirements as measured by an applicant's reduction wells or nearby monitoring wells, and
- those measurements are consistent with the CCPCUA standards of ground water withdrawal as defined in 15A NCAC 2E .502(c).
- Then, G.S. 143-215.15(c)(ii) & 15A NCAC 2E .0502(p) allows the DWR to issue temporary permits which do not follow the reduction schedule as set out in 15A NCAC 2E .0503.
- If future measurements do not meet those specific requirements then that permit holder will be removed from temporary permit status and will face normal reduction schedule.

Temporary Permit Provision

- G.S. 143-215.15(c)(ii) grant any temporary permit for such period of time as the Commission shall specify where conditions make such temporary permit essential, even though the action allowed by such permit may not be consistent with the Commission's rules applicable to such capacity use area;

Attorney General Opinion

- G.S. 143-215.15(c)(ii) and 15A NCAC 2E .0502(p) provide authority for issuing a temporary permit for water withdrawal. As with other permits, the specific terms and conditions assigned to the permittee are not spelled out in the rules because they are tailored to the conditions presented by each applicant. The temporary permit should be sure to follow the requirements in the statute and rule by specifying the alternative time period and conditions that make a temporary permit necessary for the applicant to attain compliance with the general capacity area rules.
- Because the statute and rule provide fairly detailed criteria and guidance for issuing a temporary permit, further rulemaking is not necessary.

Comment Summary

- Do not change rules, either boundaries or percentage reductions
- Agree with assessment of aquifer conditions
- Do not agree with idea of temporary permit criteria

- Agree with assessment of aquifer conditions
- Use temporary permit criteria

With 2nd draft language, only comments supportive of temporary permit criteria.

Recommendation

- Based on our assessment no action need be taken by the EMC to change the CCPCUA reduction zone map or reduction percentages.
- Approve the use of temporary permits in the CCPCUA as authorized under G.S. 143-215.15(c)(ii) and 15A NCAC 2E .0502(p) where an applicant's wells meet specific criteria.