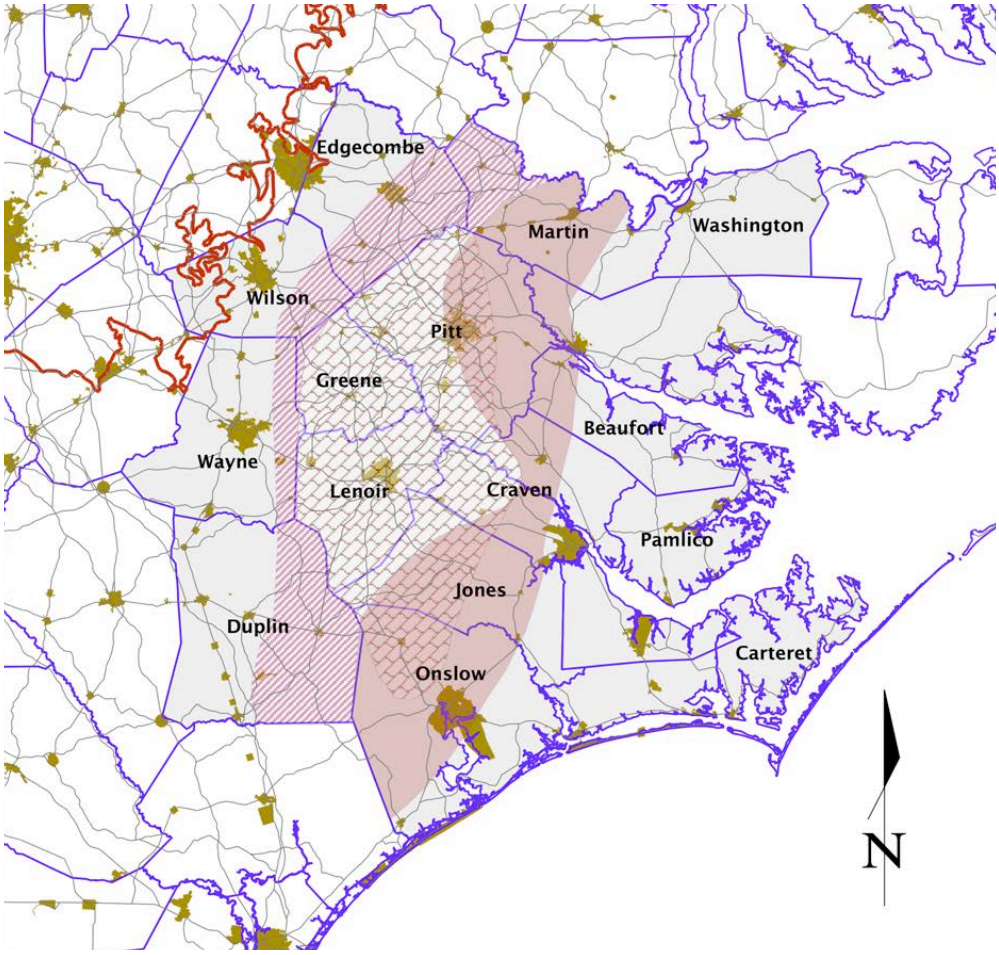
Central Coastal Plain Capacity Use Area Assessment Report



November 2013
Ground Water Management Branch
Division of Water Resources
North Carolina Department of Environment and Natural Resources

Introduction

15A NCAC 2E .0503 (7) of the Central Coastal Plain Capacity Use Area (CCPCUA) rules requires that the Division of Water Resources (DWR) produce an analysis of central coastal plain aquifer conditions as set forth below:

> "The CCPCUA Cretaceous Aquifer Zones map shall be updated, if necessary, in the sixth, eleventh, and sixteenth years following the effective date of this Rule to account for aquifer water level responses to phased withdrawal reductions. The map update shall be based on the following conditions:
>
> (a) Rate of decline in water levels in the aquifers;
> (b) Rate of increase in water levels in the aquifers;
> (c) Stabilization of water levels in the aquifers;
> (d) Chloride concentrations in the aquifers.
>
> This aquifer information shall be analyzed on a regional scale and used to develop updated assessments of aquifer conditions in the CCPCUA. The Environmental Management Commission (EMC) may adjust the aquifer zones and the water use reduction percentages for each zone based on the assessment of conditions. The EMC shall adopt the updated map and reduction percentage changes after public hearing."

The CCPCUA rules require assessments to be produced in 2008, 2013, and 2018 which correspond with each of three phases of water withdrawal reduction (see attached rule at end of report). However, the Division of Water Resources staff feel obligated to constantly track aquifer conditions so as to best serve the permit holders in the region and be aware of potential ground water supply issues.

In this 2013 report we have concluded after a thorough review of aquifer conditions that no action need be taken by the Environmental Management Commission to alter either the reduction zone boundaries or rule language in 15A NCAC 2E .0503. However, we do recommend that the EMC endorse the division's new method of permit review which will use a series of criteria to judge each production well and aquifer conditions by individual permit. This enhanced permit application review will allow the division to alter an individual permit holder's reduction requirements.

Ground Water Level & Chloride Concentration Analysis

DWR has invested over two million dollars and many staff hours since 1998 to improve the monitoring well network throughout the state, especially in the central coastal plain area. That investment has enhanced our understanding of the regional aquifer system

that underlies our coastal plain. It also has provided valuable information about how the aquifers are responding to the changing patterns of water withdrawals. Monitoring stations allow us to determine both the extent of the over-drafting situation and the recovery of water levels as investments in alternative water supplies come to fruition.

To those ends, 182 wells have been constructed at 55 monitoring stations since 1998. In combination with existing wells they are positioned to provide a more detailed picture of the cone of depression beneath the coastal plain in each of the major aquifers. Automatic recording equipment is used on over 80% of the network. Chloride concentrations are now measured on a subset of network wells every two or three years to assess that adjusting set of conditions.

DWR provides access to water level and chloride data it collects through its website (www.ncwater.org) at the link entitled “Ground Water Data.”

Reporting is required as part of every CCPCUA permit. Daily water withdrawals and monthly static and pumping water levels from every source well or sump are reported to DWR. This information is digitized and made available to the public. DWR also requires chloride concentrations to be submitted annually by select permit holders based on their location. Public access to all this data is available from the main DWR website following the link entitled “Central Coastal Plain Capacity Use Area.”

DWR is firmly committed to providing easy access to all the data we collect either through our monitoring well network or permitting system.

Figures 2 & 3 illustrate the distribution of water levels in the two primary Cretaceous aquifers, the Black Creek and Upper Cape Fear. Each map displays ground water levels as color-filled contours referenced to mean sea level. Each map also has county boundaries, the fall line (the line that delineates the coastal plain from the piedmont), the transitional zone between fresh and salt water in the aquifer, points where water level and chloride data were collected (red-filled points indicate chloride concentrations equal to or exceeding 250 mg/l or ppm), and the three Cretaceous aquifer zones as described in 15A NCAC 2E .0503 and portrayed in the CCPCUA Cretaceous Aquifer Zones map (see figure 1).

Figures 4 & 5 include the previously described information and static water level and chloride concentration data from permit holders.

Admittedly, the maps are complex. However, they demonstrate the relationship between the state of our knowledge at the time of rule-making for the CCPCUA (represented by the Cretaceous aquifer zone boundaries) and current conditions. There are many areas showing improved conditions in the CCPCUA. As those aquifer conditions relate to the Cretaceous Zones, the potential for salt water encroachment still

exists. Dewatering, although less likely, is still possible in many areas because available drawdown is limited due to the depth of the aquifers and so many production wells have pump intakes below the aquifer tops. Declining water levels are still occurring in a few places.

Permit holders in the designated declining water level zone can be relieved of future reductions under rule provision .0503 (9). That provision allows a permit holder to use three years of their most current water level data to be relieved of reduction requirements, provided that data do not indicate a downward trend in ground water levels. To date, one permit holder (Guilford Mills Inc. in Duplin County) has already used this provision to be exempted from further reductions.

Any analysis of the water levels and chlorides in the Cretaceous aquifers would be incomplete without a discussion of the impact on the shallower aquifers which make up many of the alternative sources used by permit holders and an increasingly used source for agricultural irrigation. It is extremely important that DWR monitor the switch from Cretaceous aquifer withdrawals to a combination of Cretaceous and shallower aquifer use. Craven County, Onslow Water and Sewer Authority, and the cities of Jacksonville and New Bern, among others, have all begun using shallower aquifers or are in the process of expanding their use of shallower aquifers. Although each new well field shows an associated cone of depression, none of the well fields show signs of aquifer overuse. However, DWR will continue to track impacts to these aquifers as well as any Cretaceous aquifers using the monitoring well network and permit holder provided water levels and chloride data.

Estimating Ground Water Level Improvements

Individual hydrographs of wells in the DWR network delineate how ground water levels have changed over time. Every one of the network wells is available for visual analysis on the DWR web site. Figure 6 shows eight examples of individual hydrographs. Several hydrographs show rising water levels associated with the reduction of water use from the Cretaceous aquifers. Water levels began to rise after 2008. Other hydrographs show water levels continuing to decline or show a delayed reaction even after regional withdrawals have been reduced.

One method that is employed to visualize the changes in water levels in map form is presented in figures 7 and 8. Two potentiometric surfaces from different dates are developed and the change in water levels between those two dates is displayed in a map view. Specifically, figures 7 and 8 illustrate the rebound in water levels in the Black Creek and Upper Cape Fear aquifers between November 2007 and May 2013. A highlight of these maps is the broad area of increase in ground water levels as much as 35-40 feet, and is centered in Lenoir and Craven counties.

Figure 9 displays comparative withdrawals from the Cretaceous aquifers. Symbols are plotted for each permit holder which allows comparison of Approved Base Rates (ABRs), phased reduction amounts, and current withdrawals. It is very easy to see where the most reduction was required and the relative size of withdrawals through the reduction phases and current usage.

Taken together, these three types of graphics (hydrographs, mapped difference between potentiometric surfaces, and comparative usage maps) allow DWR to make the following insight about the water level improvements. Regardless of how we arrived at the current rates of use of the Cretaceous aquifers, the water levels near the center of the rebound area seem stable and a large portion of the water demand has switched to alternative sources, so we can draw the following conclusion: If we hold Cretaceous aquifer annual use to current rates, then that overall withdrawal appears to be a sustainable rate of use for many CCP water users outside of the salt water encroachment zone. In the salt water encroachment zone, available chloride data suggests that withdrawals need further reductions to reach sustainable rates.

Permit Holder Suggested Changes to Reduction Zone Boundaries

Item Number	Proposed Boundary Change	Analysis
1	Expansion of the Declining Water Level Zone and Contraction of the Dewatering zone near the Duplin, Lenoir, Wayne, Wilson, & Greene County	Pump intakes and pumping water levels below the aquifer tops indicate the need to maintain zone boundaries as they are currently located.

1. The Division of Water Resources (DWR) received letters from the Town of La Grange (September 21, 2012), Greene County and the Town of Farmville (November 26, 2012) regarding the implementation of the CCPCUA Rules. The letters requested that their water systems be designated as being in the “Declining Water Zone” instead of the “Dewatering Zone” when the 2013 CCPCUA Assessment is finalized.

   The letters also stated that the boundary between the dewatering and declining water level zones west of Kinston is based on a political boundary. This is incorrect. That boundary, like all other reduction zone boundaries, was based on the water level decline rates observed at DWR monitoring wells, the location of production wells as was known in 2000, the locations of salt water occurrences in the aquifers, and the results of a survey DWR completed with water supply operators in 1998-1999, which gathered production well static water levels. Those static water levels were compared to the tops of the aquifers and the levels falling

below the tops were mapped. This is what formed the basis of the dewatering zone.

Furthermore, the letters stated that water levels have rebounded significantly as a result of the 25% reduction, which occurred in 2008. However, it should be stressed that some permit holders have undertaken extensive efforts toward CCPCUA compliance and several nearby communities have reduced their Cretaceous aquifer demands by approximately 90%. Therefore, a 25% reduction was not sufficient to reverse the declining water level trend in this area. In fact, it appears that a 90% reduction is precipitating much of the current water level recovery.

The pumping water levels as well as pump intakes in some of these systems' wells are still below the tops of the aquifers. This would indicate that some level of dewatering is being generated by these wells. If the boundary line is shifted, then DWR would be placing production wells that are currently dewatering the aquifer outside of the dewatering zone.

Criteria Driven Permit Review

Although we have recommended that the CCPCUA .0503 rule not be adjusted, we do think it is necessary to amend our permitting framework to reflect a more customer service oriented approach for our permit holders. DWR needs to be able to offer individual systems an alternate reduction plan or a stable annual withdrawal limit at their current annual limit depending on their situation. We believe this can be accomplished using provision 15A NCAC 02E .0502 (p) which is written as follows:

> "Where an applicant or a permit holder can demonstrate that compliance with water withdrawal limits established under Section .0500 of this Subchapter is not possible because of construction schedules, requirements of other laws, or other reasons beyond the control of the applicant or permit holder, and where the applicant or permit holder has made good faith efforts to conserve water and to plan the development of other water sources, the Director may issue a temporary permit with an alternative schedule to attain compliance with provisions of Section .0500 of this Subchapter, as authorized in G.S. 143-215.15(c)(ii)."
>
> G.S. 143-215.15(c)(ii) is written as follows: "...the Commission may: ...(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"

This provision is not limited by Cretaceous reduction zones and gives the Director flexibility to work with individual permit holders without changing the overall reduction plan. DWR has used this provision in the past to make allowances for scheduling delays associated with use of alternative water sources. Permit holders proving economic hardship may also be candidates for an alternate schedule to achieve reductions. If a temporary permit through this provision results in a stable annual withdrawal limit, then additional credits to Cretaceous water banks based on the difference between permitted use and actual use will not be allowed. Transfers of water withdrawal allocation or banked Cretaceous water are still possible through permit actions. DWR has received a statement from the attorney general's office which agrees that the proposed use of temporary permits is possible and would not require rulemaking (see appendix).

To use .0502 (p) in this amended permit review process, DWR has developed a set of requirements that should be achieved by each reduction zone well before the Director could allow any alternate permit language other than the standard, reduction schedule permit language. The list of requirements is as follows:

- Static water level trends must be level or upward trending after January 1, 2012 or over the previous year from present day and may involve construction and measurement of monitoring wells by permit holders [.0502 (c)], see figure 10,

- Pump intakes must be above the top of the shallowest Cretaceous aquifer screened by the well [.0502 (c) & (j)], see figure 11,

- Present day pumping water levels must be above the top of the shallowest Cretaceous aquifer screened by the well [.0502 (c) & (j)], see figure 12, and

- If applicable, chloride concentrations obtained from monitoring wells or unused production wells screened and gravel packed in one Cretaceous aquifer are fresh (< 250 mg/l) for 3 previous years from present day and do not trend toward higher concentrations or other site specific data which will allow determination of susceptibility to salt water encroachment [.0502 (c), (i) & (l)].

Permit renewals for permit holders within reduction zones will include this new analysis. Figures 10-12 show the status of reduction wells given the first three criteria. The fourth criterion is difficult to visualize in this type of map. Permit holders may submit an application to modify their permit before the slated expiration date if all their reduction zone wells meet these requirements. If subsequent monitoring reports reveal problems, then DWR will re-open that permit and make appropriate adjustments and may allow additional time for permit holder compliance.

It is paramount that permit holders continue to report water levels, water withdrawals, and chloride data. The proposed criteria driven permitting process will give each permit holder hard measuring points so that they know where they stand with future reductions. Our overall picture of the aquifer will improve with permit holders understanding the importance of their data and that they may be able to make use of more Cretaceous aquifer water than the reduction zones and schedule allow. DWR is determined to be only as restrictive as necessary to ensure the sustainable use of these aquifers. These proposed criteria and use of provision .0502 (p) will strengthen the permitting program while creating more flexibility.

Conclusions

Based on analysis of water level and chloride concentration conditions in the CCPCUA that were gathered through January 2013, we recommend that the EMC not adjust either the CCPCUA reduction zone boundaries or reduction percentages. Although water levels in many areas have risen and aquifer dewatering is less of a concern, salt water encroachment is still problematic. Public feedback has occurred which is strongly in favor of leaving the rule language and map unchanged. However, comments are split between those wanting some form of temporary permit (and qualifying conditions or criteria) and those against any permitting change. Demanding that permit holders incur significant additional costs where there are only small water level improvements to be gained is not a course DWR would like to take, nor is it politically expedient. DWR hopes that the EMC will concur with allowing the Director to make use of rule provision .0502 (p) which, taken with the list of requirements to be met by each reduction well, will give the division more flexibility to manage the CCPCUA area beyond the broad brush approach of the Cretaceous reduction zones.

Although the CCPCUA rules require assessments to be produced in 2008, 2013, and 2018, the Division of Water Resources staff will continue to constantly track aquifer conditions so as to best serve the permit holders in the region and also be aware of potential ground water supply issues. Another formal assessment will be conducted in 2018.

Figure 1.

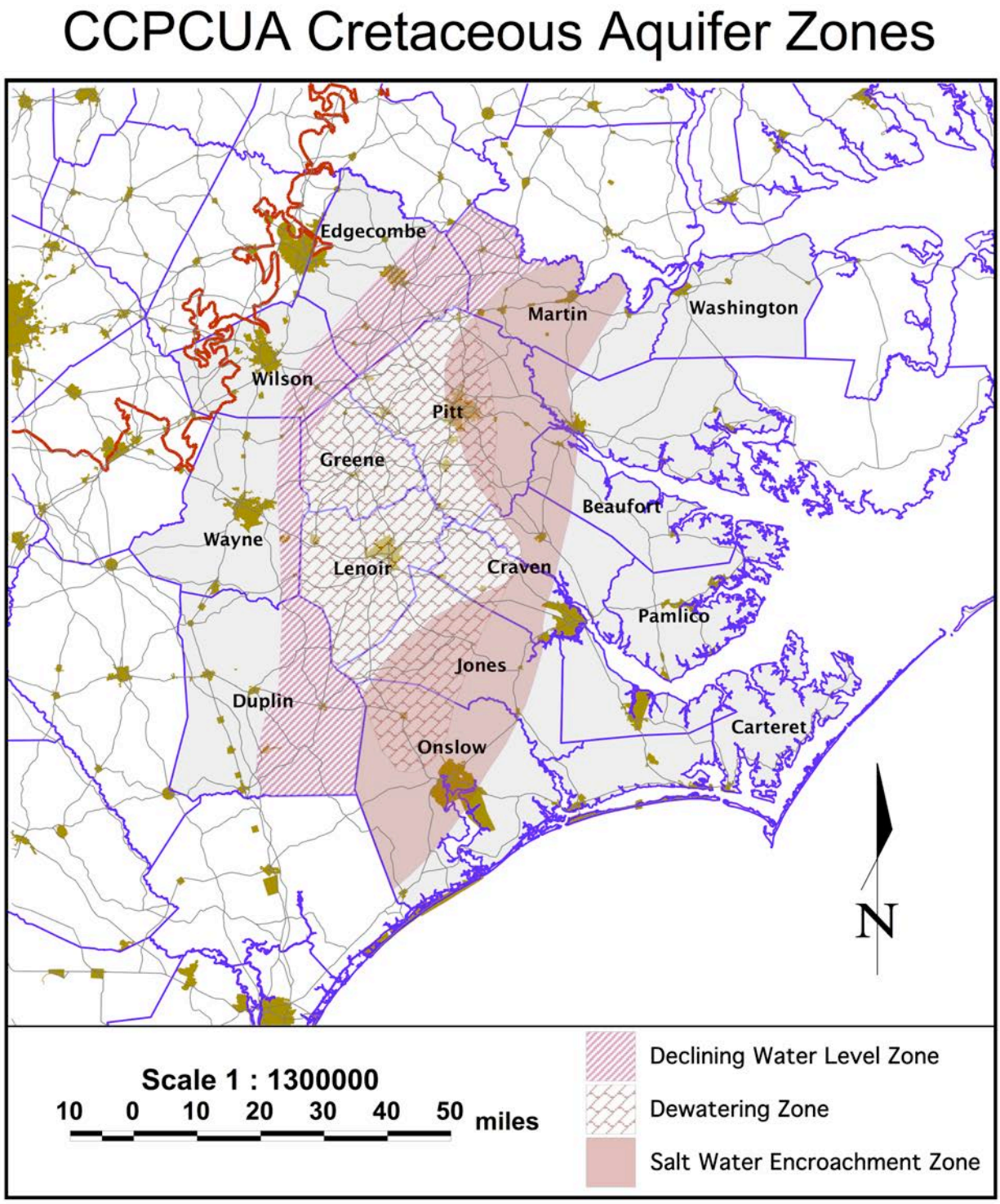

CCPCUA Cretaceous Aquifer Zones
Edgecombe
Martin
Washington
Wilson
Pitt
Greene
Beaufort
Wayne
Lenoir
Craven
Pamlico
Jones
Duplin
Carteret
Onslow
N
Scale 1 : 1300000
10 0 10 20 30 40 50 miles
Declining Water Level Zone
Dewatering Zone
Salt Water Encroachment Zone

Figure 2.

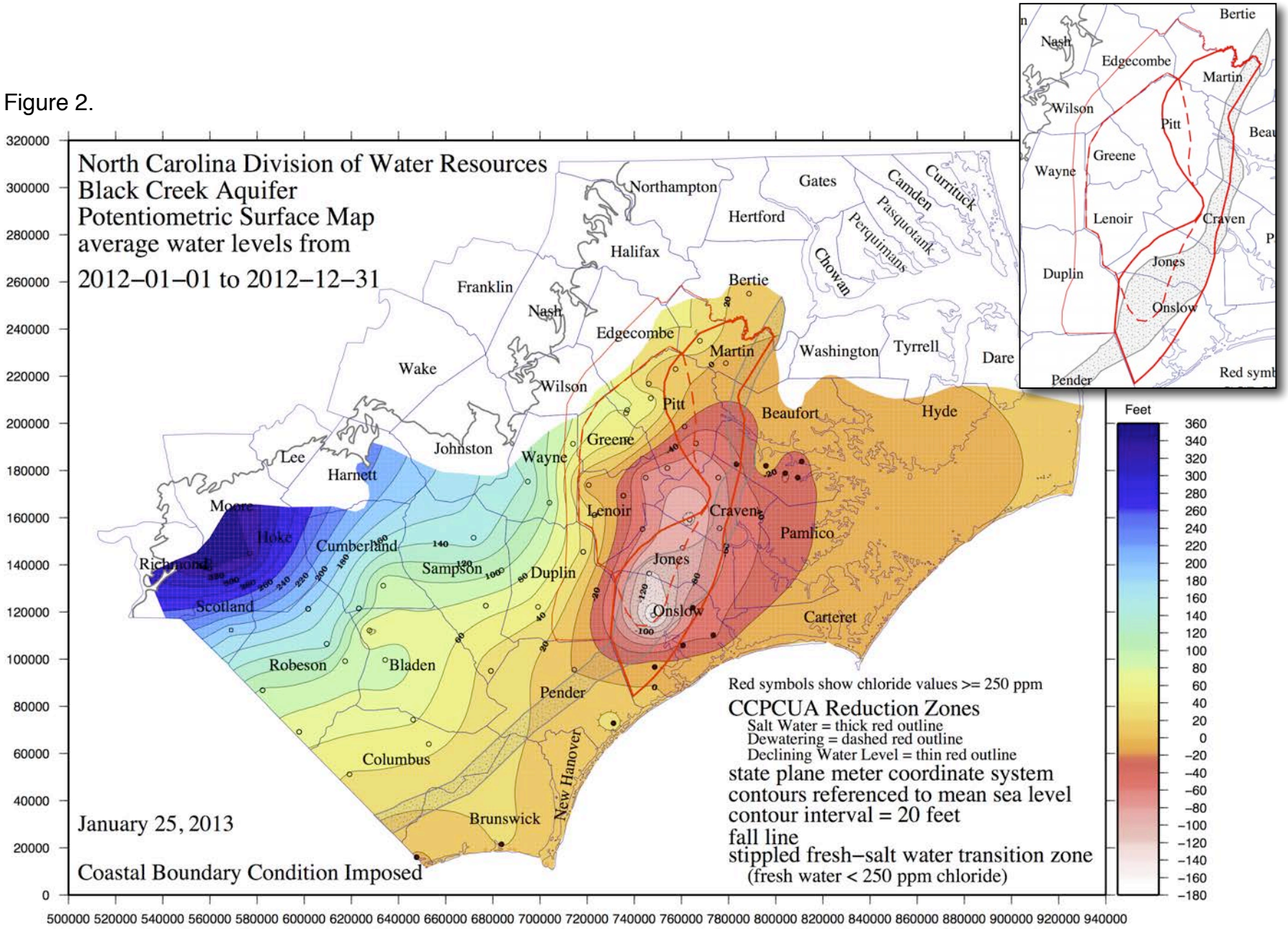

North Carolina Division of Water Resources
Black Creek Aquifer
Potentiometric Surface Map
average water levels from
2012–01–01 to 2012–12–31
January 25, 2013
Coastal Boundary Condition Imposed
Red symbols show chloride values >= 250 ppm
CCPCUA Reduction Zones
Salt Water = thick red outline
Dewatering = dashed red outline
Declining Water Level = thin red outline
state plane meter coordinate system
contours referenced to mean sea level
contour interval = 20 feet
fall line
stippled fresh–salt water transition zone
(fresh water < 250 ppm chloride)
Feet
Northampton
Gates
Hertford
Camden
Currituck
Pasquotank
Perquimans
Chowan
Halifax
Franklin
Nash
Edgecombe
Bertie
Martin
Washington
Tyrrell
Dare
Wake
Wilson
Pitt
Beaufort
Hyde
Johnston
Greene
Wayne
Lee
Harnett
Moore
Lenoir
Craven
Pamlico
Hoke
Cumberland
Jones
Richmond
Sampson
Duplin
Scotland
Onslow
Carteret
Robeson
Bladen
Pender
Columbus
New Hanover
Brunswick

Figure 3.

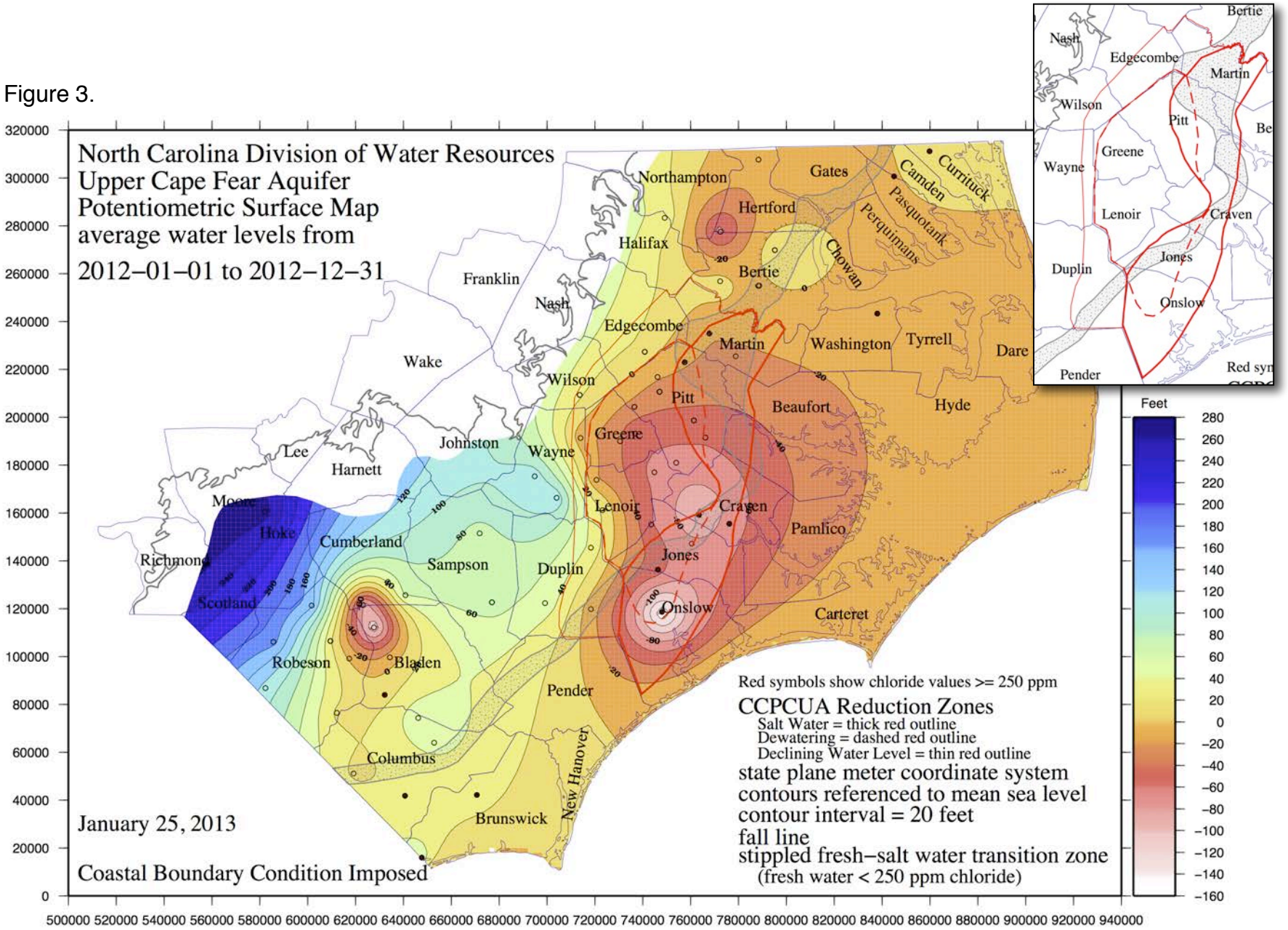

North Carolina Division of Water Resources
Upper Cape Fear Aquifer
Potentiometric Surface Map
average water levels from
2012–01–01 to 2012–12–31
January 25, 2013
Coastal Boundary Condition Imposed
Red symbols show chloride values >= 250 ppm
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Figure 4.

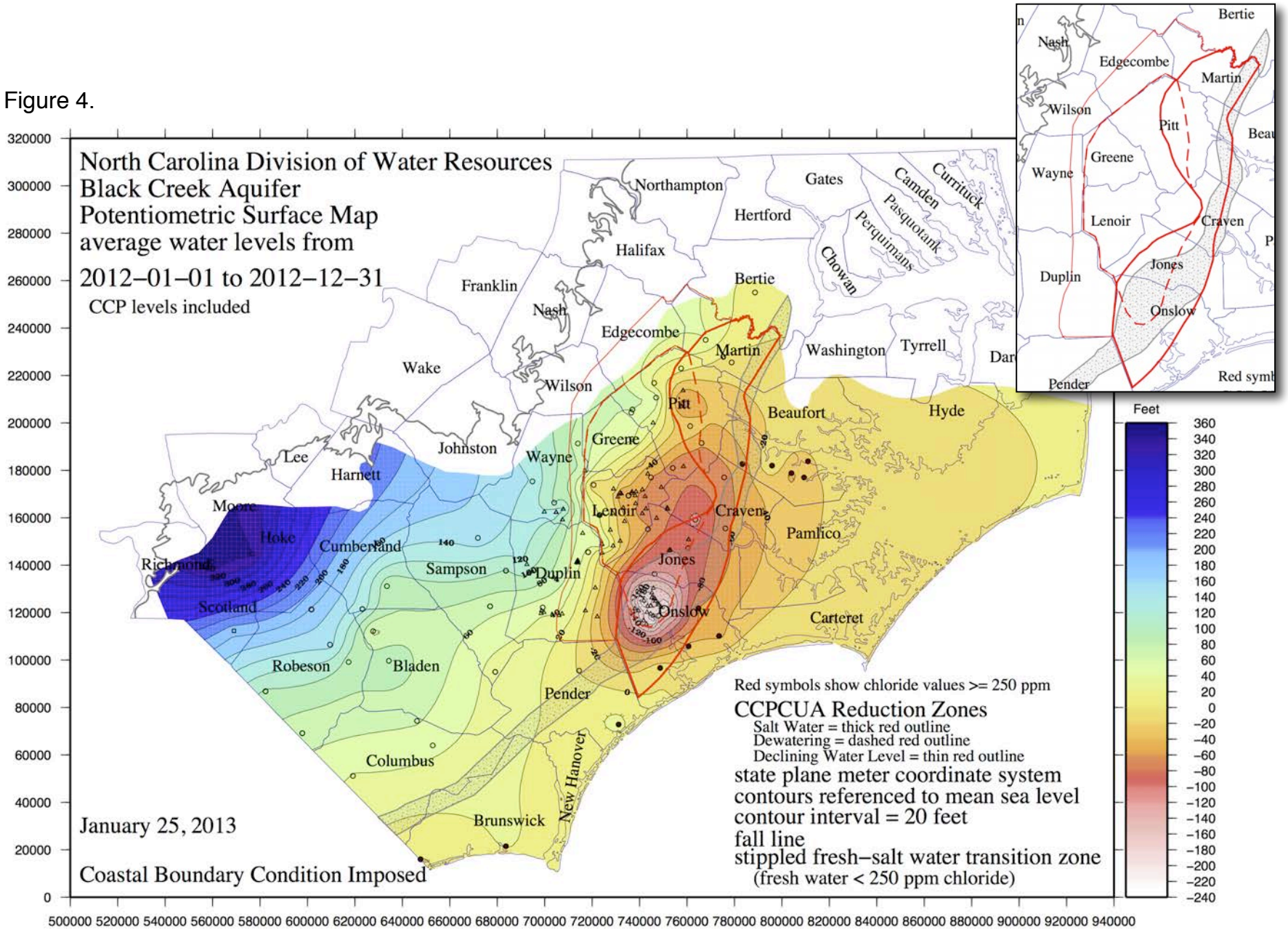
North Carolina Division of Water Resources
Black Creek Aquifer
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Figure 5.

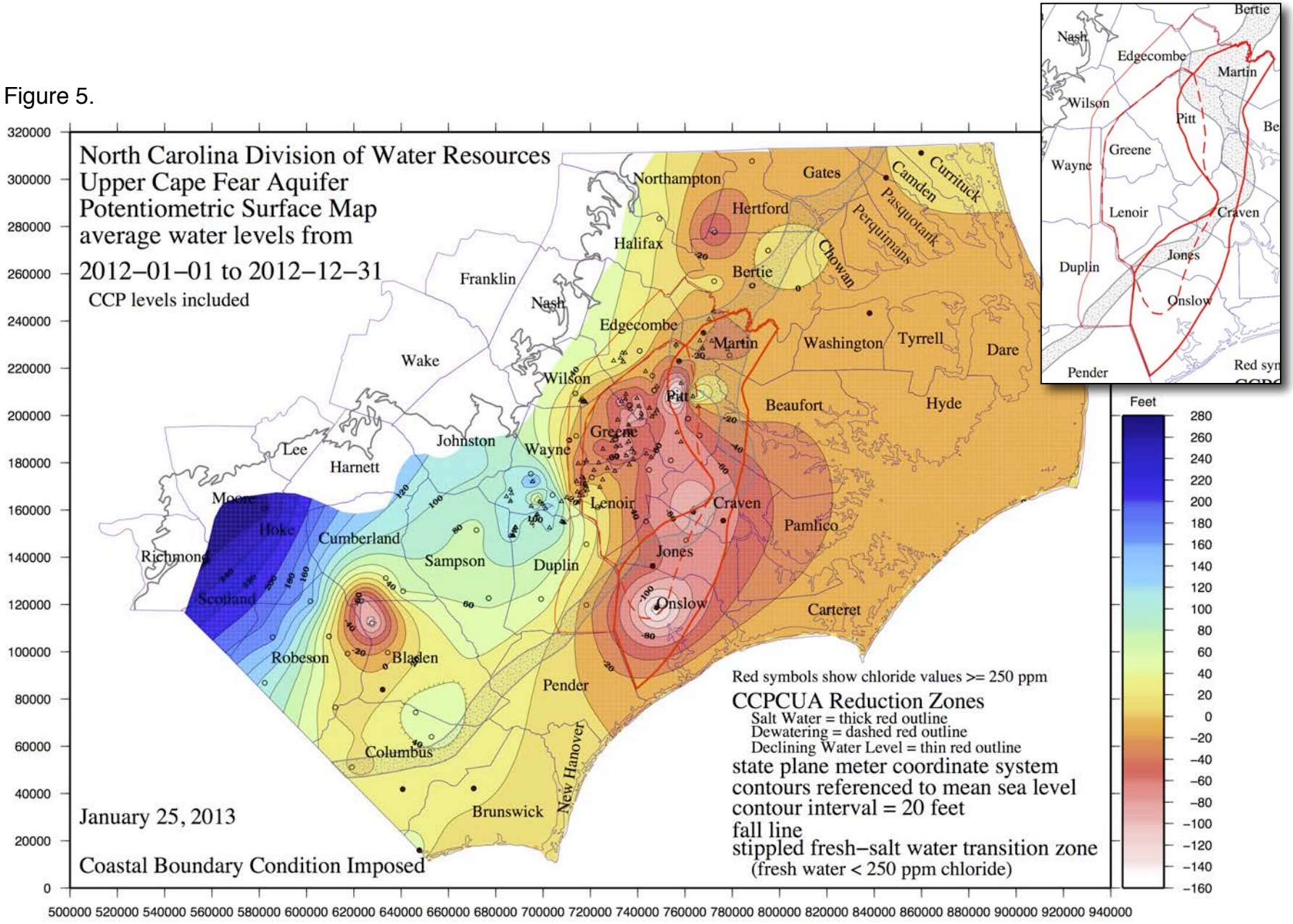
North Carolina Division of Water Resources
Upper Cape Fear Aquifer
Potentiometric Surface Map
average water levels from
2012–01–01 to 2012–12–31
CCP levels included
January 25, 2013
Coastal Boundary Condition Imposed
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Figure 6 (a-d).

Figure 6a. Chicod Station, Pitt County

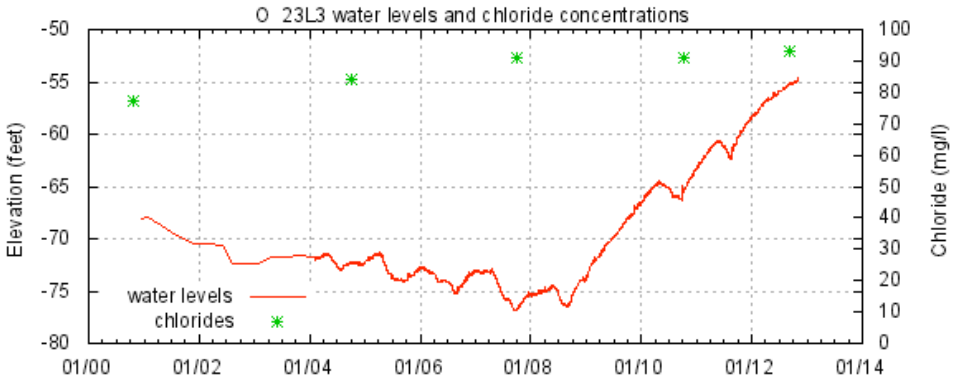


Figure 6b. North Pitt High School Station, Pitt County

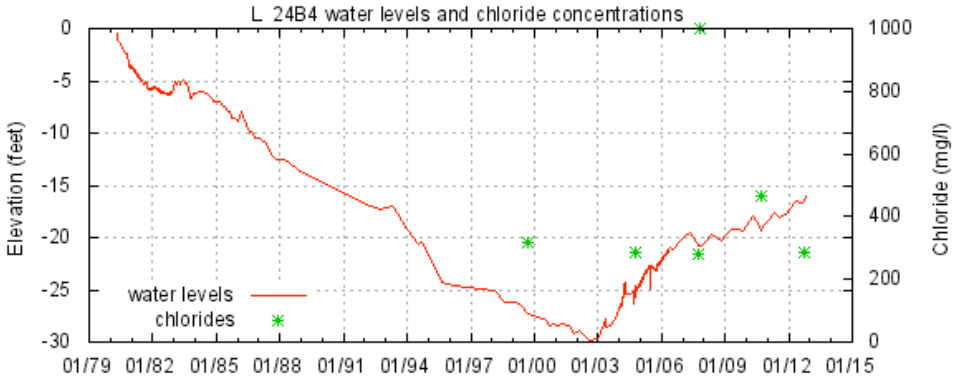


Figure 6c. Chinquapin Station, Duplin County

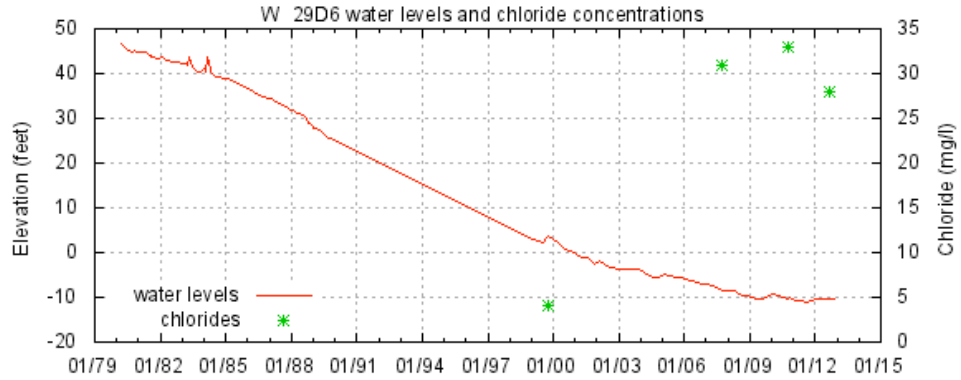


Figure 6d. Pink Hill Station, Duplin County

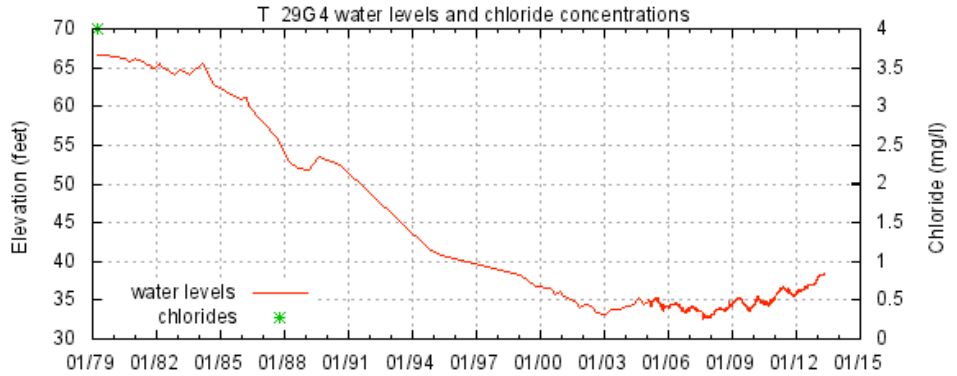


Figure 6 (e-h).

Figure 6e. Clarks Station, Craven County

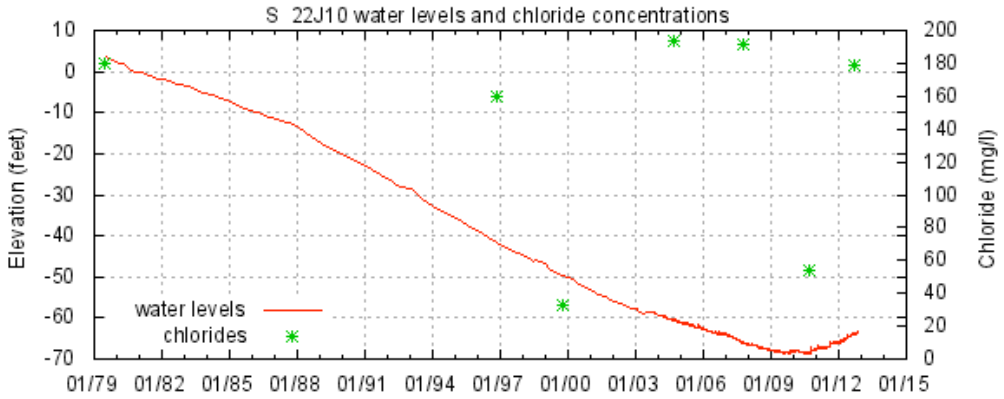


Figure 6f. Savannah School Station, Lenoir County

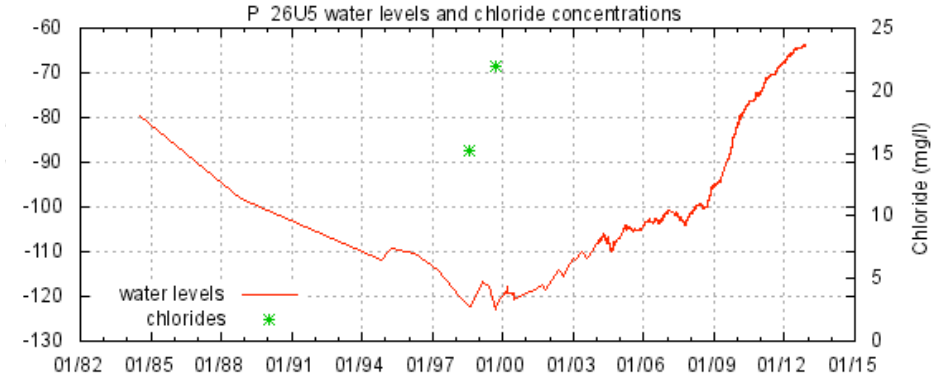


Figure 6g. Kinston Yard Station, Lenoir County

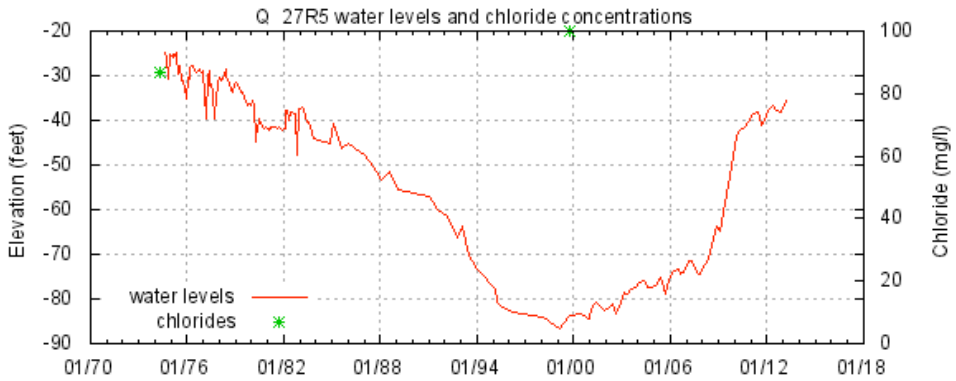


Figure 6h. Comfort Station, Jones County

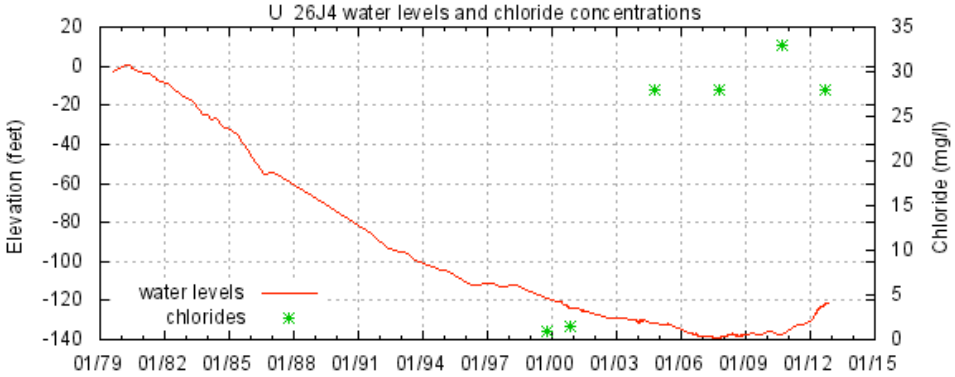


Figure 7. Black Creek Aquifer Rebound (feet)
Nov 2007 through May 2013

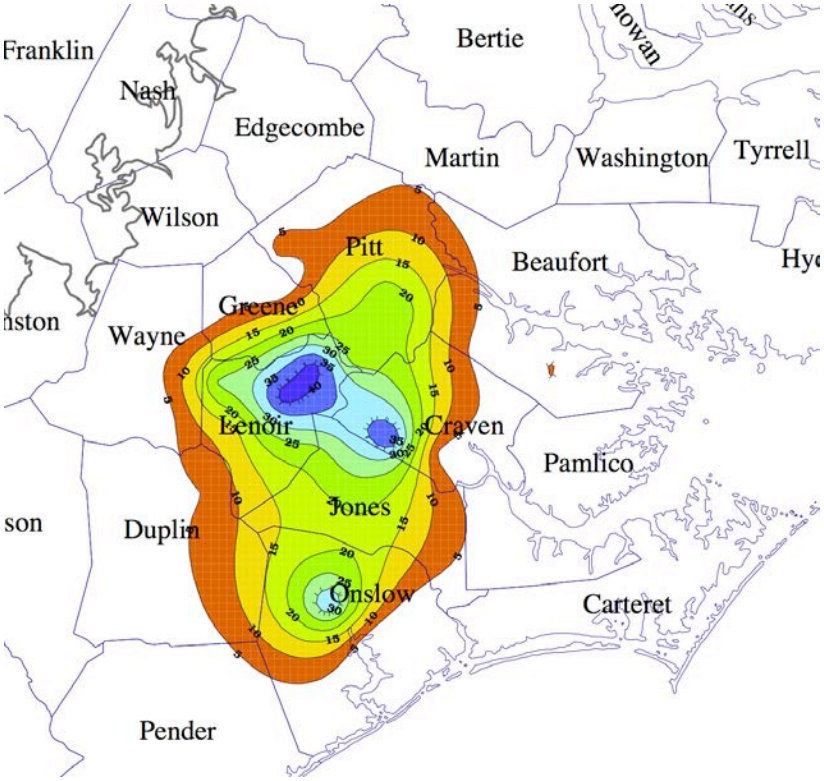
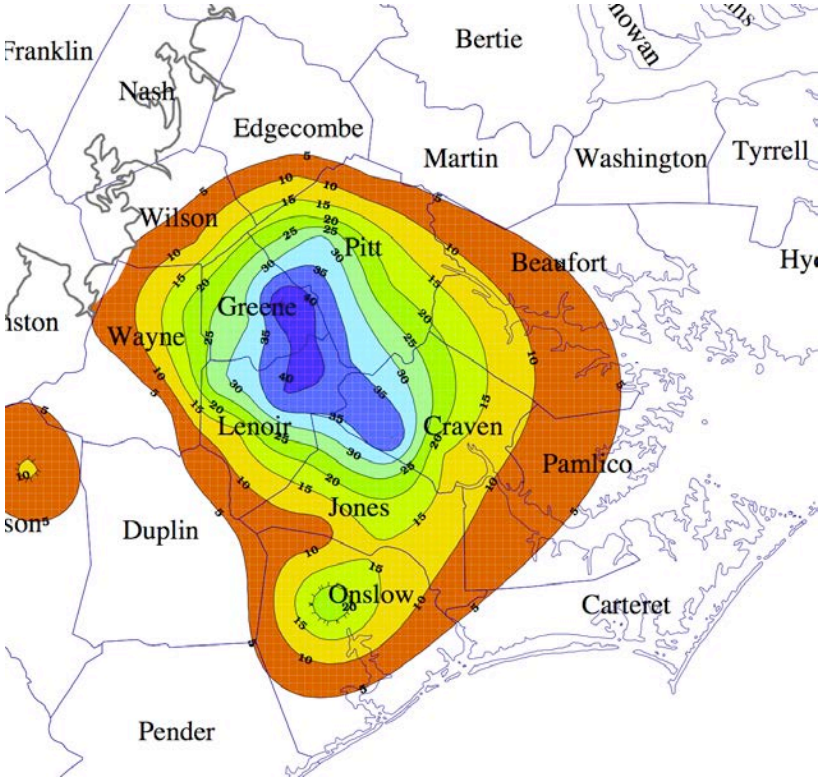
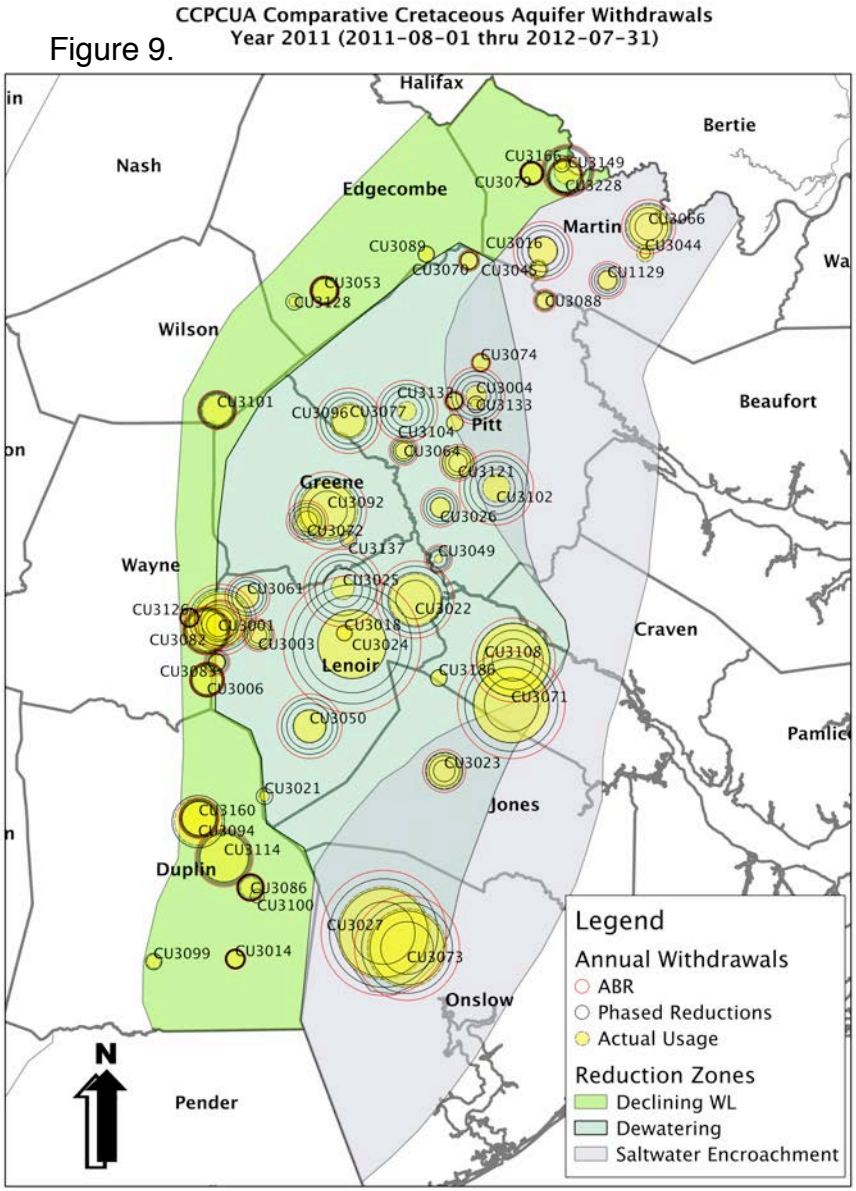


Figure 8. Upper Cape Fear Aquifer Rebound (feet)
Nov 2007 through May 2013



5 foot contour interval starting at 5 feet and ending with 40 feet

Figure 9.



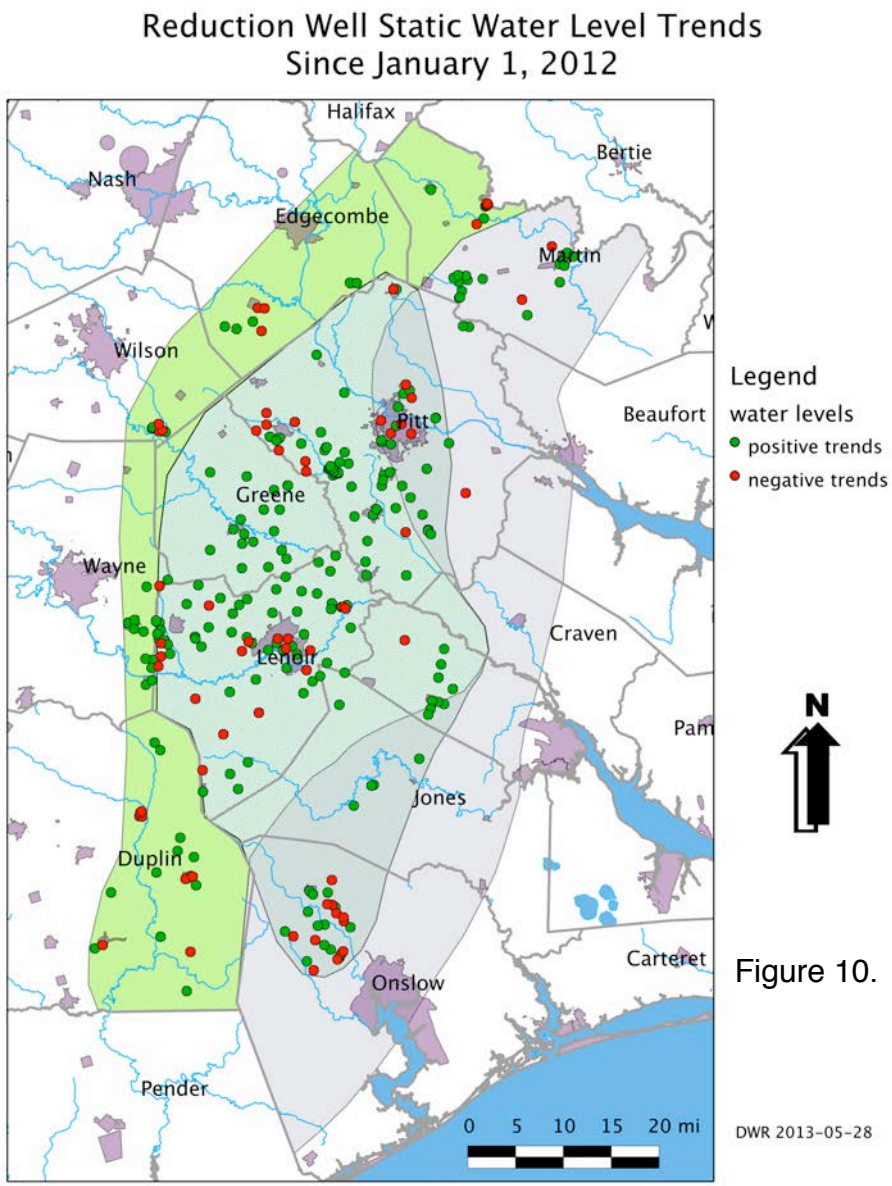


Figure 10.

Current Construction of Reduction Wells

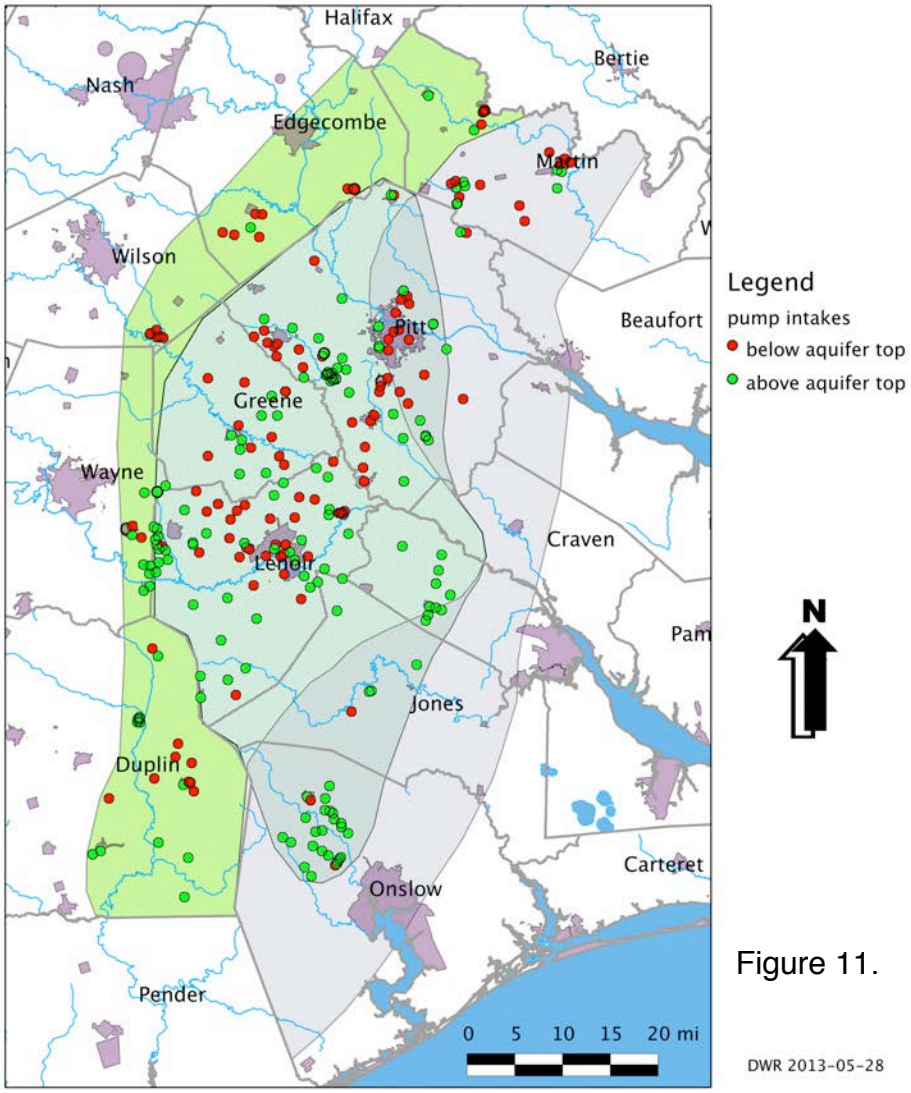


Figure 11.

Pumping Water Levels in Reduction Wells CCPCUA 2012

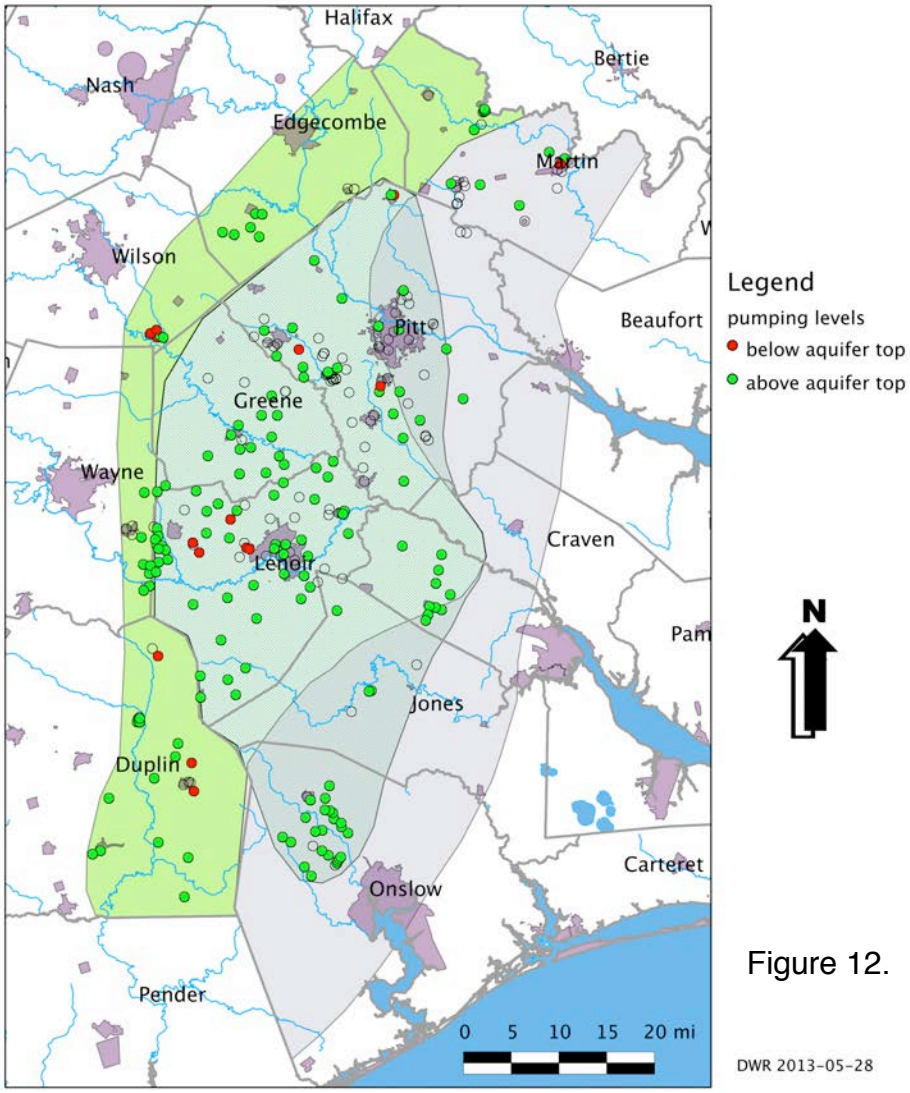


Figure 12.

15A NCAC 02E .0503 PRESCRIBED WATER USE REDUCTIONS IN CRETACEOUS AQUIFER ZONES

Cretaceous aquifer water use shall be reduced in prescribed areas over a 16 year period, starting from approved base rates on the effective date of this Rule. The Cretaceous aquifer system zones and the three phases of water use reductions are listed as follows:

(1) Cretaceous aquifer system zones are regions established in the fresh water portion of the Cretaceous aquifer system that delimit zones of salt water encroachment, dewatering and declining water levels. These zones are designated on the paper and digital map entitled "Central Coastal Plain Capacity Use Area Cretaceous Aquifer Zones" (CCPCUA) on file in the Office of the Secretary of State one week prior to the effective date of these Rules.

(2) The reductions specified in Rule .0503 of this Section do not apply to intermittent users.

(3) If a permittee implements an aquifer storage and recovery program (ASR), reduction requirements will be based on the total net withdrawals. The reductions specified in Rule .0503 of this Section do not apply if the volume of water injected into the aquifer is greater than the withdrawal volume. If the withdrawal volume is greater than the injected volume, reductions specified in Rule .0503 of this Section apply to the difference between the withdrawal volume and the injected volume.

(4) The reductions specified in Rule .0503 of this Section shall not reduce permitted water use rates below 100,001 gallons per day.

(5) Phase definitions:

- (a) Phase I: The six year period extending into the future from the effective date of this Rule.
- (b) Phase II: The five year period extending into the future from six years after the effective date of this Rule to 11 years after the effective date of this Rule.
- (c) Phase III: The five year period extending into the future from 11 years after the effective date of this Rule to 16 years after the effective date of this Rule.

(6) Phase reductions:

- (a) Phase I:
  - (i) At the end of the Phase I, permittees who are located in the dewatering zone will be required to reduce annual water use from Cretaceous aquifers by 25% from their approved base rate.
  - (ii) At the end of the Phase I, permittees who are located in the salt water encroachment zone will be required to reduce annual water use from Cretaceous aquifers by 25% from their approved base rate.
  - (iii) At the end of the Phase I, permittees who are located in the declining water level zone will be required to reduce annual water use from Cretaceous aquifers by 10% from their approved base rate.
  - (iv) At the end of the Phase I, permittees who are located in the Cretaceous zone, but outside of the salt water encroachment, dewatering, or declining water level zones will be required not to exceed annual water use from Cretaceous aquifers as established by their approved base rate.
- (b) Phase II:
  - (i) At the end of the Phase II, permittees who are located in the dewatering zone will be required to reduce annual water use from Cretaceous aquifers by 50% from their approved base rate.
  - (ii) At the end of the Phase II, permittees who are located in the salt water encroachment zone will be required to reduce annual water use from Cretaceous aquifers by 50% from their approved base rate.
  - (iii) At the end of the Phase II, permittees who are located in the declining water level zone will be required to reduce annual water use from Cretaceous aquifers by 20% from their approved base rate.
  - (iv) At the end of the Phase II, permittees who are located in the Cretaceous zone, but outside of the salt water encroachment, dewatering, or declining water level zones will be required not to exceed annual water use from Cretaceous aquifers as established by their approved base rate.
- (c) Phase III:
  - (i) At the end of the Phase III, permittees who are located in the dewatering zone will be required to reduce annual water use from Cretaceous aquifers by 75% from their

approved base rate.

(ii) At the end of the Phase III, permittees who are located in the salt water encroachment zone will be required to reduce annual water use from Cretaceous aquifers by 75% from their approved base rate.

(iii) At the end of the Phase III, permittees who are located in the declining water level zone will be required to reduce annual water use from Cretaceous aquifers by 30% from their approved base rate.

(iv) At the end of the Phase III, permittees who are located in the Cretaceous zone, but outside of the salt water encroachment, dewatering, or declining water level zones will be required not to exceed annual water use from Cretaceous aquifers as established by their approved base rate.

(7) The CCPCUA Cretaceous Aquifer Zones map will be updated, if necessary, in the sixth, eleventh, and sixteenth years following the effective date of this Rule to account for aquifer water level responses to phased withdrawal reductions. The map update will be based on the following conditions:

(a) Rate of decline in water levels in the aquifers;
(b) Rate of increase in water levels in the aquifers;
(c) Stabilization of water levels in the aquifers;
(d) Chloride concentrations in the aquifers.

This aquifer information will be analyzed on a regional scale and used to develop updated assessments of aquifer conditions in the Central Coastal Plain Capacity Use Area. The Environmental Management Commission (EMC) may adjust the aquifer zones and the water use reduction percentages for each zone based on the assessment of conditions. The EMC will adopt the updated map and reduction percentage changes after public hearing.

History Note: *Authority G.S. 143-215.15;*
Eff. April 1, 2001.

Appendices:

Attorney General Opinion

Public Meeting Transcript

Public Comment Summary

Public Comment Responses

Public Comments

Attorney General Opinion

From: "Crawley, Frank" <fcrawley@ncdoj.gov>
Subject: Temporary Permit CCPCUA
Date: May 28, 2013 8:58:45 AM EDT
To: "Wilson, Nat" <nat.wilson@ncdenr.gov>
Cc: "Bulleri, Michael" <Mbulleri@ncdoj.gov>

Nat, I also read 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.

Frank

Francis W. Crawley
Special Deputy Attorney General
P. O. Box 629
Raleigh, N. C. 27602
(919) 716-6600 talk
(919) 716-6767 fax

Public Meeting Transcript

Central Coastal Plain Capacity Use Area **April 16, 2013**

2013 Draft Assessment Report **Lenoir Community College**

Public Meeting

Introduction

Gabrielle Chianese

CCPCUA Program Leader

Opening Remarks

Tom Reeder, Director

Division of Water Resources

The 2013 Draft CCPCUA Assessment Report

Nat Wilson, Chief

Ground Water Management Branch

Division of Water Resources

Public Speakers:

Anthony Whitehead – Greenville Utilities Commission

- Greenville Utilities doesn't have any specific issues with the draft assessment report. We would like to continue to see good science used to make good decisions to move forward. Our future plans involve conjunctive use of surface water and ground water resources in a cooperative fashion to optimize both these resources to meet our customer's needs. This type of usage will reduce the need for expanding our existing facilities while maximizing the production potential of our existing resources. We want to assure ground water resources are available for many years in the future.

Stephen Miller – City of Kinston

I am the assistant public service director with the city of Kinston. Been involved in water supply issues for Kinston since 2003 and I have also represented Kinston as a director of the Neuse Regional Water and Sewer Authority board of directors. I fully support the division of water resources conclusion that no change should be made to the required reductions to be made at this time. As it states in the report,

recovery seen to date cannot be tied to all entities in the zone achieving a 25% reduction from their permit withdrawals. When permit limits were set they were based on the capacity of the entity's existing well permits not the actual daily withdrawals. While some entities such as the eight members of the Neuse River and Sewer Authority have already accomplished their full 75% reduction, others have made little or no change in their withdrawals to date. Some entities may not have needed to make a reduction in their actual production amount to achieve a 25% permit reduction due to differences between their demands and their permit limit. The benefits in the change of ground water use vary by location and aquifer. As the changes show on page 14 of the report there had been significant recovery in some areas particularly centered around Lenoir county where water levels have risen as much as 35 feet due to the impact of the Neuse regional water changes. It is also important to remember conditions when the original CCPCUA investigative report was written in 1998, that report referred to the fact that wells that use to be artesian with fresh water flowing all the way to the ground surface were then starting to see some locations where the levels were as much as 150 feet below the top of the aquifer. A 35 feet increase is only a portion of that amount. Even with the recovery seen so far in the Kinston area, still 25% of the wells we have in Kinston are not viable because static waters levels are at or below the top of the aquifer.

Also in 1998 the report of the Division of Water resources estimated recharge rate to the aquifer was approximately 90 million gallons per day, but ground water use started to exceed that rate in 1992 unless the estimate of that rate has changed, the goal of CCPCUA still would need to limit withdrawals to not exceed the recharge rate of 90 million gallons per day. I am concerned with the division of water resource's request to make adjustments to individual permits with a slow response from some entities to comply with reduction goals. I believe the regulations have been very clear in what's required of the permit holders. After the CCPCUA rules were announced, every public water supply in Lenoir County participated in a study called the Lenoir County Water System Master Plan in 2000. This was used to determine what options were available to meet those future water needs. From this report the concept of the Neuse Regional Water and Sewer Authority, and surface water plant were born. Between 2000 and 2008 we also went through several different iterations before producing its first drop of water and eventually ended up with its current eight members this includes from Pink Hill through Kinston, the town of Ayden, Grifton, as well as four water corporations, Deep Run, North Lenoir, Bell Arthur and Eastern Pines, that run through Lenoir and Eastern Pines. These entities came together and successfully constructed the Neuse Regional Water Surface Water Plant before the August 2008 deadline for the first permit reductions. This achievement has come at a cost which has been recovered through increasing water rates to our customers. For Kinston, our customers are seeing a water rate increase of over 70% to cover the extra cost of providing surface water. It's been 15 years since the Division of Water Resources proposed these regulations back in 1998. There has been more than enough time for entities to evaluate their own situation and take valuable measures to secure their own water supply which will allow them to comply. Other regulations such as the IBT should give entities more flexibility in meeting the reduction requirement. There has been a threat of penalty if there is no compliance in the reduction requirements. The Division of Water Resources has been very lenient assessing monetary penalties likely so the entities quickly respond to the requirements. It's not reasonable to have some entities that go through with requirements and meet reductions that meet the schedules ultimately at a higher cost to the customers while other entities who have not filled their obligation now wish to have their reduction requirements reduced or waived. All of the water entities should be held to the same

standards to protect the ground water resources to keep them available to all of us. The availability of water in the aquifers is still a valuable resource for all of us. Every entity has invested money in the ground water systems over the years. If the Division of Water Resources determines future ground water reductions are not necessary or could lessen, then all entities should be entitled to benefit from the change. Not just those who have waited.

Harold Herring – Executive Director of Neuse Regional Water & Sewer Authority

Neuse Regional Water and Sewer Authority originally was formed to comply with the CCPCUA rules. This was an unfunded mandate to all of us and it presented economical and financial hardship for our communities. Especially to meet the August 1 2008 deadline, we didn't have no variations in the rules. Utilities throughout Lenoir, Pitt, Green, Jones, Duplin, Wayne and Craven counties were invited to join WASA with its regional water supply project in the beginning. The final members were four municipalities that Steve just talked about and four nonprofit water corporations, town of Ayden, Bell Arthur Water, Deep Run Water, Eastern Pines Water, town of Pink Hill, Grifton, city of Kinston and North Lenoir Water. WASA members in the beginning had all agreed to a 75% reduction in their water based on their 2002 water usage not the 2008 water usage. And this was to comply with the rules and pay for our debt of service to pay for this 146 million dollar project. That means that we had over 60 wells in production in Lenoir and southern Pitt counties that were taken out of service and that is why you are seeing a lot of increase in our aquifers. Neuse regional water supply project has had significant benefits to aquifer recovery. Aquifer dewatering is less of a concern for some, although it is still possible in many areas, salt water encroachment still exists and is problematic. Again I will tell you that WASA spent over 146 million to accomplish this benefit of regional water supply and to help the aquifer. Rates have increased on an average of 100% since we started our project. Other areas of the CCPCUA that have not implemented an alternative water supply projects have not seen significant aquifer recovery and many have continued declines. These continued declines could continue to threaten or negate the significant benefits that the WASA project has brought. WASA supports the finding that the NC Division of Water Resources and the existing capacity use area rules, however WASA does not support or endorse the Division of Water Resource proposed method as written to allow the division the flexibility to alter individual permit holder's reduction requirements. Even though the aquifer is showing some recovery, the aquifer is not to the point of sustainable supply. This resource management by those counties that have abided by the rules has resulted in the positive results in ongoing recovery of the aquifer in the CCPCUA. The members of the WASA strongly advocate for the preservation of the aquifer in the CCPCUA rules. Members of WASA desire to continue progress made by reasonable and effective use of the CCP aquifers and therefore oppose any changes or relaxation of regulation that deviate from the conservation set forth in the report.

Richard Spruill – East Carolina University

I am an associate professor of geology in the department of geological sciences at ECU and co-owner of Groundwater Management Associates in Greenville and Apex. Today I am speaking on behalf of Greene county and the town of Farmville and the town of LaGrange. I have been working for them for quite a few months now and we have completed a study for Nat's new plan came out. I will talk about the assessment report, and will be speaking on behalf of some of the things we learned in Greene County, the town of Farmville and the town of LaGrange. I have been involved in evaluation of the ground

water resources in the coastal plain for more than 25 years and contrary to some recent statements I have heard, I was much more largely involved in the initiation of the current rule currently referred to as the CCPCUA. I believe firmly that the regulations of portions of the ground water system via the CCPCUA rule was the right thing to do, I believe that strongly. And I further believe that it has strengthened our position in the state as the region with the best managed ground water and surface water resource around. And I really applaud the efforts of the division of water resources years ago to take this hard stand on this unfunded mandate, but we have dealt with a lot of the issues. The main issue for me is the issue of sustainability and the result of the implementation of the capacity use area rule has forced us to deal systematically with issues like cooperation, we cooperate with each other more now than we did in the past. We diversified our resources in response to the CCPCUA rule. We cooperated and diversified, we have surface water and ground water. We are moving water around; we are interconnected now, more than any other place in the state that I know of. And we have even been talking about conservation which has always seemed to be at the bottom of our list. The CCPCUA rule has forced major changes in the central coastal plain. We ought to focus on those changes when we think about changes to this particular rule. The CCPCUA rule that DWR updated, I am talking about the CCPCUA report requires that they update the aquifer zones only on the 6th, 11th and 16th year following the effective date of the rule. What I am going to do is center on the draft assessment report by DWR. Generally I like the report, I think it is well written; it moves us away from what I call a one size fits all approach to management of our resources to a process that requires that within the three different zones delineated by the rule, that there are significant differences in aquifer responses and resource availability. We have places in the CCPCUA that are not the same, some people have resource availability and some people do not have resource availability. This document goes a long way in making sure that we address some of these changes. Generally speaking, the aquifers have responded to reductions in withdrawals described and mandated by the rule, but today water levels are generally trending upward in lots of places indicating that current regional withdrawals are nearly or actually in balance with recharge to the aquifers and that is what I think we were aiming to do. If water levels have reached some level of stability, if water levels were declining and now are essentially stable, what ground water has done is balance at least at that location and others between the amount of water which is moving into the aquifer and the amount that we are taking out of the aquifer. I think that was the goal of the CCPCUA rule. We don't have to have water levels that are free flowing artesian; we can have water levels that are below the land surface. If they are stable we can utilize that resource in an effective way to meet our demands. There are, however, more aspects of the report by DWR that I do not agree with, but I will keep them to myself today. What you have done is develop criteria driven permit process. This is based on proven efforts of conservation, proven efforts to develop other resources. But what it really focuses on is how the aquifer is responding to the withdrawals no matter where they take place. It seems to me that the real test of the application of your process is what you have listed as the five different criteria on page five of the report. The first, static water levels must be at least 50% of distance between top of aquifer and land surface. I don't think this statement needs to stay in this particular document, I don't think there is any scientific basis for that. It doesn't have much for sustainability and certainly doesn't help people in certain zones achieve what I believe would be reasonable alternative permit language. I speak on behalf of eliminating that first statement. In my opinion, static water level trends must be level or upward trending from previous three years from the trending date. I think that time should be shorter, a one year's time frame may be more appropriate. I have no problem in moving the pumps to the top of the aquifer, and if that means you can't get an

alternate permit until you move the pumps then so be it, I support that approach. It does not impose an economic hardship on anyone. It is expensive, but not outrageous. I have no problem with pumping water levels being above the aquifer top, but I don't see why if pumping water levels are stable, static water levels are not trending downward, then it needs to be at some specific distance above the top of the aquifer relative to the land surface. I have only one comment about this issue of chloride concentration in monitoring wells that are fresh with no upward trend. I would encourage you to think about some systems that might not have a monitoring well nearby that would be suitable for you. I would like for you to think about some systems that might not have a monitoring well nearby that would be suitable for you, and would you accept chloride concentrations from wells that are actually producing water on the side of the well closest to the chloride front? Those are the formal comments that I would like to make about the ground water system. I did a study for Greene County and I'm really happy with the results of that study because in Green County it shows that the water levels aren't declining in most of their wells. Pumps are below the top of the aquifer in some of their wells. I think they would qualify via these rules for a permit allowing them to stay at that level of pumping. I would also like to speak more about the CCPCUA and its long use implications and some of the issues for people I know that still exist in this area. The rule makes the comment about a 90% reduction rather that 25% reduction has caused the water levels to no longer fall in this area. We wrote a letter to the state that basically states after the first reduction the water levels have recovered or are starting to recover. The response to this report is that yes, they recovered, but they didn't recover not because of a 25% reduction, they recovered because there has been a much larger reduction. For example Greenville Utilities Commission hasn't pumped any water since 2006. And because we have available to us Neuse WASA, you stopped pumping for a long period of time and clearly this has had a long impact on the aquifer system. I just look at this in terms of what we've accomplished and what we can accomplish rather than get into this argument of who is going to be responsible for some areas on the periphery of the CCPCUA that haven't invested the money or whatever it is that people want to argue about. We have to look at sustainability of our aquifers and focus on the rule that was originally said if the water levels stop declining, if there is no damage to the aquifer then we won't require the next reduction period. That's where we are now. I guess the big issue is what happens if people start pumping from their ground water system again? Will water levels start to decline? Well, I believe that the rule covers that. For example, if a regional water corporation met these criteria and they were allowed to have stable water levels through time because their water levels met this criteria and they move their pumps upward. What happens if someone else in the CCPCUA starts to pumping water and causes the water level to decline at that organization? I don't read anything like that into the rule, and I think that needs to be considered. But also just think about how we can use our resources in a way that we have already started in the central coastal plain. We have counties that have good aquifers, deep aquifers, prolific aquifers and they have surface water. We have other communities that have thin aquifers close to the surface not very transmissive, water quality issues like iron and not a single stream from which they can withdrawal water. How do we as a coastal plain society integrate and cooperate so that we make sure everybody has available resources. What's missing in this document is what might happen if we give a permit to someone and someone else in the CCPCUA starts pumping and that causes the water levels to decline. It's not mentioned in this report and I think it needs to be considered. I support an earlier statement that Nat made that if you give someone a permit to allow them to stay at the current rate of withdrawal and the water levels start to decrease and they have to do something that they need a significant amount of time; a year is not enough time to make those changes.

B.L. Harris - Bell Arthur Water Corporation

We have the capacity at Bell Arthur to pump a million gallons of water; we have six wells, and five overhead tanks. We have all the infrastructure we need; we only use about 600,000 gallons a day. Even with the next reduction we still have enough capacity to serve our customers. But we joined Neuse Regional, and we agreed to not pump but 25% of our water. As it happens with the customer decline, we now buy about 98% of our water from Neuse Regional. So we have a 1 million gallon a day capacity that we're not using so this is more or less returning to the aquifer. If someone else takes benefit from our reduction, I don't think it's right for us to spend this money. We increased our water charges almost 100% by January 1, 2014. In order to comply with our obligations, we are going to have to increase our water rates 20% more. We only have 3800 customers but all of this compensatory responsibility is going to be on our customers back. So I'm not for a change in any of the rules so far. Just because somebody had a hardship, we had a hardship too and we still have it and are paying for it every day. Most of these entities had a chance to join us and get in on what we spent.

Barry Sutton – Eastern Pines Water Corporation

I want to talk overall about the draft assessment report. I will tell you that I have read the report a number of times. I have reached out to people who would potentially be on the same side of the table that I at Eastern Pines am and tried to get interpretations of it and make sure I have a clear understanding of the report. Over all I would say that I support the finding of the assessment report and that no action is needed to be taken by the EMC to alter the reductions or the rule language. But, some concerns here are the so called political boundaries. I think we are all in this together and there should be no political boundaries. I believe we are doing what a lot of people said could not be done with the overall concept of Neuse Regional and Sewer Authority. In fall of 2008, we started pumping water and it was a good decision for us to be a part of Neuse Regional. We are not just coming together as water providers; we are now doing a study with Army Corp of Engineers and looking at the feasibility of having an interconnection of GUC and Neuse Regional. It says if the boundary line is shifted then DWR would be placing production wells that are currently dewatering the aquifer outside the dewatering zone. That's a part that I potentially have some concerns with. Eastern Pines Water Corporation we use roughly 75% of our water, and in the peak demanding times, like summer time we may use only 40 or 50% because we are using ground water supply to supplement the surface water. But, DWR has allowed us to go in and bank water. If we actually allow water providers to go in there and have a variance or exemption or something other than a temporary permit then what does that do to us who a been very proactive, those that have complied with rules? What does that do to us 10 to 15 years in the future if we are trying to pass off spending money, to pass off additional costs and we start utilizing our ground water supply even more because we have banked this water in 10-15 years? We start using ground water supply and we start using more and more to put off plant expansions you have heard today we have had to pass on a tremendous cost rate to your payers, an average of 100% some of the water providers have been more than 100%. Obviously you can produce ground water a lot cheaper than you can produce surface water. What kind of position does it put us who have been proactive, in the future if we start to see a trend of decline again? And if we do see trending decline, what position does that put us in? Will DWR come back and say that we have the infrastructure in place you need to rely more on your surface water, these others that we have granted a temporary permit to do not have the infrastructure in so we need to let them have this water. This is where we would be dealing with the

mandate at the beginning potentially if we start to see a decline in water levels, the aquifer, the pumping levels and the static levels than potentially we would be getting hit again. That is some of the concerns that I have overall of the assessment report. As far as customer service oriented, who doesn't love that? I always look at DWR and PWS as being on the same team as us. The temporary permit, I like the overall report, but page on 4 and 5 some of this needs to be more clarified and well defined. Economic hardship, we have had a tremendous economic hardship with Eastern Pines. For fifteen years we were growing at a rate of 275 to 300 customers a year for 15 years. The last four years we have only averaged a 100 service connections per year that is an average of 800 or so customers that we don't have. That is thousands of dollars a month of revenue that we don't have coming in. We always hear it's because it is from the down turn of the economy. We hear, you guys are not affected by the down turn because you sell water and everyone needs water every day. Well that's true, but we always hear about water conservation and I support water conservation. We have customers who have irrigation systems but because of the down turn of the economy they have not even utilized their irrigation system. But with the down economy and water conservation it has affected us tremendously. We have worked with Dr. Spruill when we saw that CCPCUA rule was going to be put in place. We were actually exploring the Castle Hayne drilling test wells in Pitt and Beaufort counties. We actually went in to Beaufort County because after consulting with Dr. Spruill, we realized we were not getting the capacity we needed out of the well system. We were actually looking at a ground water treatment plant and we saw that we were not going to have the available water and it would take too many wells to do that and there was another environmental hurdle that we had to deal with the discharge permit. So we actually came into the Neuse Regional Water and Sewer Authority a little later than everyone else. Because all the other entities had a number that they had already established what the rate was going to be, so when we came in there was some additional pipe work that needed to be done and some infrastructure had to be installed getting back to our elevated tank. So when we came in we had to bring in additional capital to the table so it would make it feasible to get the water over to Pitt County. We actually brought six million dollars capital contribution to the table to be a part of the Neuse Regional Water and Sewer Authority. So we have showed the economic hardship. In closing my recommendation would be to stick with the assessment report and the findings of the division of water resources and in the temporary permit criteria go back and clarify and define some of the issues that we have brought up today.

Rhonda Barwick – Director of Services, City of Kinston

As you heard, Kinston is a member of the Neuse Regional Water and Sewer Authority along with the other members of WASA Kinston complied with these reductions and our customers are paying the increased water rates as a result. I respectfully ask that you keep this in mind. The draft report as I understand leaves the door open for flexibility in dealing with these communities who did not meet the reductions. As Mr. Miller stated earlier in the presentation our customers have seen a significant rate increase over the past years. To cover the cost of moving from a sole source ground water system to a surface water system. If the surrounding communities are not affected by these costs as we have been, we feel that it will to lead to a disparity in the rates and contrary, our communities and water systems and at a disadvantage for potential growth. I would ask that the solution should always be fair and equitable of all involved.

John Craft – Town Manager of LaGrange

We do support with portions of the report that Nat has come out with. We do disagree with the assumption that some or most of municipalities didn't comply with the regulations. We have made our reductions through phase one and are spending money to develop a surficial aquifer well field to meet production requirements. But, we did take a conservative approach to compliance with the capacity use regulations. I think you had a couple of options, you could go to the full 75% initially or you could take a more measured approach and try to comply as reductions were required. I think from our perspective when the state said they would evaluate the conditions of the aquifer and if things improved that future reductions may not be necessary. We developed that strategy upon that basis. We have met reductions, we've seen an improvement in our aquifers in our area and we have provisions to make the reductions through the 50 percent underway. It's not that we are not doing anything, and I hate that is the connotation there, but I do think there needs to be flexibility. We have zero growth over the last several years. We are a small municipality with only 1600 customers; we only use 300,000 gallons per day so our use of the resources are significantly different than large purveyors. I do applaud your efforts, which has obviously been good for the aquifer and thank you for the opportunity to speak today.

Richard Hicks – Greene County

I represent a have not county, which is Greene county. There are several things we don't have; we don't have a surface water supply. We have no large water users. We have no large customer base. If you've read the paper for the last six months, we have no money. That is a significant problem in Greene County. Let me tell you about some things that we do have. What we do have is a large percentage of our population that is below the poverty level and that represents a significant problem for us. We have a large per capita investment in trying to meet these rules. We have spent millions of dollars and I think if you compared Greene County on a dollar per capita our investment would be just a large as anybody else's. What we do also have is a customer base that has not caused this problem. So Greene County has paid for the crime that we did not add to. My last statement is that we concur and support your efforts to make this rule more flexible, with some modifications.

Rusty Hayes - Craven County

We had an opportunity to meet with Neuse WASA and were given the opportunity to consider joining with them. We did meet our 25% reduction and we are in the process of meeting our 50% reduction and I thank Nat, Gabrielle, and Mr. Reeder for their cooperation even though we are a little bit behind on it. We are at the 90% design right now, and plan on sometime within the next year and a half to two years have our plant completed. It is going to be a two million gallon a day plant with the available capacity of possibly three million at some point if we need to expand. We will meet the reduction of the 75% and I like everyone else applaud Neuse WASA and New Bern for what they have done for reducing the aquifer. I also agree with what Dr. Spruill said that there should be some flexibility for some of these smaller communities.

Question and answer session available on the Central Coastal Plain Capacity Use Area website.

Public Comment Summary

Name & Association	Type and date of comments	Summary of comments	key to response
Neuse Regional Water and Sewer Authority (NRWASA) Harold Herring, Executive Director	Resolution dated April 25, 2013	• Many areas showing improved conditions (rising water levels), however, other areas water levels continue to decline. • Aquifer dewatering is less of a concern but is still possible in many areas and salt water encroachment still exists and is problematic.	Noted Noted
Town of Grifton Board of Commissioners Billy Ray Jackson, Mayor	Resolution dated May 7, 2013	• DWR concluded that it is not necessary to alter the reduction schedule. • DWR recommended a new customer oriented method of permit review that uses criteria to judge production well and aquifer conditions by individual permits and allow DWR flexibility in altering reduction requirements.	Noted Noted
Deep Run Water Corporation Kenneth W. Jones, President	Resolution dated April 29, 2013	• Aquifer recovery in the areas served by NRWASA is recognized and documented by DWR.	Noted
Bell Arthur Water Corporation James W. Berry, President	Resolution dated April 29, 2013	• NRWASA surface water supply project which costs its members $146.4 million (rates increased by 100%) has had significant benefits to recovery • Due to the NRWASA's prudent resource management, positive results toward aquifer recovery have occurred.	Noted Noted
North Lenoir Water Corporation John W. Pope, President	Resolution dated May 15, 2013	• Others not moving forward with alternate sources may negate the significant benefits that NRWASA has brought to the aquifers. • Water resource providers who are not members of NRWASA may seek to increase their utilization of the aquifers	A B
Town of Pink Hill Carol Sykes, Mayor	Resolution dated May 20, 2013	• NRWASA members advocate for the preservation of the CCPCUA	Noted
Eastern Pines Water Corporation Barry Sutton, Manager	Resolution dated May 6, 2013	• NRWASA members oppose any changes or relaxation of the CCPCUA regulation. • NRWASA members support DWR's findings in its Report and recommends the following: - there should be no alteration of either the CCPCUA aquifer reduction zone boundaries or the reduction percentages; and - EMC should not endorse DWR's proposed method of permit review to allow DWR the flexibility to alter an individual permit holder's reduction requirements; and - enforcement against non-complying entities in the CCPCUA.	Noted Noted Noted C
City of Kinston Kinston City Council, Stephen Miller, Assistant Public Services Director	Resolution dated May 20, 2013		

Name & Association	Type and date of comments	Summary of comments	key to response
<u>Town of Snow Hill</u> Dana Hill, Town administrator	Letter dated April 17, 2013	• Remove 1st requirement "Present day ground water levels must be at least 50% of the distance between the top of the aquifer and land surface" since it is an unreasonable benchmark. • New benchmark date of January 1, 2012 be the start for evaluating static water levels instead of the 3 year requirement. • Temporary permits be good for 5 years.	D E F
<u>City of Kinston</u> Steve Miller, Asst. Public Service Director	4-16-13 Public meeting and Email dated April 17, 2013	• Supports DWR's conclusion that no change in reduction requirements. • Permit limits were set based on capacity of existing wells not actual withdrawals. • 1998 CCPCUA investigative report –wells use to be artesian but now some water levels are 150 ft below top of aquifer. • Members of NRWASA have accomplished 25% reduction while others have made little or no change in water withdrawals to date. • Lenoir county has seen a 35 ft increase in water levels due to NRWASA coming online • NRWASA members include Pink Hill through Kinston, town of Ayden, Grifton and four water corporations that run through Lenoir and Eastern Pines. • 25% of Kinston's wells are not viable since the static water levels are at or below top of aquifer. • Kinston's customers have seen a 70% increase in water rates. • DWR has been lenient with assessing monitoring penalties. • Not reasonable for some entities go through with requirements and meet reductions and other entities not fill their obligation and wish to have reductions reduced or waived. • If DWR determines future reduction is not necessary or could lessen, then all entities should be entitled to benefit from the change.	Noted G Noted Noted Noted Noted H C P I

Name & Association	Type and date of comments	Summary of comments	key to response
Greenville Utilities Commission (GUC) Anthony Whitehead	4-16-13 Public meeting	• GUC has no issues with the report. • Future planning includes conjunctive use of surface and ground water to supply customer needs. • GUC wants to insure groundwater resources are available in the future.	Noted Noted Noted
Neuse Regional Water and Sewer Authority (NRWASA) Harold Herring, Executive Director	4-16-13 Public meeting, 4-17-13 email, and 5-24-13 email	• Unfunded mandate to all of us and it presented economical and financial hardship for our communities • Utilities through Lenoir, Pitt, Green, Jones, Duplin, Wayne and Craven counties were invited to join NRWASA • NRWASA members agreed to meet 75% reduction in water based on 2002 water usage not the 2008 water usage to comply with rules and our debt to pay the 146 million dollar project • Neuse regional water supply project has had significant benefits to aquifer recovery • Other areas that have not implemented alternate water supply projects have not seen significant accurate recovery and many have continued declines which can threaten or negate the benefits of NRWASA has brought • NRWASA does not endorse DWR's proposed method of permit review as written to allow the division flexibility to alter individual permit holder's reduction requirements. • Even though the aquifer is showing some recovery, the aquifer is not at the point of sustainable supply. • Last fall of 2012, DWR received letters from La Grange, Farmville and Greene County requesting that they be designated in the Declining Water Level zone since there was significant rebound. DWR responded with the rebound being associated with an almost 90% reduction not a 25% that they referred to. Pumping water levels and pump intakes in some wells for these entities are below top of aquifer indicating dewatering.	J Noted Noted Noted B Noted K L

Name & Association	Type and date of comments	Summary of comments	key to response
Dr. Richard Spruill, East Carolina University	4-16-13 Public meeting	• I have been involved in ground water and the coastal plains for 25 years and was involved in the initiation of the current CCPCUA rule. • I strongly believe that regulation of portions of the ground water system and CCPCUA rule was the right thing to do. • I believe that it has strengthened our position in the state as the region with the best-managed ground water and surface water resource around. • Main issue is sustainability and the result of implementation of the capacity use rule has forced us to deal systematically with issues like cooperation, diversified resources (ground and surface), interconnection and water conservation • I like the assessment report, it moves us away from a one-size fits all approach to management of our resources to a process of assessing aquifer responses and resource availability. • Some places in the CCPCUA have resource availability while some do not. • Current water levels are generally trending upward in lots of places indicating that current regional withdrawals are nearly or actually in balance with recharge to the aquifer. I believe that is the goal of the CCPCUA • The criteria driven permit process focuses on how the aquifer is responding to the withdrawals no matter where they take place. • The first criteria of static water levels need to be 50% of distance from land surface and top of aquifer has no scientific basis and should be eliminated from the criteria • Instead of static water level trends must be level or up trending from previous 3 years of an upward trend, I think a one-year time frame may be more appropriate. • I support pump intakes and pumping water levels be above the top of the aquifer. • One comment about the chlorides from monitoring wells be changed to also include production wells if monitoring wells are not present • We have to look at sustainability of our aquifers and focus on the rule that was originally said if the water levels stop declining, if there is no damage to the aquifer then we won't require	Noted Noted N M Noted O P Noted D E Noted Q P

Name & Association	Type and date of comments	Summary of comments	key to response
Dr. Richard Spruill, East Carolina University (cont.)		• the next reduction period. • If a regional water corporation met this criteria and they were allowed to have stable water levels through time because their water levels met this criteria and they move their pumps upward. What happens if someone else in the CCPCUA starts to pumping water and causes the water level to decline at that organization? I don't read anything like that into the rule, and I think that needs to be considered. • We have counties that have good aquifers, deep aquifers and they have surface water. We have other communities that have thin aquifers close to the surface not very trans missive, water quality issues like iron and not a single stream from which they can withdrawal water. How do we as a coastal plain society integrate and cooperate so that we make sure everybody has available resources. • I support an earlier statement that Nat made that if you give someone a permit and allow them to stay at the current rate of withdrawal and the water levels start to decrease and they have to do something that they need a significant amount of time; a year is not enough time to make those changes.	R O Noted
<u>Bell Arthur Water Corporation</u> B.L. Harris	4-16-13 Public meeting	• We have the capacity to pump a million gallons of water and we use only 600,000 gpd. We have enough capacity to meet the next set of reductions. • We still joined NRWASA and agreed to not pump but 25% of our water. • We increased water rates by 100% by Jan 2014 • We only have 3800 customers and all the responsibility is going on our customers back. • We do not want a change in the rules. • Most people had an opportunity to join NRWASA	Noted Noted Noted Noted Noted Noted Noted
<u>Eastern Pines Water Corporation</u> Barry Sutton, Manager	4-16-13 Public meeting	• I support the finding of the assessment report and that no action is needed to be taken by the EMC to alter the reductions or the rule language • There should be no political boundaries and we all should be working together • I believe we are doing what a lot of people said	Noted S Noted

Name & Association	Type and date of comments	Summary of comments	key to response
<u>Eastern Pines Water Corporation</u> Barry Sutton, Manager (cont.)		could not be done with the overall concept of Neuse Regional and Sewer Authority, we are coming together as water providers • I have concerns with if the boundary line is shifted then DWR would be placing production wells that are currently dewatering the aquifer outside the dewatering zone. • What does that do to us 10 to 15 years in the future if we are trying to pass off spending money, to pass off additional costs and we start utilizing our ground water supply even more because we have banked this water in 10-15 years? We start using ground water supply and we start using more and more to put off plant expansions you have heard today we have had to pass on a tremendous cost rate to our payers, an average of 100% some of the water providers have been more than 100%. • If we do see trending decline, what position does that put us in? Will DWR come back and say that we have the infrastructure in place you need to rely more on your surface water, these others that we have granted a temporary permit to do not have the infrastructure in so we need to let them have this water.	L M, N R
<u>City of Kinston</u> Rhonda Barwick, Director of Services	4-16-13 Public meeting	• Kinston is a part of NRWASA and we have complied with reductions and our customers are paying increased water rates. • The draft report leaves the door open for flexibility in dealing with these communities who did not meet the reductions • Surrounding communities are not affected by the costs like we have from converting from ground water system to a surface water system. • We feel it will continue to lead to a disparity in the rates and our water systems and a disadvantage for potential growth	Noted U V H, N
<u>Town of La Grange</u> John Craft, Town Manager	4-16-13 Public meeting	• We agree with DWR's report. • La Grange has made their reductions in phase 1 and is currently spending money to produce a shallow aquifer well field to meet production requirements. • La Grange took conservative approach to comply with capacity use regulations	Noted Noted W

Name & Association	Type and date of comments	Summary of comments	key to response
Town of La Grange John Craft, Town Manager (cont.)		• You had couple of options – you could go to full 75% initially or you could take a phased approach and try to comply as reductions were required. • Our strategy was based on knowing that DWR would evaluate the aquifer and if things improved that each reduction may not be necessary. • There needs to be flexibility. • We are small (1600 customers) 300,000 gpd use with zero growth	Noted Noted Noted Noted
Greene County Richard Hicks, County Commissioner	4-16-13 Public meeting	• Greene County does not have a surface water supply, no large water users, no large customer base and no money. • Greene County has a large percentage of population that is below the poverty level which is a big problem for Greene County. • Greene County has spent millions of dollars and if you compare by per capita our investment is as large as everyone else. • Our customer base has not caused the problem and has paid for the crime they did not add to. • We support DWR's efforts to make this rule more flexible with some modifications.	Noted Noted Noted Noted Noted
Craven County Water Rusty Hayes	4-16-13 Public meeting	• We met with NRWASA and were given the opportunity to join. • We did meet our 25% reduction and are in the process of meeting our 50% reduction • Within 2 years our 2 mgd water treatment plant will be complete • Applaud efforts of NRWASA and New Bern • Agree with Dr. Spruill about some flexibility with smaller communities	Noted Noted Noted Noted Noted
City of Jacksonville Frank Sanders, Public Services Director	Letters dated May 28, 2013	• COJ supports the proposed criteria with the following adjustments: -elimination of first criteria since language is confusing and we believe the third criteria covers the intent of the 1st criteria -Change the time period in the second criteria to the previous 12 months for upward trending water levels	D E

Name & Association	Type and date of comments	Summary of comments	key to response
<u>City of Jacksonville</u> Frank Sanders, Public Services Director		-Change the fifth criteria to accepting Chlorides from production wells that are currently not in operation • Jacksonville would have preferred a reduction in the withdrawal percentages or modifications to the timelines, however, we understand the concern with saltwater encroachment • We are optimistic that the EMC will allow DWR to make use of the new criteria with rule provision .0502(p)	Q Noted Noted
<u>City of Jacksonville</u> Wally Hansen, Interim Public Services Director	Letter dated July 15, 2013	• COJ supports the 4 criteria proposed in the 2nd Draft Assessment Report dated June 2013	Noted
<u>Town of Farmville</u> Robert L. Evans, Mayor	Letter dated July 12, 2013	• Farmville supports the 2nd Draft Assessment Report dated June 2013 • DWR review of a permit holder's impact on the cretaceous aquifer on an individual basis is a more equitable method of protecting the aquifer than the uniform treatment method currently being administered under the rule.	Noted Noted
<u>Greene County Regional Water</u> Jack Edmondson, Greene Co. Board of Commissioners Chairman	Letter dated July 15, 2013	• Greene County is predominately residential and agricultural use and has no industry or economic development, which uses large volumes of water. • Greene Co. feels they are being penalized for a situation caused by others outside of their control. • Greene Co. supports the 2nd Draft Assessment Report date June 2013. The Criteria Driven Permit Review procedure is viewed as a justifiable and an equitable improvement for administration of the rule. • Regarding static and pumping water levels, we would like consideration for oscillation of water levels not to be considered negatively in the consideration for a temporary permit. • If a temporary permit is revoked, the redevelopment of funding and project design could take 5 years or more to develop and implement.	Noted Noted Noted R Z

Name & Association	Type and date of comments	Summary of comments	key to response
United States Marine Corps-Camp Lejeune John R. Towson, Environmental Management	Letter dated July 17, 2013	• MCIEAST-MCB CAMLEJ believes that flexibility within the CCPCUA permitting process will allow State regulators to specifically manage localized aquifer head and water quality conditions. • A Key item needs to be included in the 2nd Draft Assessment Report dated June 2013. The Castle Hayne and Cretaceous aquifer systems are directly related, therefore, this assessment should acknowledge their relationship and discuss ramifications.	Noted Y

Public Comment Responses

A. Others Not Moving forward with alternate sources

Every permit holder who faces reductions has a plan for an alternate water source and most have been implemented or near the end of construction. DWR provides a status report which gives updates on the alternate sources which can be viewed on our website. See attached document

B. Water providers may increase utilization of Cretaceous aquifers and negate the significant benefits that NRWASA has brought to the aquifers

If the current water withdrawal is not causing water level declines, aquifer dewatering or salt water encroachment, then that permit holder is using the aquifer in a sustainable way.

C. Enforcement of non-complying entities

Since the CCPCUA rule was established on August 1, 2002, DWR has issued warning letters to14 permit holders for their first violation and thirteen civil penalties were assessed. There are 58 permit holders in the CCPCUA who face reductions. In any given year less than 5% of the permit holders have been out of compliance.

D. Eliminate first Criteria Requirement "Present day ground water levels must be 50% of distance between the top of the aquifer and land surface"

DWR agrees this requirement is a bit stringent and we have taken this requirement out. The most important requirements of having the pump intake above the top of the aquifer, pumping water levels above the aquifer top, and upward trending static water levels is sufficient to protect these natural resources.

E. Change time period in second criteria requirement for upward trend in water levels to 1 year instead of 3 years

DWR agrees that one year is sufficient time for upward trending water levels and have revised this requirement to reflect the starting date for upward trending water levels to be January 1, 2012.

F. Temporary permits good for five years

The CCPCUA permits are issued for generally a five year period up to a maximum of a ten year time frame.

G. Permit Limits based on capacity of existing wells not actual withdrawals

The approved base rate (ABR), which is the initial permit limit that permit holders were issued, was established based on the following:
The larger of a person's January 1, 1997 through December 31, 1997 or August 1, 1999 through July 31, 2000 annual water use rate from the Cretaceous aquifer

system, or an adjusted water use rate determined through negotiation with the Division using documentation provided by the applicant of:
a- water use reductions made since January 1, 1992,
b- use of wells for which funding has been approved or for which plans have been approved by the Division of Environmental Health by the effective date of this rule,
c- portion of a plant nursery operation using low volume micro-irrigation, or
d- other relevant information

H. Substantial Increase in water customer rates

The costs of reacting to water shortages in a crisis when wells run dry would greatly exceed costs associated with planning and implementing new water sources in this predictable regulatory framework. The CCPCUA rules set up a framework to guide water users as they prepare for and implement sustainable water supplies.

I. If further reductions are not necessary then all entities should be entitled to benefit from the change

The way the proposed criteria driven review process is set up, every permit holder will be able to apply for a temporary permit. There are no exclusions , but there are strict criteria to be met.

J. Economical and financial hardship for unfunded mandate

The Division understands that this is a burden on smaller communities. We try to work with these communities if they are not able to meet a reduction. However, the costs of reacting to water shortages in a crisis when wells run dry would greatly exceed costs associated with planning and implementing new water sources in this predictable regulatory framework.

K. Even though the aquifer is showing recovery, the aquifer is not at the point of sustainable supply

The increase (recovery) in water levels does not indicate sustainable use. To have sustainable use of these aquifers, water levels need to be above the top of the aquifer and stabilized or have an increasing trend. Water withdrawals need to be in balance with the amount of recharge to the aquifers.

L. Letters received in 2012 from Greene county, the towns of Farmville, and La Grange requesting to move the boundary between the declining water level and dewatering zone eastward

The Division did receive requests from these entities to shift the boundary between the dewatering zone and declining water level zone eastward. As we explained to those entities, by shifting the boundary east we would be placing production wells that are currently dewatering or have pump intakes below the top of the aquifer into the Declining Water Level zone, which would still allow dewatering to take place.

M. Result of implementation of the capacity use rules

Through the implementation of the capacity use rules, permit holders now have a better, sustainable water supply. The Division has witnessed municipalities working regionally together (cooperation), interconnections, resource diversification and conservation.

N. Strengthened our position in the state as a region with the best managed ground water and surface water resource

As this state grows in population, it is prudent to have a plan for a long-term sustainable supply of water. Also, by having a long-term sustainable water resource, this part of the state will be more attractive for economic development.

O. Some places in the CCPCUA have resource availability while other do not

Some counties have a more challenging task to find a ground or surface water resources contained in their county boundaries due to lack of streams or thin aquifers. Unfortunately the hydrogeology is not dictated by these political boundaries. This is where the Division has seen cooperation between entities that overcomes these political boundaries and non-uniform water sources. DWR has always been available to help any affected users find alternate sources.

P. Current water levels are generally trending upward in lots of places indicating current regional withdrawals are nearly or actually in balance with recharge to the aquifer

DWR agrees with this comment, which is the goal of the CCPCUA program to use these aquifers in a sustainable way.

Q. The fifth criteria requirement concerning chlorides be changed to include production wells if monitoring wells are not present

DWR agrees that production wells to measure chlorides as long as the construction of the well is screened and gravel packed in one aquifer. DWR has revised this requirement to include production wells.

R. What happens if someone else in the CCPCUA starts pumping and caused water levels to decline in my wells

As long as the permit holder is providing accurate water level and water withdrawal data, DWR will be able to monitor the situation and assess the impacts of each permitted water user. DWR will do their best to make an informed decision on the situation. DWR cannot stress enough the importance of providing the most accurate water level and withdrawal information.

S. There should be no political boundaries we all should be working together

DWR has observed remarkable cooperation and implementation of alternate sources in the CCP, which crosses political boundaries. Most see the benefit of having a sustainable water source, which helps them compete with other states in attracting economic development.

T. The future use of banked water may cause a decline in water levels. Will people with alternate sources in place be denied the use of banked water

Permit holders who are granted a temporary permit will not be allowed to bank any additional water, but will have access to their water bank. DWR does not foresee problems with use of banked water.

U. The draft report leaves the door open for flexibility in dealing with these communities who did not meet the reductions

Any permit holder may make use of and benefit from the criteria driven permit process provided they meet all conditions.

V. Surrounding communities are not affected by the costs like we have from converting from ground water system to a surface water system

The cost of an alternate water source depends on the availability of other water sources. Some permit holders have been able to go to shallower aquifers that require less treatment while others had surface water available to them, which costs more to treat.

W. Phased approach versus all-in approach to implementation of alternate sources

It is up to each permit holder to make decisions about how they are going to meet their reductions. Some permit holders took the full set of reductions so that their alternate source would be more financially feasible. Other permit holders are meeting the required reductions on time whether it be through conservation or some other alternative to meet their reductions. As stated in the Rule, the Division will evaluate the water level responses to reductions and give a status update to the EMC on whether further reductions are necessary or as in the case of this assessment some flexibility in the permitting program.

X. Will DWR make permit holders who have alternate source in place rely more on that source if the temporary permit holders do not have infrastructure in place

No. Permit holders will be held to their annual permitted amount.

Y. The Castle Hayne and Cretaceous aquifer systems are directly related, therefore, this assessment should acknowledge their relationship and discuss ramifications

DWR will continue to track impacts to all aquifers as well as any Cretaceous aquifers using the monitoring well network and permit holder provided water levels and chloride data. Many permit holders have begun to use shallower aquifers or are in the process of expanding their use of shallower aquifers. Although each new well field shows an associated cone of depression, none of the well fields show signs of aquifer overuse.

Z. If a temporary permit is revoked, the redevelopment of funding and project design could take 5 years or more to develop and implement

If subsequent monitoring reports reveal problems, then DWR will re-open that permit and make appropriate adjustments and may allow additional time for permit holder compliance.

Public Comments

LETTER OF TRANSMITTAL

Neuse Regional WASA

TO: Gabrielle Chianese
Division of Water Resources
1611 Mail Service Center
Raleigh, NC 27699-1611

FROM: Harold Herring

DATE: 5/8/2013

RE: 2013 Draft Assessment Report Resolution

WE ARE SENDING VIA MAIL THE FOLLOWING ITEMS:

[X] Attached

[ ] Copy of Letter

[ ] Change Order

[ ] Other

No. of Sheets	Description
1 Copy	2013 Draft Assessment Report Resolution signed by Neuse Regional Water & Sewer Authority

THESE ARE TRANSMITTED as checked below:

[ ] For Approval

[X] For Your Use

[ ] As Requested

[ ] For Your Signature

[ ] For Review and Comment

Remarks: _____

Copy to:

Signed: _____

2811 Barrus Rd, La Grange, NC 28551 – P.O. Box 6277 – Kinston, NC 28501 - (252-522-2567) – Fax (252-523-1639)

RESOLUTION OF THE NEUSE REGIONAL WATER & SEWER AUTHORITY
IN SUPPORT OF
THE NEUSE REGIONAL WATER & SEWER AUTHORITY AND
THE N.C. DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
CENTRAL COASTAL PLAIN CAPACITY USE AREA
2013 DRAFT ASSESSMENT REPORT

WHEREAS, pursuant to 15A NCAC 2E .0503(7), the North Carolina Department of Environment and Natural Resources Division of Water Resources ("Division") produced its 2013 draft Assessment Report ("Report") on the condition of the Upper Cape Fear Aquifer and the Black Creek Aquifer in the Central Coastal Plain Capacity Use Area ("CCPCUA"); and

WHEREAS, the Division analyzed water levels and chloride concentrations from monitoring wells and from reports by permit holders throughout the CCPCUA through and including January 2013. The Division observed the following:

1. There are many areas showing improved conditions in the CCPCUA;
2. While water levels in many areas have risen, water levels continue to decline in other areas;
3. Aquifer dewatering is less of a concern, although it is still possible in many areas; and,
4. Salt water encroachment still exists and is problematic.

WHEREAS, the Division concluded that it is not necessary for the Environmental Management Commission ("EMC") to alter either the aquifer reduction zone boundaries or the reduction percentages; and

WHEREAS, the Division recommended a new customer service oriented method of permit review that uses a series of criteria to judge production well and aquifer conditions by individual permit, allowing the Division flexibility to alter an individual permit holder's reduction requirements; and

WHEREAS, certain requirements must be achieved by each reduction zone before the Director of the Division could allow any alternate permit language other than the standard reduction schedule permit language; and

WHEREAS, aquifer recovery in the areas served by the Neuse Regional Water & Sewer Authority ("Neuse Regional WASA") members is clearly documented and recognized by the Division; and,

WHEREAS, the Neuse Regional WASA surface water supply project, for which members have spent $146.4 million to complete and have borne significantly increased rates (an average of 100%), has had significant benefits to aquifer recovery; and,

WHEREAS, such prudent resource management by the members of the Neuse Regional WASA has resulted positive results in the ongoing recovery of the aquifers in the CCPCUA; and,

WHEREAS, other areas in the CCPCUA that have not implemented similar alternative water supply projects have either not seen significant aquifer recovery or have seen continued aquifer declines that could threaten to negate the significant benefits the Neuse Regional WASA project has brought to the aquifers in the CCPCUA; and,

WHEREAS, other water resource providers in the CCPCUA who are not members of the Neuse Regional WASA may seek to increase utilization of the CCPCUA as a result of the Report; and

WHEREAS, the members of the Neuse Regional WASA strongly advocate for the preservation of the CCPCUA under the conditions set forth in the Report; and

WHEREAS, the members of the Neuse Regional WASA desire to continue the progress made by their reasonable and effective use of the central coastal plain aquifers and, therefore, oppose any changes or relaxation of the regulation of the CCPCUA that deviate from the conservation and management practices set forth in the Report.

NOW, THEREFORE, BE IT RESOLVED THAT this member of the Neuse Regional WASA supports the Division's findings in its Report and recommends the following:

1. That the EMC follow the Division's conclusions and recommendations outlined in its Report; specifically there should be no alteration of either the CCPCUA aquifer reduction zone boundaries or the reduction percentages; and,

2. That the EMC not endorse the Division's proposed method of permit review as written to allow the Division the flexibility to alter an individual permit holder's reduction requirements, consistent with the provisions of 15A NCAC 2E .0502(p); and,

3. Given that adherence to the CCPCUA rules by members of the Neuse Regional WASA has significantly benefitted aquifer recovery at the cost of its users, that enforcement against non-complying entities in the CCPCUA be initiated.

Adopted this 25th day of April 2013, in La Grange, North Carolina.

Name Harold Hering

Title Executive Director

RESOLUTION NO. 2013-08

RESOLUTION BY THE GRIFTON BOARD OF COMMISSIONERS IN SUPPORT OF THE NEUSE REGIONAL WATER & SEWER AUTHORITY AND THE N.C. DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES CENTRAL COASTAL PLAIN CAPACITY USE AREA 2013 DRAFT ASSESSMENT REPORT

WHEREAS, pursuant to 15A NCAC 2E .0503(7), the North Carolina Department of Environment and Natural Resources Division of Water Resources ("Division") produced its 2013 draft Assessment Report ("Report") on the condition of the Upper Cape Fear Aquifer and the Black Creek Aquifer in the Central Coastal Plain Capacity Use Area ("CCPCUA"); and

WHEREAS, the Division analyzed water levels and chloride concentrations from monitoring wells and from reports by permit holders throughout the CCPCUA through and including January 2013. The Division observed the following:

1. There are many areas showing improved conditions in the CCPCUA;
2. While water levels in many areas have risen, water levels continue to decline in other areas;
3. Aquifer dewatering is less of a concern, although it is still possible in many areas; and,
4. Salt water encroachment still exists and is problematic.

WHEREAS, the Division concluded that it is not necessary for the Environmental Management Commission ("EMC") to alter either the aquifer reduction zone boundaries or the reduction percentages; and

WHEREAS, the Division recommended a new customer service oriented method of permit review that uses a series of criteria to judge production well and aquifer conditions by individual permit, allowing the Division flexibility to alter an individual permit holder's reduction requirements; and

WHEREAS, certain requirements must be achieved by each reduction zone before the Director of the Division could allow any alternate permit language other than the standard reduction schedule permit language; and

WHEREAS, aquifer recovery in the areas served by the Neuse Regional Water & Sewer Authority ("Neuse Regional WASA") members is clearly documented and recognized by the Division; and,

WHEREAS, the Neuse Regional WASA surface water supply project, for which members have spent $146.4 million to complete and have borne significantly increased rates (an average of 100%), has had significant benefits to aquifer recovery; and,

WHEREAS, such prudent resource management by the members of the Neuse Regional WASA has resulted positive results in the ongoing recovery of the aquifers in the CCPCUA; and,

WHEREAS, other areas in the CCPCUA that have not implemented similar alternative water supply projects have either not seen significant aquifer recovery or have seen continued aquifer declines that could threaten to negate the significant benefits the Neuse Regional WASA project has brought to the aquifers in the CCPCUA; and,

WHEREAS, other water resource providers in the CCPCUA who are not members of the Neuse Regional WASA may seek to increase utilization of the CCPCUA as a result of the Report; and

WHEREAS, the members of the Neuse Regional WASA strongly advocate for the preservation of the CCPCUA under the conditions set forth in the Report; and

WHEREAS, the members of the Neuse Regional WASA desire to continue the progress made by their reasonable and effective use of the central coastal plain aquifers and, therefore, oppose any changes or relaxation of the regulation of the CCPCUA that deviate from the conservation and management practices set forth in the Report.

NOW, THEREFORE, BE IT RESOLVED THAT this member of the Neuse Regional WASA supports the Division's findings in its Report and recommends the following:

1. That the EMC follow the Division's conclusions and recommendations outlined in its Report; specifically there should be no alteration of either the CCPCUA aquifer reduction zone boundaries or the reduction percentages; and,

2. That the EMC not endorse the Division's proposed method of permit review as written to allow the Division the flexibility to alter an individual permit holder's reduction requirements, consistent with the provisions of 15A NCAC 2E .0502(p); and,

3. Given that adherence to the CCPCUA rules by members of the Neuse Regional WASA has significantly benefitted aquifer recovery at the cost of its users, that enforcement against non-complying entities in the CCPCUA be initiated.

Adopted this 7th day of May, 2013, in Grifton, North Carolina.

Angel Hudson, Town Clerk

B. R. Jackson

Billy Ray Jackson, Mayor

RESOLUTION OF THE DEEP RUN WATER CORPORATION
IN SUPPORT OF
THE NEUSE REGIONAL WATER & SEWER AUTHORITY AND
THE N.C. DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
CENTRAL COASTAL PLAIN CAPACITY USE AREA
2013 DRAFT ASSESSMENT REPORT

WHEREAS, pursuant to 15A NCAC 2E .0503(7), the North Carolina Department of Environment and Natural Resources Division of Water Resources ("Division") produced its 2013 draft Assessment Report ("Report") on the condition of the Upper Cape Fear Aquifer and the Black Creek Aquifer in the Central Coastal Plain Capacity Use Area ("CCPCUA"); and

WHEREAS, the Division analyzed water levels and chloride concentrations from monitoring wells and from reports by permit holders throughout the CCPCUA through and including January 2013. The Division observed the following:

1. There are many areas showing improved conditions in the CCPCUA;
2. While water levels in many areas have risen, water levels continue to decline in other areas;
3. Aquifer dewatering is less of a concern, although it is still possible in many areas; and,
4. Salt water encroachment still exists and is problematic.

WHEREAS, the Division concluded that it is not necessary for the Environmental Management Commission ("EMC") to alter either the aquifer reduction zone boundaries or the reduction percentages; and

WHEREAS, the Division recommended a new customer service oriented method of permit review that uses a series of criteria to judge production well and aquifer conditions by individual permit, allowing the Division flexibility to alter an individual permit holder's reduction requirements; and

WHEREAS, certain requirements must be achieved by each reduction zone before the Director of the Division could allow any alternate permit language other than the standard reduction schedule permit language; and

WHEREAS, aquifer recovery in the areas served by the Neuse Regional Water & Sewer Authority ("Neuse Regional WASA") members is clearly documented and recognized by the Division; and,

WHEREAS, the Neuse Regional WASA surface water supply project, for which members have spent $146.4 million to complete and have borne significantly increased rates (an average of 100%), has had significant benefits to aquifer recovery; and,

WHEREAS, such prudent resource management by the members of the Neuse Regional WASA has resulted positive results in the ongoing recovery of the aquifers in the CCPCUA; and,

WHEREAS, other areas in the CCPCUA that have not implemented similar alternative water supply projects have either not seen significant aquifer recovery or have seen continued aquifer declines that could threaten to negate the significant benefits the Neuse Regional WASA project has brought to the aquifers in the CCPCUA; and,

WHEREAS, other water resource providers in the CCPCUA who are not members of the Neuse Regional WASA may seek to increase utilization of the CCPCUA as a result of the Report; and

WHEREAS, the members of the Neuse Regional WASA strongly advocate for the preservation of the CCPCUA under the conditions set forth in the Report; and

WHEREAS, the members of the Neuse Regional WASA desire to continue the progress made by their reasonable and effective use of the central coastal plain aquifers and, therefore, oppose any changes or relaxation of the regulation of the CCPCUA that deviate from the conservation and management practices set forth in the Report.

NOW, THEREFORE, BE IT RESOLVED THAT this member of the Neuse Regional WASA supports the Division's findings in its Report and recommends the following:

1. That the EMC follow the Division's conclusions and recommendations outlined in its Report; specifically there should be no alteration of either the CCPCUA aquifer reduction zone boundaries or the reduction percentages; and,

2. That the EMC not endorse the Division's proposed method of permit review as written to allow the Division the flexibility to alter an individual permit holder's reduction requirements, consistent with the provisions of 15A NCAC 2E .0502(p); and,

3. Given that adherence to the CCPCUA rules by members of the Neuse Regional WASA has significantly benefitted aquifer recovery at the cost of its users, that enforcement against non-complying entities in the CCPCUA be initiated.

Adopted this 29 day of April, 2013, in Deep Run, North Carolina.

Name Kenneth W Jones

Title Pres.

RESOLUTION OF THE BELL ARTHUR WATER CORPORATION
IN SUPPORT OF
THE NEUSE REGIONAL WATER & SEWER AUTHORITY AND
THE N.C. DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
CENTRAL COASTAL PLAIN CAPACITY USE AREA
2013 DRAFT ASSESSMENT REPORT

WHEREAS, pursuant to 15A NCAC 2E .0503(7), the North Carolina Department of Environment and Natural Resources Division of Water Resources ("Division") produced its 2013 draft Assessment Report ("Report") on the condition of the Upper Cape Fear Aquifer and the Black Creek Aquifer in the Central Coastal Plain Capacity Use Area ("CCPCUA"); and

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4. Salt water encroachment still exists and is problematic.

WHEREAS, the Division concluded that it is not necessary for the Environmental Management Commission ("EMC") to alter either the aquifer reduction zone boundaries or the reduction percentages; and

WHEREAS, the Division recommended a new customer service oriented method of permit review that uses a series of criteria to judge production well and aquifer conditions by individual permit, allowing the Division flexibility to alter an individual permit holder's reduction requirements; and

WHEREAS, certain requirements must be achieved by each reduction zone before the Director of the Division could allow any alternate permit language other than the standard reduction schedule permit language; and

WHEREAS, aquifer recovery in the areas served by the Neuse Regional Water & Sewer Authority ("Neuse Regional WASA") members is clearly documented and recognized by the Division; and,

WHEREAS, the Neuse Regional WASA surface water supply project, for which members have spent $146.4 million to complete and have borne significantly increased rates (an average of 100%), has had significant benefits to aquifer recovery; and,

WHEREAS, such prudent resource management by the members of the Neuse Regional WASA has resulted positive results in the ongoing recovery of the aquifers in the CCPCUA; and,

WHEREAS, other areas in the CCPCUA that have not implemented similar alternative water supply projects have either not seen significant aquifer recovery or have seen continued aquifer declines that could threaten to negate the significant benefits the Neuse Regional WASA project has brought to the aquifers in the CCPCUA; and,

WHEREAS, other water resource providers in the CCPCUA who are not members of the Neuse Regional WASA may seek to increase utilization of the CCPCUA as a result of the Report; and

WHEREAS, the members of the Neuse Regional WASA strongly advocate for the preservation of the CCPCUA under the conditions set forth in the Report; and

WHEREAS, the members of the Neuse Regional WASA desire to continue the progress made by their reasonable and effective use of the central coastal plain aquifers and, therefore, oppose any changes or relaxation of the regulation of the CCPCUA that deviate from the conservation and management practices set forth in the Report.

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3. Given that adherence to the CCPCUA rules by members of the Neuse Regional WASA has significantly benefitted aquifer recovery at the cost of its users, that enforcement against non-complying entities in the CCPCUA be initiated.

Adopted this 29th day of April, 2013, in Bell Arthur, North Carolina.

Name James W. Berry

Title Bell Arthur Water Corporation President

RESOLUTION OF THE NORTH LENOIR WATER CORPORATION
IN SUPPORT OF
THE NEUSE REGIONAL WATER & SEWER AUTHORITY AND
THE N.C. DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
CENTRAL COASTAL PLAIN CAPACITY USE AREA
2013 DRAFT ASSESSMENT REPORT

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WHEREAS, the Neuse Regional WASA surface water supply project, for which members have spent $146.4 million to complete and have borne significantly increased rates (an average of 100%), has had significant benefits to aquifer recovery; and,

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WHEREAS, other water resource providers in the CCPCUA who are not members of the Neuse Regional WASA may seek to increase utilization of the CCPCUA as a result of the Report; and

WHEREAS, the members of the Neuse Regional WASA strongly advocate for the preservation of the CCPCUA under the conditions set forth in the Report; and

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3. Given that adherence to the CCPCUA rules by members of the Neuse Regional WASA has significantly benefitted aquifer recovery at the cost of its users, that enforcement against non-complying entities in the CCPCUA be initiated.

Adopted this 15th day of May, 2013, in Kinston, North Carolina.

Name John W Pope

Title President

RESOLUTION OF THE TOWN OF PINK HILL
IN SUPPORT OF
THE NEUSE REGIONAL WATER & SEWER AUTHORITY AND
THE N.C. DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
CENTRAL COASTAL PLAIN CAPACITY USE AREA
2013 DRAFT ASSESSMENT REPORT

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Adopted this 20 day of May, 2013, in Rich Hill, North Carolina.

Name CAROL Sykes

Title MAYOR

epwc

Eastern Pines Water Corp.
5442 Eastern Pines Road – Phone (252) 752-7420 – Fax (252) 757-0859
GREENVILLE, N.C. 27858

Letter of Transmittal

To:
Gabrielle Chianese
Public Water Supply Section
1611 Mail Service Center
Raleigh, N.C. 27699-1611

Date: 5/30/2013

Re: Resolution in Support of NRWASA & the NCDENR CCPCUA 2013 Draft Assessment Report

Transmitted as checked below:

( ) For approval
(X) For your use
( ) As requested
( ) For review
( ) Approved as noted
( ) Approved as submitted
( ) Returned for corrections
( ) Other _____

Remarks:

Please find enclosed the above referenced resolution that was adopted on May 6, 2013 by the Board of Directors of Eastern Pines Water Corporation. This resolution is in addition to the comments made at the public hearing at Lenoir Community College. A scanned version of this document has also been emailed.

If you have any questions, please do not hesitate to contact me.

RESOLUTION OF THE EASTERN PINES WATER CORPORATION
IN SUPPORT OF
THE NEUSE REGIONAL WATER & SEWER AUTHORITY AND
THE N.C. DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
CENTRAL COASTAL PLAIN CAPACITY USE AREA
2013 DRAFT ASSESSMENT REPORT

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Adopted this 6 day of May, 2013, in Greenville, North Carolina.

Name 

Title Manager/Secretary

KINSTON PUBLIC SERVICES

Buildings & Grounds, Business Office, Electric, Engineering, Environmental Services, Fleet Maintenance, Meter Reading, Stormwater, Streets, Wastewater, and Water

Kinston, the right place ... Kinston Public Services, the right choice.

Kinston All-America City 2009

May 29, 2013

Ms. Gabrielle Chianese
N.C. Division of Water Resources
1611 Mail Service Center
Raleigh, North Carolina 27699-1611

RE: Central Coastal Plain Capacity Use Area Assessment Report

Dear Ms. Chianese,

Please find enclosed a resolution passed by the City of Kinston City Council regarding the findings in the Central Coastal Plain Capacity Use Area 2013 Draft Assessment Report. This resolution is being submitted to you to be included as a public comment on the report.

As the resolution states, while the City of Kinston agrees with the report's findings related to the condition of the aquifer and the need to continue with the staged reductions, Kinston is very concerned with the Division of Water Resources changing permit requirements for individual permit holders.

Our City Council trusts the Division of Water Resources will give the resolution due consideration in preparing its final report. If you have any questions, you can reach me by email at steve.miller@ci.kinston.nc.us or by telephone at 252-939-3285.

Sincerely,

Stephen W. Miller, P.E.
Assistant Public Services Director

enclosure

RECEIVED
MAY 31 2013
DIVISION OF WATER RESOURCES

Post Office Box 339 Kinston, North Carolina 28502 Phone (252) 939-3287
Fax (252) 939-3279

15-2013

RESOLUTION OF THE CITY OF KINSTON CITY COUNCIL IN SUPPORT OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES CENTRAL COASTAL PLAIN CAPACITY USE AREA 2013 DRAFT ASSESSMENT REPORT

WHEREAS, pursuant to 15A NCAC 2E .0503(7), the North Carolina Department of Environment and Natural Resources Division of Water Resources ("Division") produced its 2013 Draft Assessment Report ("Report") on the condition of the Upper Cape Fear Aquifer and the Black Creek Aquifer in the Central Coastal Plain Capacity Use Area "CCPCUA"); and

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WHEREAS, certain requirements must be achieved by permit holder before the Director of the Division could allow any alternate permit language other than the standard reduction schedule permit language; and,

WHEREAS, the Neuse Regional WASA surface water supply project, for which members have spent $146.4 million to complete, have borne significantly increased rates (an average of 100%) and reduced aquifer use beyond the current required reductions; and,

WHEREAS, such prudent resource management by the members of the Neuse Regional WASA has resulted positive results in the ongoing recovery of the aquifers in the CCPCUA, as recognized and documented by the Division; and,

WHEREAS, other water resource providers in the CCPCUA who are not members of the Neuse Regional WASA may seek to increase utilization of their wells, avoiding or deferring compliance with the reduction schedule, as a result of the Report; and,

WHEREAS, the members of the Neuse Regional WASA strongly advocate for the preservation of the CCPCUA under the conditions set forth in the Report; and,

WHEREAS, the members of the Neuse Regional WASA desire to continue the progress made by their reasonable and effective use of the Central Coastal Plain aquifers and, therefore, oppose any changes or relaxation of the regulation of the CCPCUA that deviate from the conservation and management practices set forth in the Report.

NOW, THEREFORE, LET IT BE RESOLVED THAT this member of the Neuse Regional WAA supports the Division's findings in its report and recommends the following:

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2. That the EMC not endorse the Division's proposed method of permit review as written to allow the Division the flexibility to alter an individual permit holder's reduction requirements, consistent with the provisions of 15A NCAC 2E .0502(p); and,

3. Given that adherence to the CCPCUA rules by members of the Neuse Regional WASA has significantly benefited aquifer recovery at the cost of its users, that enforcement against non-complying entities in the CCPCUA be initiated.

Adopted this **20th** day of **May, 2013**, in Kinston, North Carolina

Signed: _____
Christina Alphin, City Clerk

CERTIFICATE OF RECORDING OFFICER

The undersigned duly qualified and acting City Clerk of the City of Kinston does hereby certify: That the attached resolution is a true and correct copy of the resolution regularly adopted at a legally convened meeting of the City Council of the City of Kinston duly held on the 20th day of May 2013; and, further, that such resolution has been fully recorded in the journal of proceedings and records in my office. IN WITNESS WHEREOF, I have hereunto set my hand this 22nd day of May, 2013.

Christina Alphin, City Clerk

17 April 2013

Gabrielle Chianese
Division of Water Resources
1611 Mail Service Center
Raleigh NC 27699-1611

In reference to the 2013 Draft CCPCUA Assessment, the Town of Snow Hill supports the intent of the document but offers the following comments:

- We would ask that the first requirement which states "*Present day ground water levels must be at least 50% of the distance between the top of the aquifer and the land surface*" be deleted in it's entirety, as we believe this is an unreasonable benchmark, and is addressed adequately in the second requirement, "*static water level trends must be level or upward trending*".
- We ask that the benchmark by which we evaluate static water levels be set at January 1, 2012.
- We ask that temporary permits be issued for periods of five years and be eligible for five year renewals so long as conditions are met.

I appreciate the efforts of DWR to balance the responsibility of protecting the aquifers and cooperating with systems as individuals rather than continued "blanket" regulations.

Respectfully,

Dana Hill
Town Administrator

Subject: public hearing comments

Date: Wednesday, April 17, 2013 9:22:42 AM Eastern Daylight Time

From: Steve Miller

To: gabrielle.chianese@ncdenr.gov, nat.wilson@ncdenr.gov, tom.reeder@ncdenr.gov

CC: Rhonda Barwick

Tom/Nat/Gabrielle,
Attached is the written version of my comments at yesterday's meeting. I thank you for the opportunity to speak. After all the discussion at the end of the meeting, I would like to offer a couple additional comments:

1) Dr. Spruill seemed to be hinting that any entity with a surface water source should give up more of their groundwater rights to other entities that don't have surface water available at their front door. I think everyone recognizes that groundwater is a much cheaper source of water for everyone. Producing drinking water from groundwater can be done for one-third to one-fourth the cost of surface water. I know in Kinston the use of our wells under our permit limits and the use of banked water play important roles in our future planning for water sources. This is reflected in our Local Water Supply Plan. It may be that alternate sources are not available within everyone's own jurisdiction, but that doesn't mean additional supplies can't be obtained through interconnections with other sources.

2) Would entities still be allowed to trade water rights? I believe that was in the original rules and used in some cases for the 25% reduction. That may be the mechanism that would allow the "have-nots" to continue using their wells, but also share in the cost other entities have incurred to develop alternate supplies.

3) As wonderful as it has been to see the limited aquifer recovery since the creation of NRWASA, the change in aquifer use by the NRWASA members beginning in 2008 has probably made it much more difficult for DWR to determine the true impact of a 25% reduction throughout the CCPCUA. It would be much easier to tell if the aquifer is sustainable now if every entity was using exactly 75% of their original permit withdrawals or if come August 1, 2013 every entity used 50% of their permit amount. Unfortunately neither situation will occur so DWR is left with the task of figuring out what that sustainable level will be if all the entities used their allotment. This is more reason to not make any changes at this time.

Thank you again for the opportunity to comment. If you have any questions regarding my comments, feel free to contact me. Best of luck in preparing your final report!

Steve Miller, P.E.
Asst. Public Services Director
City of Kinston
252-939-3285

Good Afternoon,

My name is Steve Miller, and I am the Assistant Public Services Director for the City of Kinston. I have been involved in water supply issues with Kinston since 2003. I also represent Kinston as a Director on the Neuse Regional Water and Sewer Authority Board of Directors.

I fully support DWR's conclusion that no change should be made to the required reductions for entities in the dewatering zone at this time. As it states in the report, the recovery seen to date cannot be tied to all entities in the zone achieving a 25% reduction from their permit withdrawals. When the permit limits were set, they were based on the capacity of the entities existing well permits, not their actual daily withdrawals. While some entities, such as the 8 members of the Neuse Regional Water and Sewer Authority have already accomplished their full 75% reduction, other have made little or no change in their withdrawals to date. Some entities may not have needed to make any reduction from their actual production amounts to achieve the 25% permit reduction due to differences between daily demand and their permit limits.

The benefits of the changes in groundwater use through today vary by location and by aquifer. As the charts show on page 14, there has been significant recovery in some areas, particularly centered around Lenoir County, where water levels have risen as much as 35 feet due to the impact of the NRWASA. However, it is important to remember the conditions when the original CCPCU Investigative Report was written in 1998. That report refers to the fact that wells which used to be artesian, with fresh water coming to the ground surface, were seeing water levels as much as 150 feet below the top of the aquifer. The 35 feet increase is only a portion of that. Even with the recovery seen so far in the Kinston area, 25% of Kinston's wells are not viable due to having static water levels at or below the top of the aquifers.

In that 1998 report, the Division of Water Resources estimated that the recharge rate of the aquifer was approximately 90 MGD. They further stated that withdrawals by groundwater users exceeded that rate beginning in

1992. Unless their estimate of that rate has changed, the goal of the CCPCUA would still need to be to limit withdrawals to not exceed 90 MGD.

I am concerned with DWR's request to make adjustments to individual permits and with the slow response of some entities to comply with the reduction goals. I believe the regulations have been very clear in what is required of permit holders. After the CCPCUA rules were announced, every public water system in Lenoir County participated in a study called the Lenoir County Water System Master Plan of 2000, to determine what options were available for future water needs.

From this report the concept of the Neuse Regional Water and Sewer Authority and its surface water plant were born. Between 2000 and 2008 NRWASA went through several iterations before producing its first drop of water, but eventually ended up with its current 8 members, from the smallest (Pink Hill) through the largest (Kinston), and also including the Towns of Ayden and Grifton and four water corporations (Deep Run, North Lenoir, Bell Arthur and Eastern Pines). These entities came together and successfully constructed the NRWASA surface water plant before the August, 2008 implementation of the first permit reduction.

This achievement has come at a cost, which is being recovered through increases in water rates to the customers of the NRWASA members. For Kinston, our customers have seen their rates increase over 70% to cover the extra cost of purchasing surface water.

It has been 15 years since DWR first proposed the regulations. There has been more than enough time for entities to evaluate their own situation and take measures to secure alternate water supplies that would allow them to comply with the regulations. Other regulations have been loosened, such as interbasin transfers, which should give entities more flexibility in meeting the reduction requirements.

There has been the threat of penalties and fines to entities that have not complied with the reduction requirements. DWR has been very lenient in

assessing monetary penalties, likely so the entities could put their funds toward improvements to meet the requirements. It is not reasonable for some entities to have invested in projects to meet the reduction requirements and schedules, ultimately at a higher cost to their customers, while other entities have not fulfilled their obligation and now wish to have their requirements reduced or waived. I believe any entities in the dewatering zone should be held to the same standards to protect our groundwater resources and keep them available to each of us. The availability of water in the aquifers is still a valuable resource for all of us. Every entity has invested money in their groundwater systems over the years. If DWR determines future groundwater reductions are not necessary or could be lessened, then all entities should be entitled to benefit from the change, not just those who have waited out the regulations.

Stephen Miller, P.E.
Assistant Public Services Director
City of Kinston
P.O. Box 339
Kinston, NC 28502
(252) 939-3285
steve.miller@ci.kinston.nc.us

From: Harold Herring <Harold.Herring@nrwasa.org>
Subject: FW: Comments to the "DRAFT" CCPCUA
Date: April 17, 2013 9:45:55 AM EDT
To: "Reeder, Tom" <tom.reeder@ncdenr.gov>, "Wilson, Nat" <nat.wilson@ncdenr.gov>, "Chianese, Gabrielle" <gabrielle.chianese@ncdenr.gov>
Cc: Harold Herring <Harold.Herring@nrwasa.org>

The Neuse Regional Water and Sewer Authority would like to commend the Division of Water Resources for its work on the "DRAFT" Central Coastal Plain Capacity Use Area Assessment Report .

Harold Herring- Executive Director
Neuse Regional Water and Sewer Authority
(252)522-2567 Office
www.nrwasa.org

Comments in regards to the "DRAFT" Central Coastal Plain Capacity Use Area Assessment Report

1) The Neuse Regional Water and Sewer Authority was **formed to find an alternate source of water to comply with the CCPCUA Rules**

2) The CCPCUA Rules were an **unfunded mandate** and placed **Economic and Financial hardship** on our communities trying to comply with the CCPCUA Rules to meet the deadline of 8/01/2008

3) Utilities throughout Lenoir, Pitt, Greene, Jones, Duplin, Wayne and Craven counties were invited to join NRWASA with its Regional Water Supply Project

4) The Final Members of NRWASA are:(4 Municipalities and 4 Non-Profit Water Corporations) **The Town of Ayden, Bell Arthur Water Corporation, Deep Run Water Corporation, Eastern Pines Water Corporation, Town of Grifton, City of Kinston, North Lenoir Water Corporation, Town of Pink Hill** ..the others chose alternatives or some have done nothing...

5) These **Member Entities all agreed to a 75% reduction** in groundwater pumpage from day one , effective August 2008--- the effective date of the 1st -25% reduction of the CCPCUA Rule-- not August 2018 as the 75% reduction in the CCPCUA rules state

6) Aquifer recovery in the areas served by the Neuse Regional WASA member utilities is clearly documented and The Neuse Regional WASA regional water supply project has had significant benefits to aquifer recovery.

7) While water levels in many areas have risen, water levels continue to decline in other areas

8) Aquifer dewatering is less of a concern to some, although it is still possible in many areas

9) Salt water encroachment still exists and is problematic

10) Neuse Regional WASA members spent over **$146 million** to accomplish this benefit **of a Regional Water Supply that has helped our aquifer** . Rates for these members have increased significantly (**an average of 100%**) to pay for their Regional Water Supply .

11) Other areas in the Central Coastal Plain Capacity Use Area (CCPCUA) that have not implemented alternative water supply

projects have not seen significant aquifer recovery, and many have seen continued aquifer declines. These continued declines could threaten to negate the significant benefits that the Neuse Regional WASA project has brought.

12) **NRWASA supports the findings of the NC Division of Water Resources in the existing CCPCUA rules and that it is not necessary for the Environmental Management Commission to alter either the aquifer reduction zone boundaries or the reduction percentages**

13) However, the Neuse Regional Water and Sewer Authority recommends that the EMC not endorse the Division of Water Resources proposed method of permit review as written to allow the Division the flexibility to alter an individual permit holder's reduction requirements

13) Not only does the Division of Water Resources recognize the initial recovery of the Aquifer, the Corps of Engineers through their data recognize that the aquifer is this area are improving, but yet not to the point of continued pumping

14) Some Aquifer recovery in the areas served by the Neuse Regional Water and Sewer Authority , Craven County and Onslow County is clearly documented and recognized by the Division of Water Resources

15) Even though the aquifer is showing some recovery, the Aquifer it is not to the point of sustainable supply

16) This resource management by those Counties who have abided by the rules, have resulted in positive results in the ongoing recovery of the aquifers in the CCPCUA

17) The members of the Neuse Regional Water and Sewer Authority strongly advocate for the preservation of the aquifer

and CCPCUA rules

18) The members of the Neuse Regional Water and Sewer Authority desire to continue the progress made by their reasonable and effective use of the central coastal plain aquifers and , therefore, oppose any changes or relaxation of the regulations of the CCPCUA that deviate from the conservation and management practices set forth in the Report

19) Given that adherence to the rules has had significant benefit in our areas at the cost of the Neuse Regional WASA users, we recommend that enforcement against non-complying entities in the CCPCUA be initiated.

20) Again, NRWASA supports the "DRAFT" Central Coastal Plain Capacity Use Area Assessment Report and supports that it is not necessary to alter either the aquifer reduction zone boundaries or the reduction percentages but does not endorse the Division of Water Resources proposed method of permit review to alter an individual permit holder's reduction requirements.

Harold Herring- Executive Director
Neuse Regional Water and Sewer Authority
(252)522-2567 Office
www.nrwasa.org

Neuse Regional Water & Sewer Authority
Comments on February 2013 Draft CCPCUA Assessment Report

The North Carolina Department of Environment and Natural Resources Division of Water Resources ("DWR") has produced its 2013 draft Assessment Report ("Draft Report") to document the condition of the Upper Cape Fear Aquifer and the Black Creek Aquifer in the Central Coastal Plain Capacity Use Area Cretaceous Zones ("CCPCUA"). Now that implementation of water use reductions prescribed by the CCPCUA Rules [15A NCAC 2E .0501-0507] is complete through Phase II, DWR has observed the following:

1. There are many areas showing improved conditions in the CCPCUA;

2. Salt water encroachment still exists and is problematic;

3. While water levels in many areas have risen, water levels continue to decline in other areas; and,

4. Although aquifer dewatering is less of a concern, it is still possible in many areas. (Draft Report, pp. 2-3).

(Draft Report, pp. 2-3.) As a result of these observations, DWR concluded that it is not necessary for the Environmental Management Commission to alter either the aquifer reduction zone boundaries or the reduction percentages. The CCPCUA Rules require that at the end of Phase II (i) permittees who are located in the dewatering zone shall reduce annual water use from Cretaceous aquifers by 50% from their approved base rate; (ii) permittees who are located in the salt water encroachment zone shall reduce annual water use from Cretaceous aquifers by 50% from their approved base rate; and, (iii) permittees who are located in the declining water level zone shall reduce annual water use from Cretaceous aquifers by 20% from their approved base rate. 15A NCAC 2E .0503(6).

DWR has recommended a "new method of permit review that uses a series of criteria to judge production well and aquifer conditions by individual permit" consistent with the provisions of 15A NCAC 2E .0502(p). (Draft Report, pp. 1, 4-5.) This permit application review method purportedly will allow DWR the flexibility to alter an individual permit holder's reduction requirements. (Draft Report, p. 1.)

The members of the Neuse Regional Water & Sewer Authority ("Neuse Regional WASA") strongly advocate for the preservation of the CCPCUA under the conditions set forth in the Draft Report. However, the new method of permit review proposed by DWR concerns the members of Neuse Regional WASA for the following reasons:

- The Neuse Regional WASA surface water supply project, for which members have spent $146.4 million to complete and have borne significantly increased rates (an average of 100%), has had significant benefits to aquifer recovery. Some members have undertaken extensive efforts toward reducing their use by approximately 90%. Clearly, such prudent resource management by the members of the Neuse Regional WASA has resulted positive results in the ongoing recovery of the aquifers in the CCPCUA.

- DWR received letters in the fall of 2012 from the Town of LaGrange, Greene County, and the Town of Farmville regarding the implementation of the CCPCUA Rules. The letters requested that their water systems be designated in the "Declining Water Zone" rather than in the "Dewatering Zone" when the Assessment is finalized later this year. (Draft Report, p. 4.) Under the current Rules, those permittees would have the advantage of only reducing their consumption by 20% in the Declining Water Zone rather than having to reduce consumption by 50% in the Dewatering Zone as currently designated. 15A NCAC 2E .0503(6)(b).

- Although the letters stated that CCPCUA water levels have rebounded significantly as a result of the 25% reduction, which occurred in 2008 and encompassed Phase I, DWR observed in the Report that permit-holder communities (many of whom are members of Neuse Regional WASA) have undertaken extensive efforts toward reducing their aquifer demands by approximately 90%, and that the 90% voluntary reductions are precipitating much of the current water level recovery such that that the 25% reduction of Phase I was not sufficient to reverse the declining water level trend in this area. (Draft Report, p. 4.)

- DWR further observed that the pumping water levels as well as pump intakes in some of the system wells for LaGrange, Greene County, and Farmville are still below the tops of the aquifers, indicating that some level of dewatering is being generated by the wells. Shifting the boundary line would place production wells that are currently dewatering the aquifer outside of the dewatering zone. (Draft Report, p. 4.)

- After the Draft Report was released to the public for comment, Senator Don Davis introduced Senate Bill 679 to push the exact agenda expressed in the 2012 letters.

Neuse Regional WASA is concerned that adjusting the permit review framework as proposed by DWR in the Draft Report would be counterproductive to the purpose of the CCPCUA Rules and the conservation efforts of members of Neuse Regional WASA. It was the intent of Neuse Regional WASA to abide by the CCPCUA Rules from their implementation when its members agreed to buy 75% of their water from Neuse Regional WASA, thereby meeting the Phase III requirements before 2018. Certain communities in the CCPCUA have not implemented appropriate alternative water supply projects and reductions, and either have not seen significant aquifer recovery or have seen continued aquifer declines. Clearly, other water resource providers in the CCPCUA who are not members of the Neuse Regional WASA are seeking to increase utilization of the CCPCUA for profit without being part of the collective conservation efforts of Neuse Regional WASA.

The members of Neuse Regional WASA desire to continue the progress made by their reasonable and effective use of the central coastal plain aquifers and, therefore, oppose any changes or relaxation of the regulation of the CCPCUA that deviate from the conservation and management practices set forth in the Draft Report. Even a criteria-driven permit review intended to follow the current version of 15A NCAC 2E .0502(p) risks undoing conservation efforts as Phase III of the CCPCUA Rules commences. For these reasons, the members of the Neuse Regional WASA do not endorse DWR's proposed method of permit review. Further, given that adherence to the CCPCUA Rules has had significant benefit at a cost of the users of CCPCUA members, Neuse Regional WASA requests that DWR initiate enforcement measures against non-complying entities in the CCPCUA.

City of Jacksonville

Public Services Department
Administration Division
PO Box 128 • Jacksonville NC 28541-0128 • 910 938-5233

May 28, 2013

Mr. Nat Wilson

North Carolina Department of Environment
and Natural Resources
Division of Water Resources
1611 Mail Service Center
Raleigh, North Carolina 27699-1611

RE: 2013 CCPCUA Assessment Report

Dear Mr. Wilson:

The City of Jacksonville appreciates the analysis completed by the Division of Water Resources (DWR) regarding the conditions of the cretaceous aquifers located in the coastal plains. DWR has done an excellent job of analyzing the aquifer conditions in reconsidering the aquifer zones and water use reduction requirements in keeping with Rule 15A NCAC 2E .0503 (7) of the Central Coastal Plan Capacity Use Area (CCPCUA).

The draft report indicates that many regions of the CCPCUA are showing improved conditions. As such, DWR has appropriately proposed new criteria under rule .0502 with alternate permit language. The City of Jacksonville fully supports such adjustments and believes that they are in keeping with the intent of the rules set forth under the CCPCUA. The report lists five criteria that must be satisfied by a permittee for DWR to consider in delaying the next required reduction. It is our understanding that the five criteria proposed in the draft report are likely to be refined, modified, or eliminated based on comments already received. We support changes and ask that you consider the following suggestions to the draft criteria:

- The elimination of the first criteria as this language is confusing and we believe that the intent is covered by the third criteria that states pump intakes must be above the top of the shallowest aquifer screened by the well;
- Reduce the time period in the second criteria for static water levels to be level or upward trending over the previous three years to level or upward trending over the previous 12 months; and
- In the event a monitoring well is not available to track chloride concentrations, allow the use of a production well that is currently not in operation.

Jacksonville would have preferred a reduction in the withdrawal percentages or modifications to the timelines; however, we do understand that there is still concern with saltwater encroachment. As such, we are optimistic that based on the conditions of the cretaceous

aquifers the Environmental Management Commission will allow the Director of DWR to make use of the new criteria with rule provision .0502 (p).

We appreciate the chance to review this draft assessment and welcome the opportunity to discuss our comments and concerns in detail. If you have any questions, please contact myself or Mr. Wally Hansen at (910) 938-5233.

Sincerely,

Francis A. Sanders, Jr., P.E.
Public Services Director
City of Jacksonville

TOWN OF FARMVILLE

OFFICE OF MAYOR AND TOWN MANAGER
POST OFFICE BOX 86/200 NORTH MAIN
FARMVILLE, NORTH CAROLINA 27828-0086
www.farmville-nc.com
TELEPHONE: (252) 753-5774
FAX: (252) 753-2963

July 12, 2013

Mr. Nat Wilson
North Carolina Department of Environment and Natural Resources
Division of Water Resources
1611 Mail Service Center
Raleigh, North Carolina 27699-1611

Subject: Farmville Review Comments
2013 CCPCUA 2nd Draft Assessment Report

Dear Nat:

The Town of Farmville is in support of the CCPCUA 2nd Draft Assessment Report. DWR review of a permit holder's impact on the cretaceous aquifer on an individual basis is a more equitable method of protecting the aquifer than the uniform treatment method currently being administered under the rule.

At the time the CCPCUA rules were implemented, Farmville had large industrial water users. Total Farmville water use in 2002 was approximately 1.75 MGPD, all of which was pumped from the cretaceous aquifer. Farmville's large water users are now non-existent, thus our pumpage from the cretaceous aquifer has decreased to approximately 0.4 MGPD.

Although Farmville has constructed alternate water supply facilities capable of allowing Farmville to achieve a 75% reduction in the use of ground water, Farmville endorses the "Criteria Driven Permit Review" concept and requirements as recommended in the 2nd Draft Assessment Report.

Sincerely,

Robert L. Evans
Mayor,

cc: David Hodgkins
Town Manager

cc: Albert V. Lewis, Jr.
Town Engineer

City of Jacksonville

Public Services Department
Administration Division
PO Box 128 • Jacksonville NC 28541-0128 • 910 938-5233

July 15, 2013

Mr. Nat Wilson

North Carolina Department of Environment
and Natural Resources
Division of Water Resources
1611 Mail Service Center
Raleigh, North Carolina 27699-1611

Dear Mr. Wilson:

The City of Jacksonville has reviewed and supports the second draft of the Central Coastal Plain Capacity Use Area (CCPCUA) Assessment Report, 2013. We believe that the revised report and the proposed criteria are in keeping with the intent of the rules set forth under the CCPCUA. The revised report states that further reductions in withdrawal rates maybe necessary in the saltwater encroachment zone based on available chloride data. We believe that the four proposed criteria provide a necessary tool for State regulators to evaluate this idea and provide you the ability to delay or decrease the full implementation of the second and third Phase reductions.

We support the four draft criteria and feel that they will allow the Cretaceous aquifers to continue to be used as sustainable sources of drinking water. This flexibility will allow State regulators to manage withdrawal rates and water quality conditions in specific areas. More importantly, this flexibility allows the City of Jacksonville, Onslow Water and Sewer Authority (ONWASA), Martin Marietta, and Marine Corps Base Camp Lejeune to continue to work together to evaluate and implement sustainable solutions for Onslow County. We trust that the final eligibility criteria will be developed and considered based on the best technical data available for the area.

We appreciate the chance to review this assessment and welcome the opportunity to discuss our comments and concerns in detail. If you have any questions, please contact me at (910) 938-5233.

Sincerely,

Wally Hansen
Interim Public Services Director

GREENE COUNTY

A Place To Grow. The Way To Live.

Home of the North Carolina Sweet Potato Festival
November 1 – 3, 2012

July 15, 2013

Mr. Nat Wilson
North Carolina Department of Environment and Natural Resources
Division of Water Resources
1611 Mail Service Center
Raleigh, North Carolina 27699-1611

Subject: Greene County Review Comments
2013 CCPCUA 2nd Draft Assessment Report

Dear Nat:

We are appreciative of the opportunity to review and contribute our comments regarding DWR CCPCUA evaluation of the cretaceous aquifers located in eastern North Carolina.

Greene County is a low density populated county which has, and is struggling with, financial concerns. Greene County's use of cretaceous aquifer water (both past and present) has been predominantly for residential and agricultural use and has no industry or economic development which uses large volumes of water. Greene County's inclusion within the CCPCUA geographical boundary was caused by cretaceous large water withdrawal in adjacent jurisdictions, yet Greene County was included and receive an unfunded mandate to seek alternative water supply. The financial burden for alternative water supply improvements rest directly on the rural population which contains high poverty levels. The County feels they are being penalized for a situation caused by others outside their control.

CCPCUA blanket rule implementation to date has forced Greene County to reduce cretaceous aquifer water use by 25% in 2008 and is scheduled for an additional 25% reduction in 2013. The Criteria Driven Permit Review contained within the 2nd Draft Assessment Report includes revisions that allow DWR to offer individual systems an alternate reduction plan or stable annual withdrawal limit at their current level. Greene County believes it can meet the Criteria Driven Permit Review requirements qualifying Greene County for individual permitting to remain at the current 25% level. Greene County supports the Criteria Driven Permit Review process contained within the 2nd Draft Assessment Report. The Criteria Driven Permit Review procedure is viewed as a justifiable and equitable improvement for administration of the rule.

Regarding static and pumping water levels, Greene County purchases alternative water supply from Greenville Utilities Commission hereinafter referred to as GUC. When using GUC water, the County is 100% dependent on GUC water and uses wells only as a backup supply. This procedure will result in oscillation of static and pumping water

UNITED STATES MARINE CORPS
MARINE CORPS INSTALLATIONS EAST-MARINE CORPS BASE
PSC BOX 20005
CAMP LEJEUNE NC 28542-0005

5090.16
BEMD
JUL 17 2013

Mr. Nat Wilson
North Carolina Department of Environment
and Natural Resources
Division of Water Resources
1611 Mail Service Center
Raleigh, North Carolina 27699-1611

Dear Mr. Wilson:

Marine Corps Installation East-Marine Corps Base Camp Lejeune (MCIEAST-MCB CAMLEJ) believes that flexibility within the Central Coastal Plain Capacity Use Area (CCPCUA) permitting process will allow State regulators to specifically manage localized aquifer head and water quality conditions. More importantly, the availability of permit flexibility allows the City of Jacksonville, Onslow Water and Sewer Authority (ONWASA), Martin Marietta, and the Base to continue to work together to evaluate and implement sustainable solutions for the Onslow County region. Balancing groundwater withdrawals from the Cretaceous and Castle Hayne Aquifer Systems (CHAS) in this region is essential to ensure both water sources are protected for future generations.

During MCIEAST-MCB CAMLEJ's review of the Central Coastal Plain Capacity Use Area Assessment Report 2nd Draft we identified some key items that we feel should be included. This revised draft assessment recognizes the important, widespread transition from the Cretaceous aquifers to the CHAS across the CCPCUA. We question, however, the conclusion that there are no locations where overuse of the CHAS is occurring. Deteriorating head conditions in the CHAS have been well documented in the area including the upper New River estuary, New River Air Station and northwestern sections of Camp Lejeune. In fact, several studies are underway to further investigate the status of both of these aquifers in the Onslow County area.

The CCPCUA regulations require the development of alternate water sources for communities that depend on the Creteceous aquifers. For the majority of these systems the most economical alternative is the CHAS. Therefore, the CHAS and Cretaceous systems are directly related and this assessment should both acknowledge their relationship and discuss its ramifications.

We believe that the ability to delay or decrease the full implementation of the Phase 2 and Phase 3 Cretaceous reductions are an important and necessary tool that State resource managers need to have available. This is especially true for the Central Onslow County region as we continue to evaluate groundwater sustainability and cooperative solutions. However, it is noted that the current CCPCUA rules do not specifically address a method to mitigate any potential impacts which could be experienced in "alternative" raw water resources. Historically speaking, MCIEAST-MCB CAMLEJ has been using the Castle Hayne Aquifer as its sole raw water resource since the 1940's. As there are few alternatives available to MCIEAST-MCB CAMLEJ, it is our feeling that more should be done to ensure that a sustainable solution for all raw water users in the Central Onslow County area is developed.

We appreciate the chance to review this draft assessment and welcome the opportunity to discuss our comments and concerns in detail. If you have any questions, please contact Mr. Steven Whited, Environmental Quality Branch, Environmental Management Division, GF at (910)451-5068.

Sincerely,

JOHN R. TOWNSON
Director, Environmental Management
By direction of
the Commanding General

Blind copy to:
PWD (Utilities)