



September 11, 2019 Water Allocation Committee Central Coastal Plain Capacity Use Area 2019 Status Report



CCPCUA Map



- 15 counties in the central portion of the Coastal Plain
- Currently 310 permits and 57 registrations

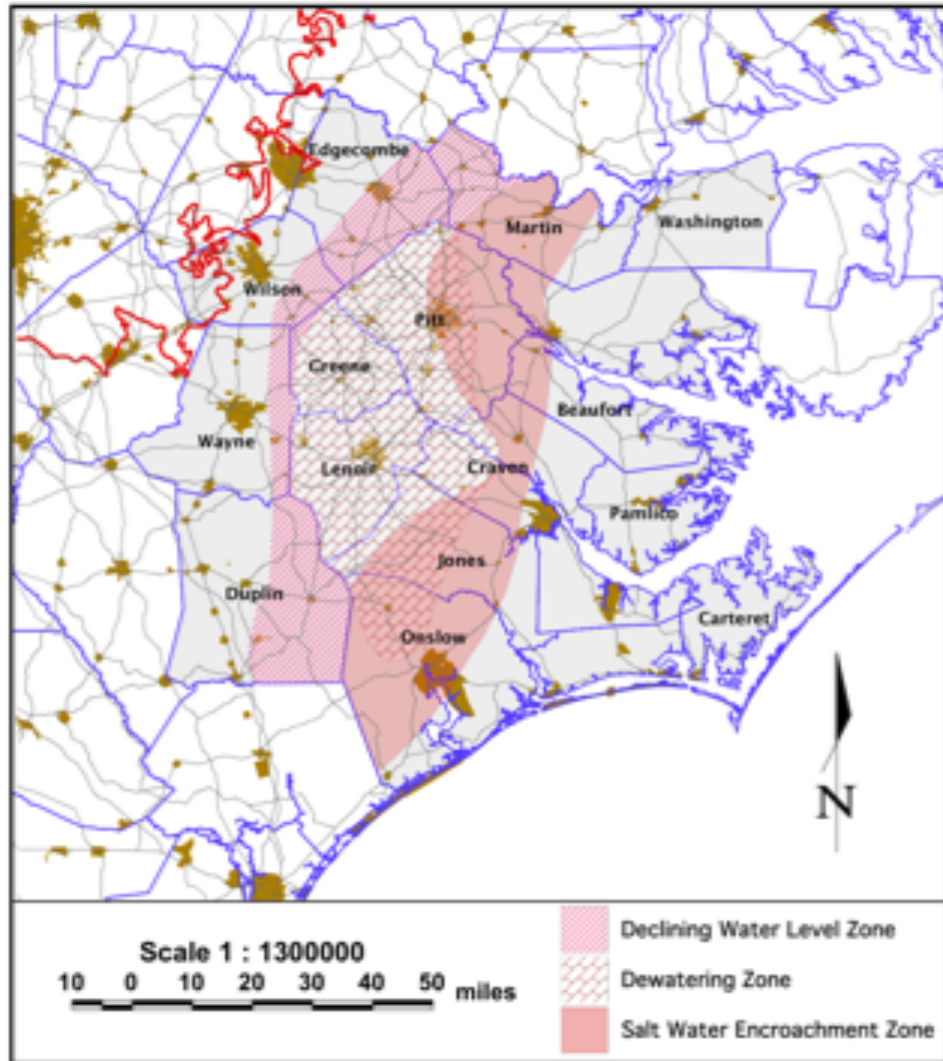
CCPCUA Requirements

- Within the CUA ground water use above 100,000 gallons per day requires a permit
- Ground water withdrawals between 10,000 and 100,000 gallons per day require annual registration
- Surface water withdrawals above 10,000 gallons per day require annual registration
- Permits require reporting of daily withdrawals, monthly water levels & annual chloride concentrations



CCPCUA Reductions

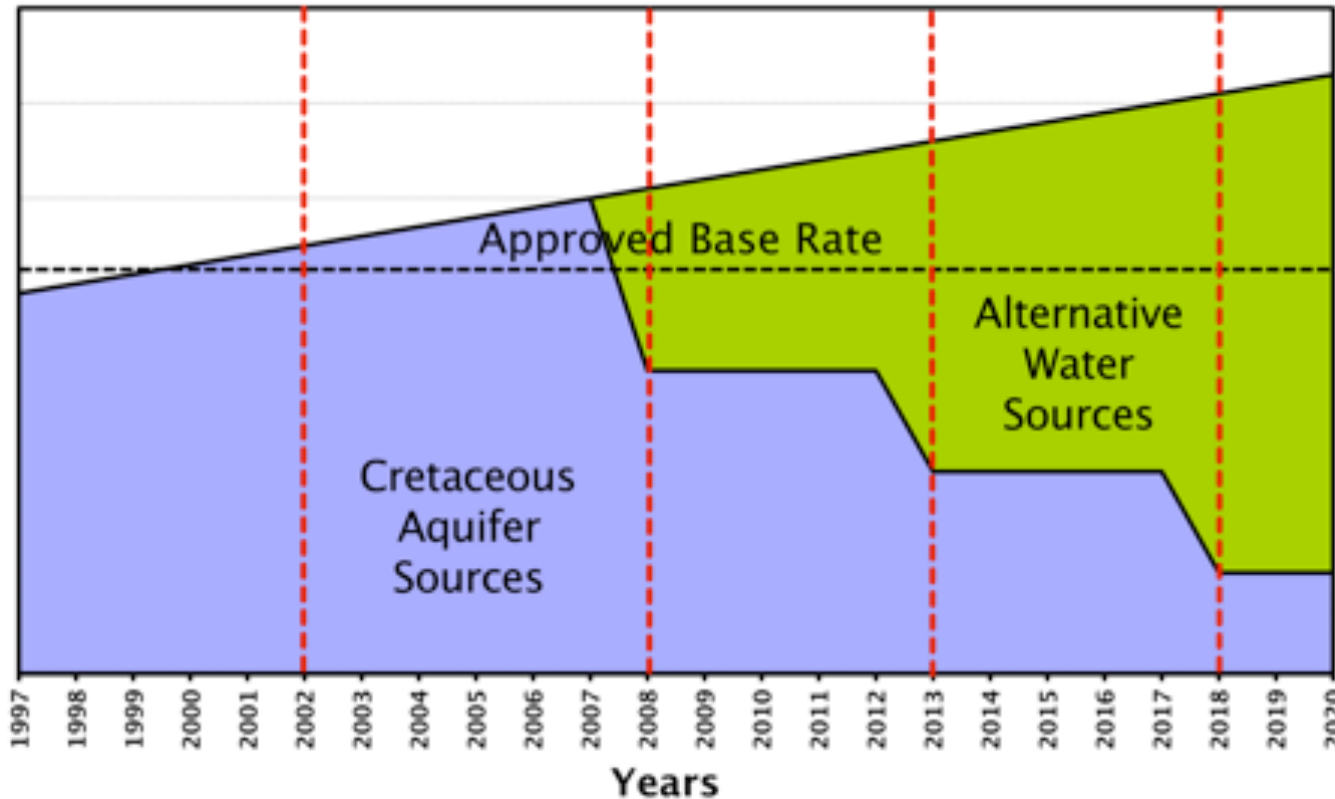
CCPCUA Cretaceous Aquifer Zones



- Cretaceous Zones: Declining Water Level, Dewatering, and Salt Water Encroachment
- Approved Base Rate (ABR)
- Water users required to reduce withdrawals between 2002 and 2018 by 30 to 75%, in three phases, from ABR

CCPCUA Compliance

CCPCUA Approved Base Rate & Reduction Requirements



- Regional & independent alternative water supplies
- Surface water
- Shallower wells
- Better water treatment capability
- Investment of hundreds of millions of dollars

Compliance & Enforcement

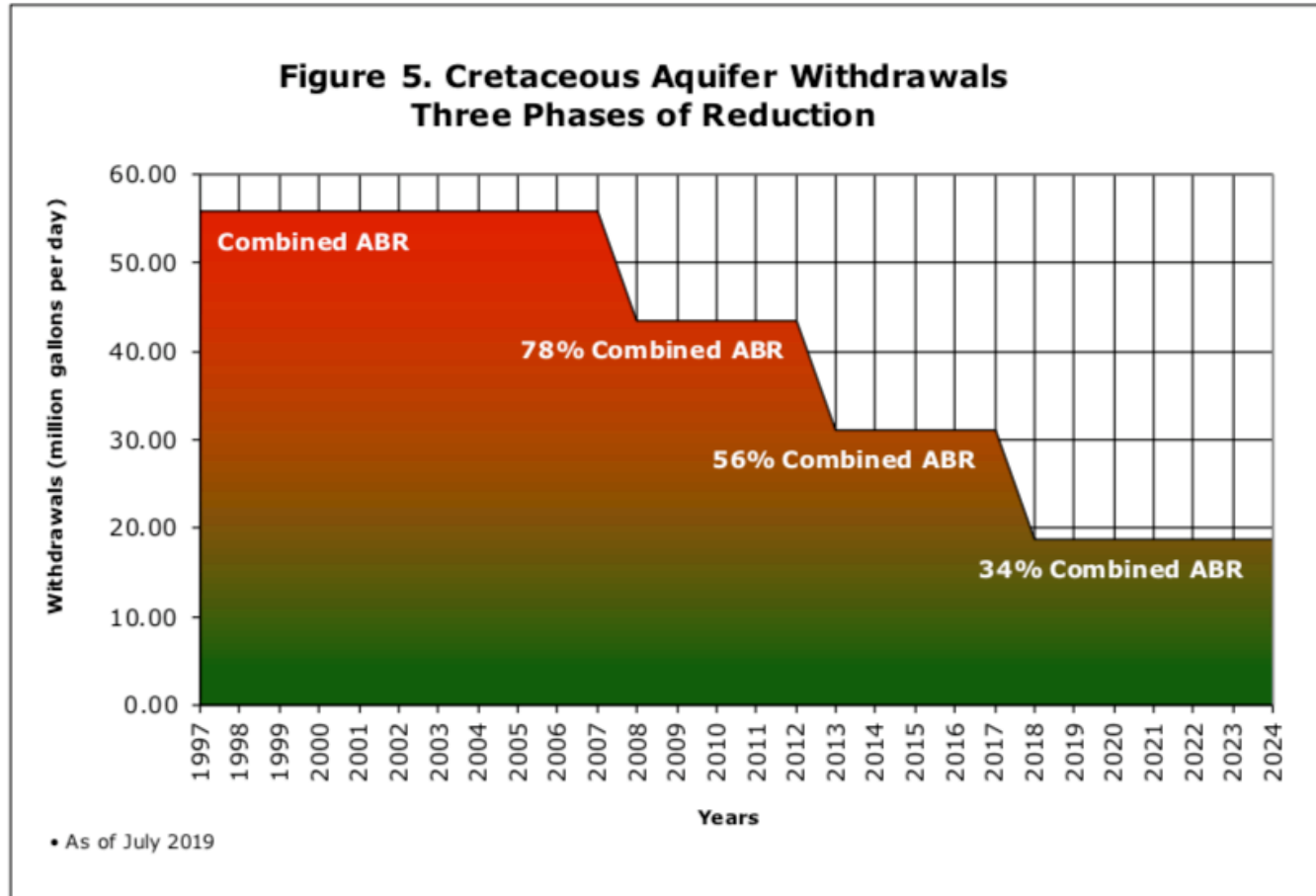
We know that those complying are investing millions of dollars in their water systems, and they expect compliance by all other permit holders.

As a result of a 2009 legislative bill (HB 1399), penalty assessments can be as high as \$1,000 per day

Water Use Act of 1967 is G.S. 143-215.11 et seq.
CCPCUA Rules: 15A NCAC 02E .0500-.0507



CCPCUA Compliance



- Reductions over 16 year period should lead to sustainable rate of withdrawal from Cretaceous aquifers
- Alternative water sources will make up for reductions and allow for growth

CCPCUA Web Resources

- On-line access to ground water levels, withdrawal data, and reporting tools
 - CCPCUA web page link off the DWR home page, topics tab, permits and registrations link
 - Ground water data web page link off the DWR home page, topics tab, ground water link
- The 2004, 2009, 2014, 2019 CCPCUA Status Reports (pdf)
- The 2008, 2013, 2018 CCPCUA Assessment Reports (pdf)



Central Coastal Plain Capacity Use Area Permit Data for City of Kinston

Permit holder	City of Kinston	Application Received	03/19/2019
Permit number	CU3024	Application Complete	03/21/2019
Permit status	Active	Application Public Notice	04/02/2019
County	Lenoir	Draft Permit Public Notice	04/02/2019
Type of Use	Public Supply	Issue Date	04/26/2019
Cretaceous Water Bank	Yes	Expiration Date	02/28/2024
Bank Start Date	08/01/2005	Date First Issued	08/30/2004
Withdrawals Subject to .0503 Reductions 2,545,027,200 Aquifer: Kbc, Kucf No. of Wells: 19			
Approved Base Rate (in GPY):			
Future Permitted Annual Withdrawal Rates (in GPY)			
August 1, 2008 through July 31, 2013	1,908,770,400		
August 1, 2013 through July 31, 2018	1,272,513,600		
August 1, 2018	636,256,800		

Abbreviation	Aquifer
S	Surficial
Tu	Upper Tertiary
Ty	Yorktown
Tch	Castle Hayne
Tb	Beaufort
Kpd	Peedee
Kbc	Black Creek
Kucf	Upper Cape Fear
Klcf	Lower Cape Fear
Br	Basement Rock

North Carolina Aquifer Information

[Ground Water Management Branch web site](#)

This permittee has filed a Local Water Supply Plan. Click [here](#) to review their plan. Access this permit holder's withdrawal data formatted for Local Water Supply Planning for [all wells](#) and [individual wells](#). Access any Local Water Supply Plan [here](#).

Water Withdrawal Statistics for City of Kinston (CU3024)
Wells Subject to .0503 Reductions
August 1 through July 31 Years

Year	Year Total (gallons)	Average Day (gallons/day)	Maximum Day (gallons/day)	# of Days
8-1-1996 thru 7-31-1997	1,098,175,800	5,180,075	9,488,600	212
8-1-1997 thru 7-31-1998	849,070,800	5,585,992	9,821,600	152
8-1-1999 thru 7-31-2000	1,827,834,500	4,994,083	8,577,000	366
8-1-2001 thru 7-31-2002	923,685,200	4,357,006	6,971,200	212
8-1-2002 thru 7-31-2003	1,359,318,200	3,724,159	5,843,000	365
8-1-2003 thru 7-31-2004	1,322,303,141	3,612,850	6,015,000	366
8-1-2004 thru 7-31-2005	1,367,224,000	3,745,819	5,591,000	365
8-1-2005 thru 7-31-2006	1,373,807,000	3,763,855	5,702,000	365
8-1-2006 thru 7-31-2007	1,281,443,000	3,510,803	5,688,000	365
8-1-2007 thru 7-31-2008	1,276,466,000	3,487,612	5,689,000	366
8-1-2008 thru 7-31-2009	661,175,000	2,613,340	6,475,000	253
8-1-2009 thru 7-31-2010	72,718,000	2,597,071	5,265,000	28
8-1-2010 thru 7-31-2011	260,424,000	1,321,949	4,908,000	197
8-1-2011 thru 7-31-2012	448,396,000	1,751,547	4,243,000	256
8-1-2012 thru 7-31-2013	480,919,000	1,849,688	3,982,000	260
8-1-2013 thru 7-31-2014	585,080,000	2,543,826	5,723,000	230
8-1-2014 thru 7-31-2015	516,542,000	2,179,502	4,723,000	237
8-1-2015 thru 7-31-2016	467,481,000	1,900,329	5,930,000	246
8-1-2016 thru 7-31-2017	471,831,000	1,843,090	3,500,000	256
8-1-2017 thru 7-31-2018	531,961,000	2,069,887	5,989,000	257
8-1-2018 thru 7-31-2019	397,579,000	2,028,464	3,723,000	196

Permit Data



Production Wells

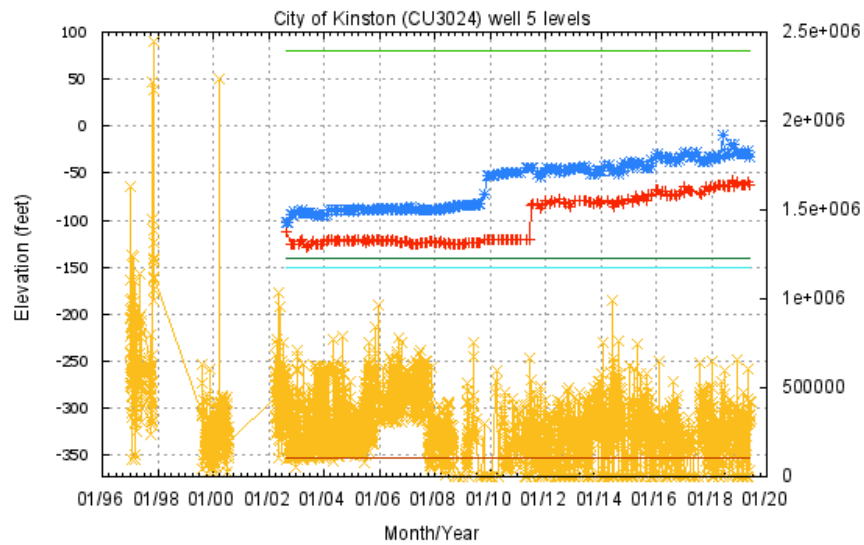
City of Kinston (CU3024) Well Information

#	Source	Land Surface Elevation (feet)	Diameter (inches)	Pump Capacity (gallons per minute)	Pump Intake Depth (feet)	Top Screen Depth (feet)	Bottom Screen Depth (feet)	Well Depth (feet)	Aquifer Top Depth (feet)	Aquifer(s)	Type	.0503 Reduction Well?	Status	.0503 Zone	Production or Monitoring Well (P or M)	Geo Logs	Well Cons Form (GW1)	Pump Diagram
1	1	44.00	12	230	247	205	356	360	233	Kbc	Well	yes	Existing	25	P	yes	no	no
2	1,3	0.00	0	0	0	0	0	0	0	Kbc	Well	yes			P			
3	3	43.00	8	200	273	315	365	365	226	Kbc	Well	yes	Existing	25	P			yes
4	4	79.00	10	650	230	390	515	520	270	Kbc	Well	yes	Existing	25	P			yes
5	5	80.00	10	400	220	230	433	443	230	Kbc	Well	yes	Existing	25	P			yes
6	6	31.00	10	450	190	230	447	483	237	Kbc	Well	yes	Existing	25	P			yes
7	7	60.00	10	380	236	215	440	445	220	Kbc	Well	yes	Existing	25	P	yes		yes
8	8	42.00	10	850	197	316	482	527	260	Kbc, Kucf	Well	yes	Existing	25	P	yes		yes
9	9	77.00	10	860	245	272	482	482	265	Kbc	Well	yes	Existing	25	P			yes
10	10	88.00	10	350	274	250	412	415	180	Kbc	Well	yes	Existing	25	P	yes		yes
11	11	39.00	10	1,000	234	302	370	420	225	Kbc	Well	yes	Existing	25	P			yes
12	12	37.00	10	1,030	237	270	485	490	265	Kbc, Kucf	Well	yes	Existing	25	P			yes
13	13	78.00	8	450	195	302	395	395	172	Kbc	Well	yes	Existing	25	P			yes
14	14	51.00	12	650	200	240	388	405	139	Kbc	Well	yes	Existing	25	P			yes
15	16	57.00	6	300	210	271	325	325	154	Kbc	Well	yes	Existing	25	P			yes
16	18	95.00	12	650	138	270	320	330	146	Kbc	Well	yes	Existing	25	P	yes	sketch	yes
17	20	97.00	6	55	168	183	270	312	178	Kbc	Well	yes	Existing	25	P			yes
18	21	75.00	14	470	320	379	429	439	280	Kbc	Well	yes	Existing	25	P			yes
19	23	45.00	14	415	0	300	375	453	294	Kbc	Well	yes	Proposed	25	P	yes		
20	24	47.00	14	825	0	282	388	509	277	Kbc	Well	yes	Proposed	25	P	R		
21	NRWASA-Kinston	0.00	0	0	0	0	0	0			Surface Water	no	Existing		P			

pump intake below top of screen; pump intake below top of screen and top of aquifer; pump intake below top of aquifer

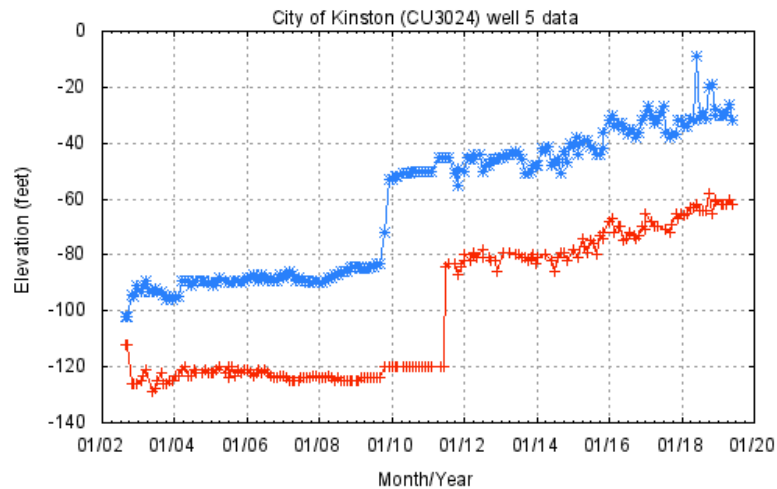


Water Levels



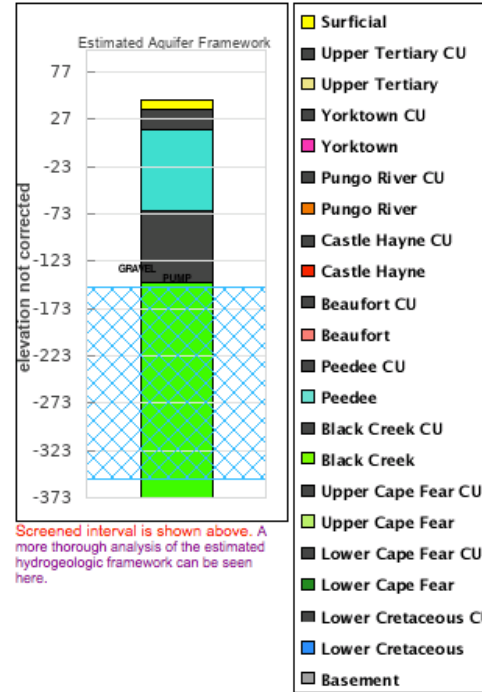
pumping wls —+— top screen — — pump depth — — land surface — —
 'static' wls —*— bottom screen — — aquifer top — —
 withdrawals are plotted above

[View Static Data](#) [View Pumping Data](#) [View Usage Data](#)



pumping wls —+— 'static' wls —*—

Daily Withdrawals in Gallons



Central Coastal Plain Capacity Use Area 2016 Water Withdrawal Summary Tables

Tables compiled 07-15-2019, units are gallons per day

Permitted				Reported for 2016						Permitted				Reported for 2016					
Current Permit Limits				Ground Water						Current Permit Limits				Ground Water					
County	max daily	yearly (ABRs)	yearly (2018)	by all permits	# of permits	% reported	by yearly permits	by registrations	by registrations	Type of Use	max daily	yearly (ABRs)	yearly (2018)	by all permits	# of permits	% reported	by yearly permits	by registrations	by registrations
Beaufort	180,416,400			58,316,860	45	73		69,733	145,815	Agricultural	196,239,102	620,612	400,004	6,064,055	115	72	66,357	4,744,972	3,122,282
Carteret	26,920,080			7,362,377	21	76		313,179	68,041	Golf Course Irrigation	3,954,000	85,589	85,589	299,952	11	100	7,381	103,852	123,799
Craven	73,143,100	6,956,526	1,814,132	22,700,374	29	86	3,738,104	91,285	14,788,119	Industrial	16,075,200	4,373,115	2,371,853	4,741,248	13	100	1,425,997	105,957	64,098,878
Duplin	58,722,902	2,805,747	2,297,255	7,913,280	38	84	1,821,920	1,635,803	61,349	Mine Dewatering	251,342,080			89,740,828	53	87		312,722	
Edgecombe	12,564,000	527,697	429,388	1,255,042	10	100	298,519	60,976	743,730	Other	7,418,480	368,561	300,003	164,009	13	77	106,898		
Greene	191,000	3,058,197	914,551	1,150,647	4	100	1,082,948	45,298		Public Water Supply	133,796,780	50,393,015	15,601,016	56,530,679	88	97	16,442,789	351,403	35,992,560
Jones	48,929,600	679,282	169,821	19,057,105	10	90	240,235	225,328		Thermal Electric Power								174	5,133,973
Lenoir	9,805,320	13,522,312	3,522,953	3,869,963	14	93	3,354,533	14,992	8,125,867	Totals:	608,825,642	55,840,891	18,758,465	157,540,771	293	85	18,049,421	5,619,080	108,471,491
Martin	3,504,000	4,895,506	2,226,326	1,872,250	13	100	1,040,642	25,763	50,195,630										
Onslow	61,210,600	9,845,143	2,461,286	23,831,767	20	80	3,502,484	176,493											
Pamlico	34,071,200			1,399,469	13	85		1,471											
Pitt	9,118,080	8,651,572	2,521,003	1,662,600	23	87	1,369,331	207,079	13,625,225										
Washington	64,188,000			1,678,368	36	81													
Wayne	19,129,200	4,340,026	2,010,532	4,492,903	17	88	1,296,263	372,422	10,125,636										
Wilson	6,912,160	558,883	391,218	977,768	7	86	304,442	151,083	9,152,788										
Totals:	608,825,642	55,840,891	18,758,465	157,540,771	300**	84	18,049,421	5,619,080*	108,471,491*										

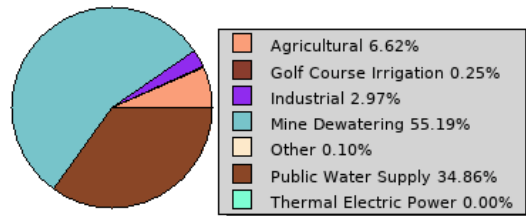
Permitted				Reported for 2016					
Current Permit Limits				Ground Water					
Aquifer	max daily	yearly (ABRs)	yearly (2018)	by all permits	# of permits	% reported	by yearly permits	by registrations	
Basement rock	14,306,060			1,639,487	11	91		227,009	
Black Creek	26,430,540	21,938,121	7,223,410	12,868,303	58	90	9,183,795	231,221	
Peedee	18,956,400	6,877,228	1,785,236	2,063,955	22	79	173,878	92,949	
Upper Cape Fear	44,375,562	26,975,542	9,699,819	13,020,984	72	90	8,680,705	101,200	
Lower Cape Fear		50,001	50,001	11,044	1	100	11,044		
Surficial	128,755,630			31,778,162	64	74		452,456	
Castle Hayne	338,291,200			95,199,824	136	76		346,372	
Beaufort	3,495,250							56,081	
Upper Tertiary									
Yorktown	34,215,000			959,013	19	76		50,762	
Totals:	608,825,642	55,840,891	18,758,465	157,540,771	381**	81	18,049,421	5,619,080	

Yearly permit limits are linked to withdrawals from the Cretaceous aquifers where reductions are mandated. As phased reductions occur, annual limits allow permit holders more flexibility to plan when withdrawals are made. ABR refers to "Approved Base Rate" and is the annual rate calculated based on 1997 or August 1, 1999 through July 31, 2000 withdrawals. The ABR is the annual rate from which reductions take place (see CCPCUA FAQs). "Yearly (2018)" is the final rate of withdrawal if all three phases of reduction are administered. Figures in the "by all permits" columns are total withdrawals reported by all permit holders (max day and yearly).

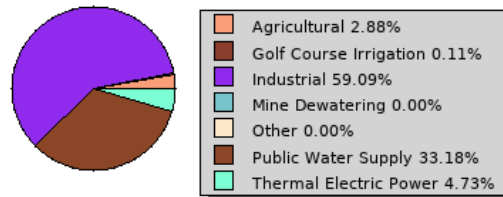
*Totals may include additional water use not reported in county totals because of Department of Agriculture's nondisclosure policy.
 ** A few permits have sources in two counties, so those permits are counted twice.

** Many permits use multiple aquifers, so those permits are counted more than once.

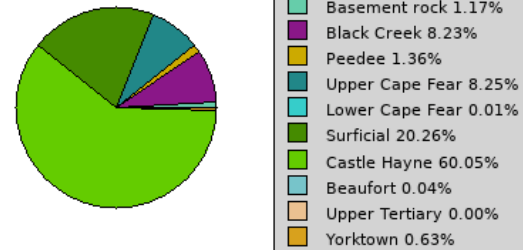
CCPCUA Reported Ground Water Withdrawals by Type of Use



CCPCUA Reported Surface Water Withdrawals by Type of Use



CCPCUA Reported Ground Water Withdrawals by Aquifer



Withdrawals

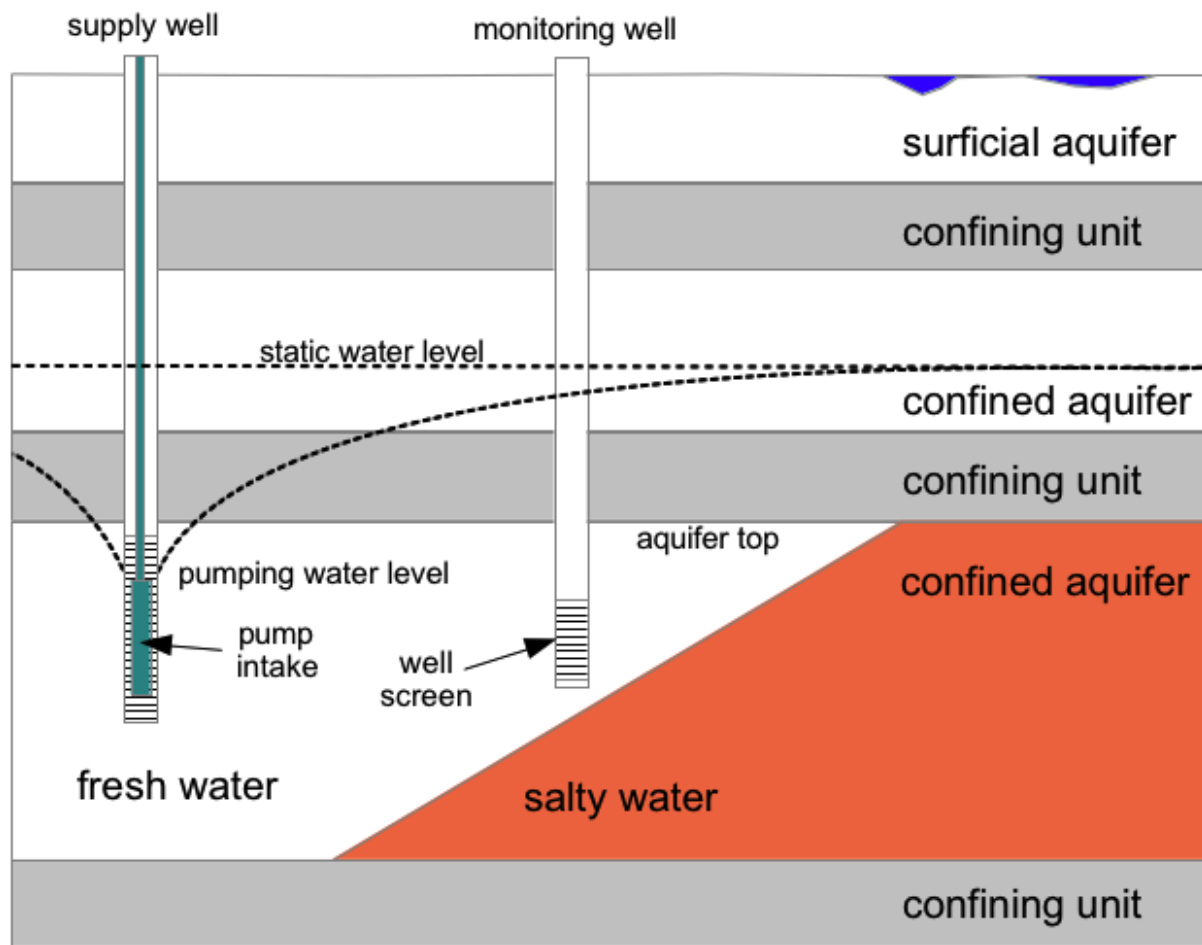


CCPCUA Web Resources – cont.

- Status of alternative water supply development in the CCPCUA as of July 30, 2019 (pdf)
 - Neuse Regional Water and Sewer Authority serves Lenoir County, and part of Pitt County with treated Neuse River water. This project became operational in Fall 2008.
 - Greenville Utilities is supplying treated Tar River water to several new customers including Greene County and the Town of Farmville.
 - Many other solutions are described in 2019 Status Report
- Link to water rates dashboard hosted by the UNC Environmental Finance Center



Temporary Permit Criteria Diagram



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

Temporary Permits Issued

- Eleven temporary permits so far.
- Temporary permits allow DWR to customize withdrawals to a location and help us achieve the highest sustainable use of ground water.

Table 2. Temporary Permits Issued

Permit Holder	County	CCPCUA Permit #	Date Temporary Permit Issued	Annual Permit Amount (GPY)
Greene County Regional Water System	Greene	CU3092	01/03/2014	607,401,750
Town of La Grange	Lenoir	CU3003	01/16/2014	106,016,250
Belfast-Patetown Sanitary District	Wayne	CU3082	04/17/2014	272,710,333
Fork Township Sanitary District	Wayne	CU3001	06/04/2014	221,119,500
Northwestern Wayne Sanitary District	Wayne	CU3083	06/04/2014	59,871,333
Southeastern Wayne Sanitary District	Wayne	CU3006	07/11/2014	146,419,000
Town of Snow Hill	Greene	CU3072	10/19/2017	73,328,667
City of New Bern	Craven	CU3071	11/14/2017	774,920,500
Chinquapin Water Assoc. Inc.	Duplin	CU3014	06/06/2018	45,960,400
Jones County Regional Water System	Jones	CU3023	07/15/2019	123,969,000
Craven County Water	Craven	CU3108	08/02/2019	476,395,350



Contact Information



DWR WCWC Monitoring Station
Carteret County

Nat Wilson

919-707-9032

nat.wilson@ncdenr.gov

