

Update on Water Quantity Issues - 2008

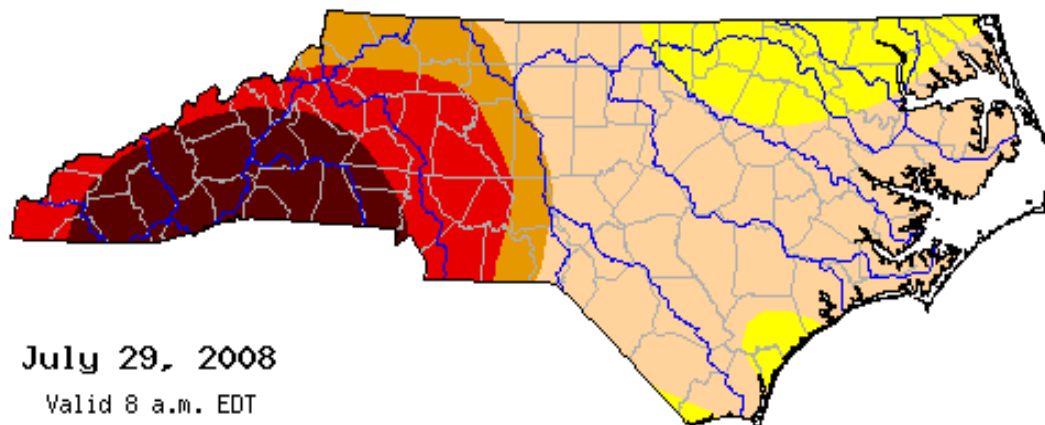
Environmental Review Commission
November 25, 2008



Overview

- Drought Update
- Implementation of 2008 Drought Bill
- Daily Water Withdrawals in NC
- Water Supply River Basin Planning
- Activity of Bi-State Commissions
- Upcoming Interbasin Transfers (IBTs)

Drought Update



July 29, 2008 – County Breakdown

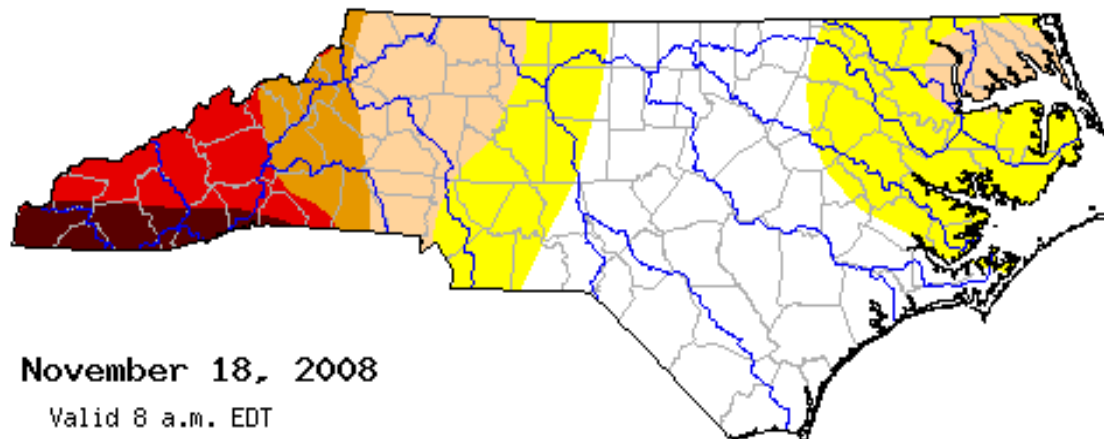
Exceptional Drought: 24 counties
Extreme Drought: 14
Severe Drought: 8
Moderate Drought: 48
Abnormally Dry: 6

Drought Classifications

- D0 - Abnormally Dry
- D1 - Moderate Drought
- D2 - Severe Drought
- D3 - Extreme Drought
- D4 - Exceptional Drought

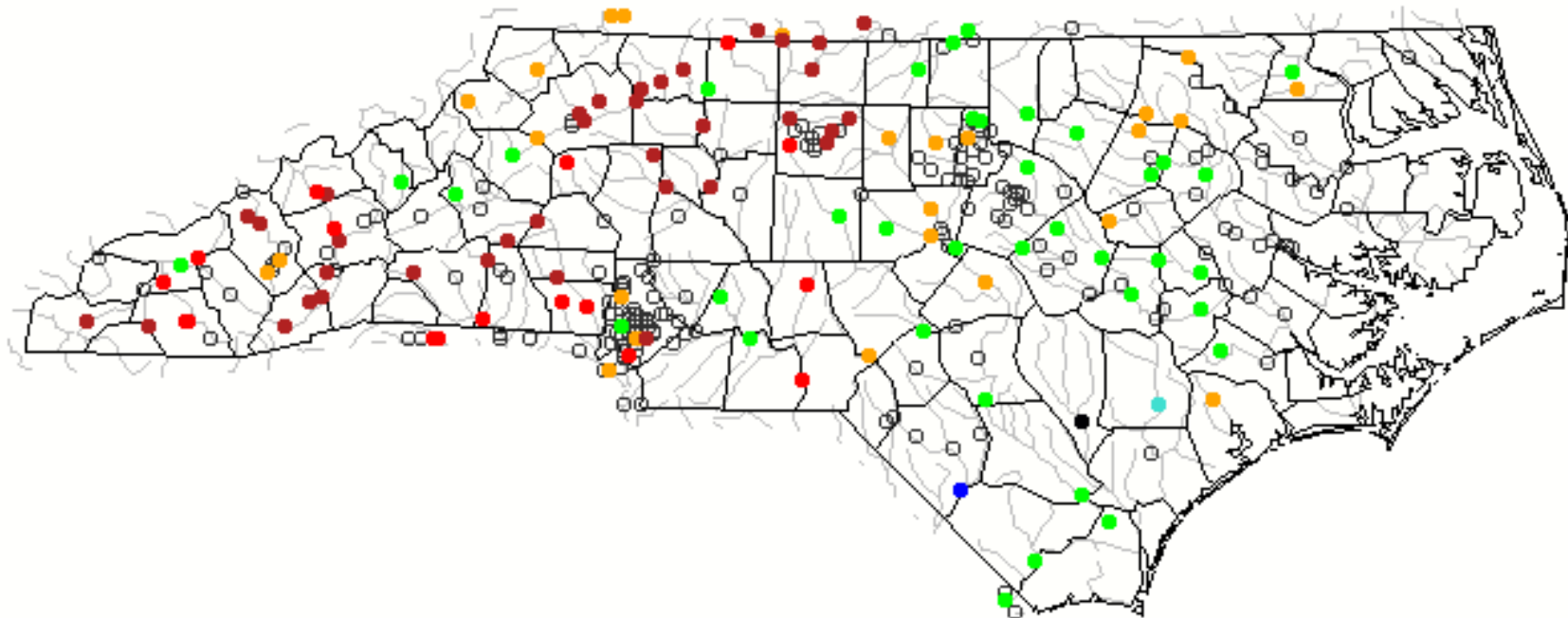
Nov 18, 2008 – County Breakdown

Exceptional Drought: 6 counties
Extreme Drought: 8
Severe Drought: 8
Moderate Drought: 20
Abnormally Dry: 26
Normal: 32



USGS Map of Streamflows

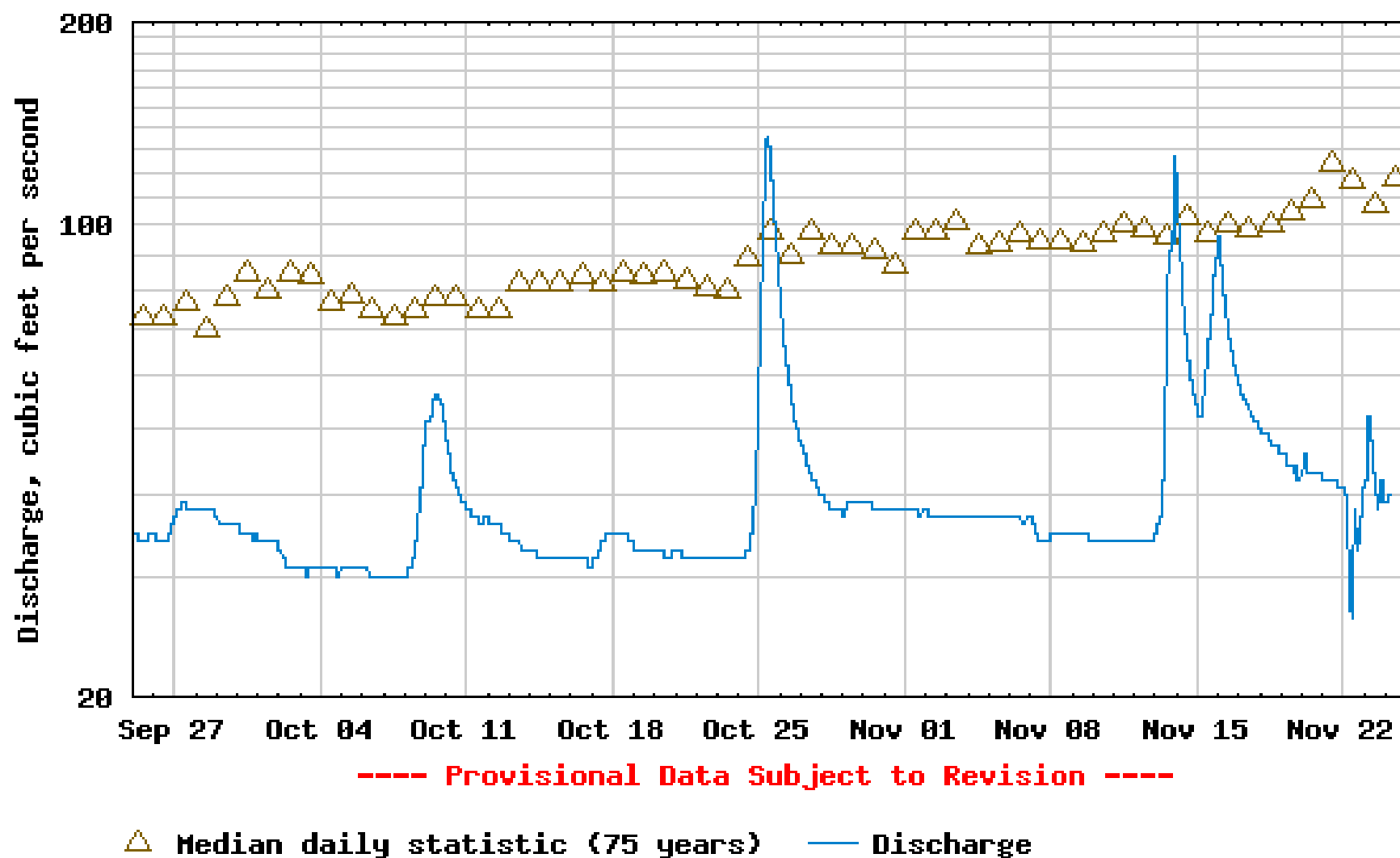
Monday, November 24, 2008 06:30ET



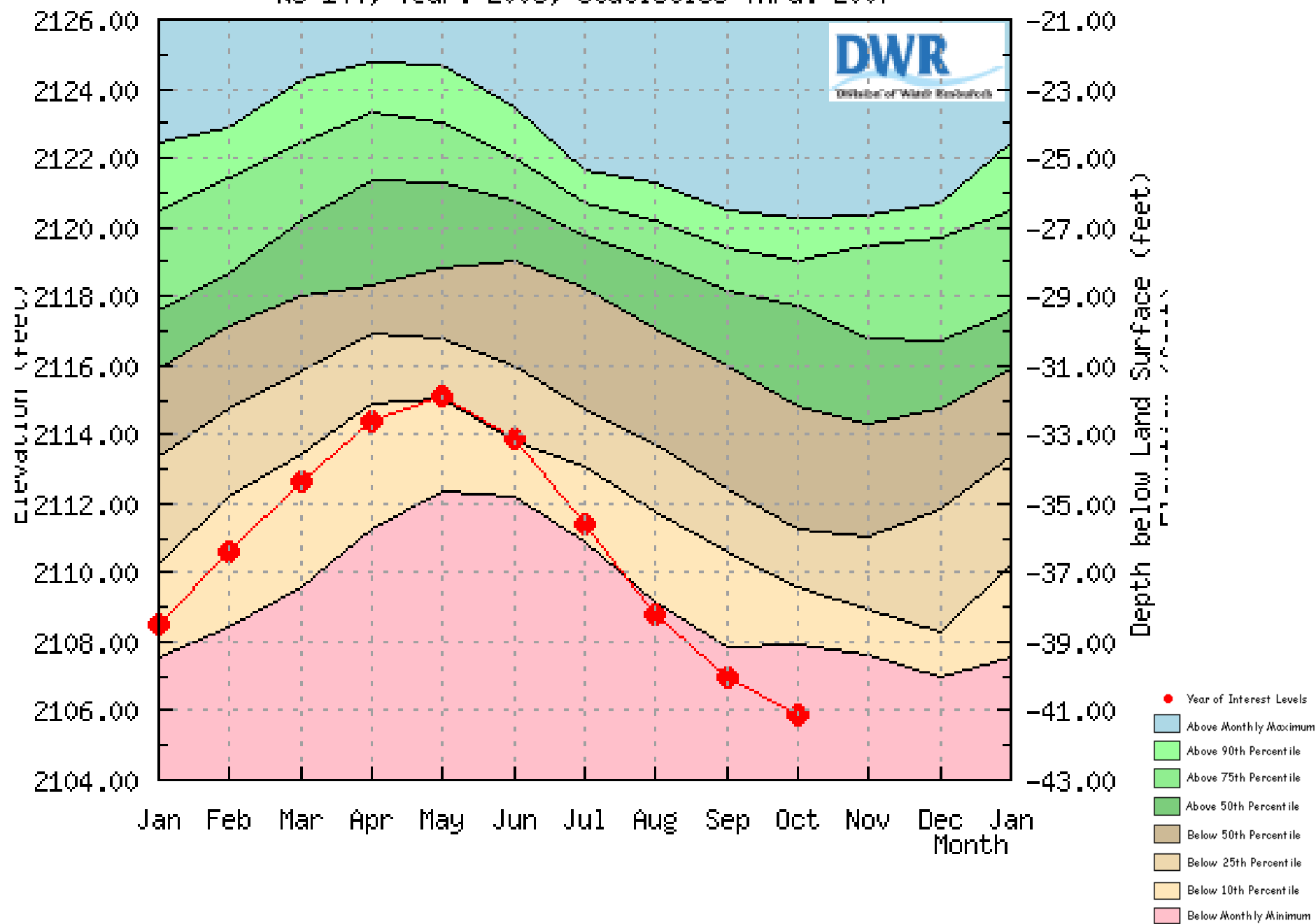
Explanation - Percentile classes							
Low	≤10	10-24	25-75	76-90	≥90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		



USGS 03446000 MILLS RIVER NEAR MILLS RIVER, NC

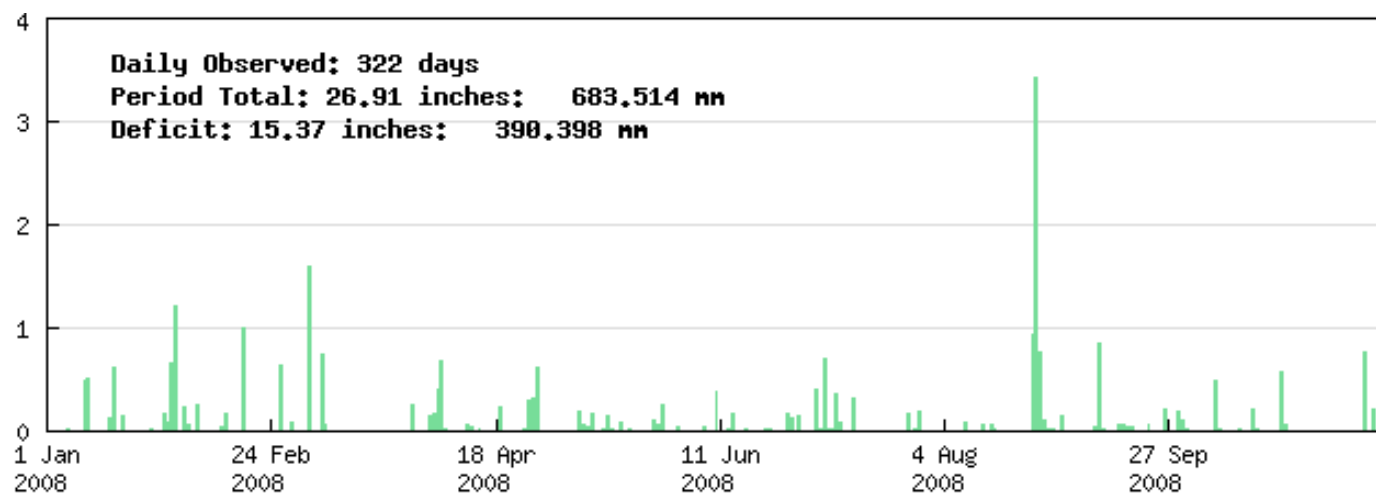
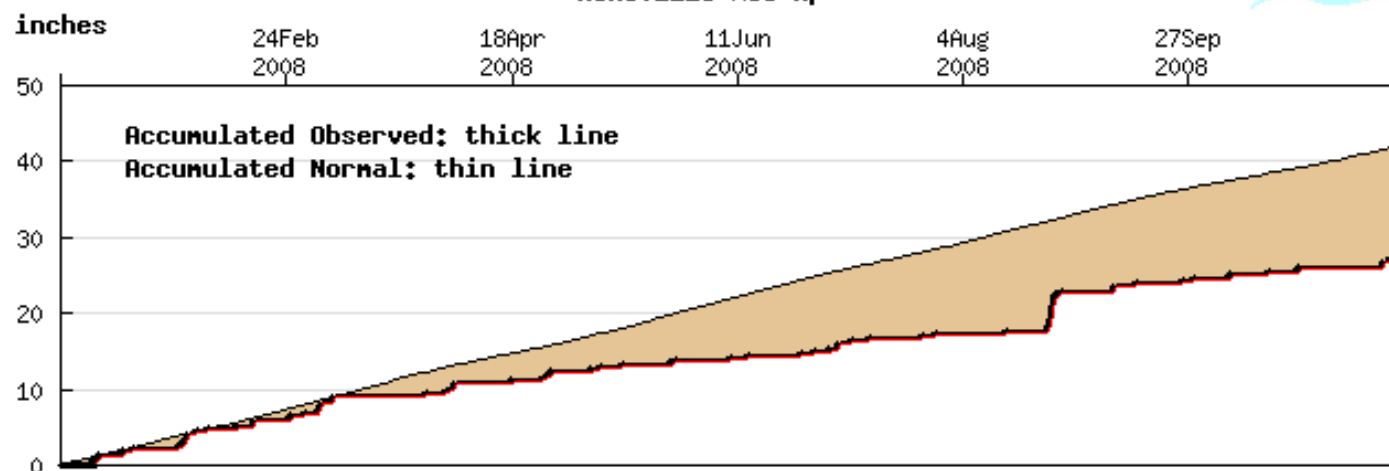


NC-144, Year: 2008, Statistics Thru: 2007



Precipitation Asheville Wso Ap

NCDWR



Data updated through 18 Nov, 2008

NC DENR DWR

Implementation of 2008 Drought Bill (SL 2008 - 143)

- Water Conservation & Water Shortage Response Plans (WSRPs)
- Registration of Water Withdrawals
- Agriculture Survey
- Water System Efficiency
- Drought Management Advisory Council

Water Conservation & Water Shortage Response Plans (WSRPs)

- Notification sent to systems w/o WSRP in area of Extreme & Exceptional Drought in August.
 - 55 systems notified.
 - 48 WSRPs received to date.
- Approval Criteria developed for all WSRPs.
 - Website to guide system in WSRP development.
 - All systems given opportunity to modify WSRP by July 09.
- Weekly 10% audit of systems in Ext or Exc Drought.
 - To ensure compliance with WSRP or default measures.
- Actions coordinated with NCLM & NCACC.

Water Withdrawal Registration

- Updated Withdrawal & Transfer Forms
- DWR sent letters to 246 golf course owners.
 - Requesting withdrawal information.
 - Follow-up to Oct 2007 request.
- Response received from 130 to date.

Agriculture Survey

- Met with Dept of Agriculture on Oct 15, 2008.
 - Finalized details of Ag Water Use Survey.
 - Info on ag withdrawal > 10,000 gallons per day.
- Survey ready for publication on Nov 15, 2008.
- First annual report on July 1, 2009.
- Info vital to DWR water use database.

Water System Efficiency

- Section 9 of Session Law.
- Requires systems to meet efficiency criteria for eligibility for certain State grants & loans.
- Effective July 1, 2009.
- DENR developing criteria guidelines.
- Meters for new in-ground irrigation req. July 1, 2009.

Drought Management Advisory Council (DMAC)

- County designation based on highest drought level in at least 25% of county.
- Procedure implemented in August.

Implementation Summary

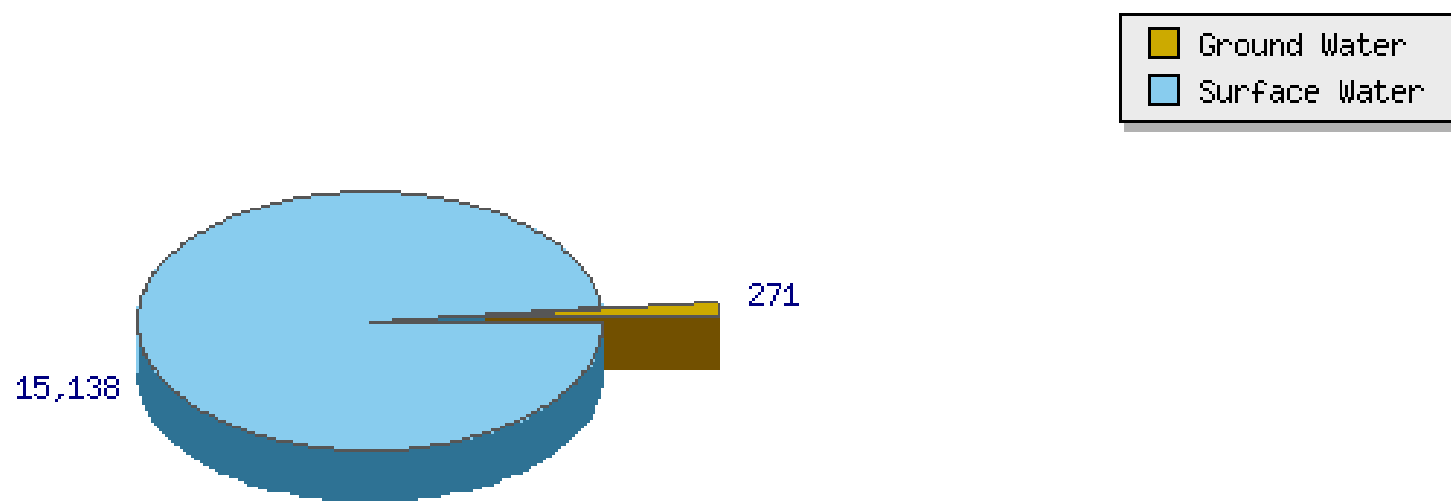
- Many major points already enacted.
- More major implementation in 2009.
- Significant upgrade to NC's drought response & management.

Daily Water Withdrawals in NC

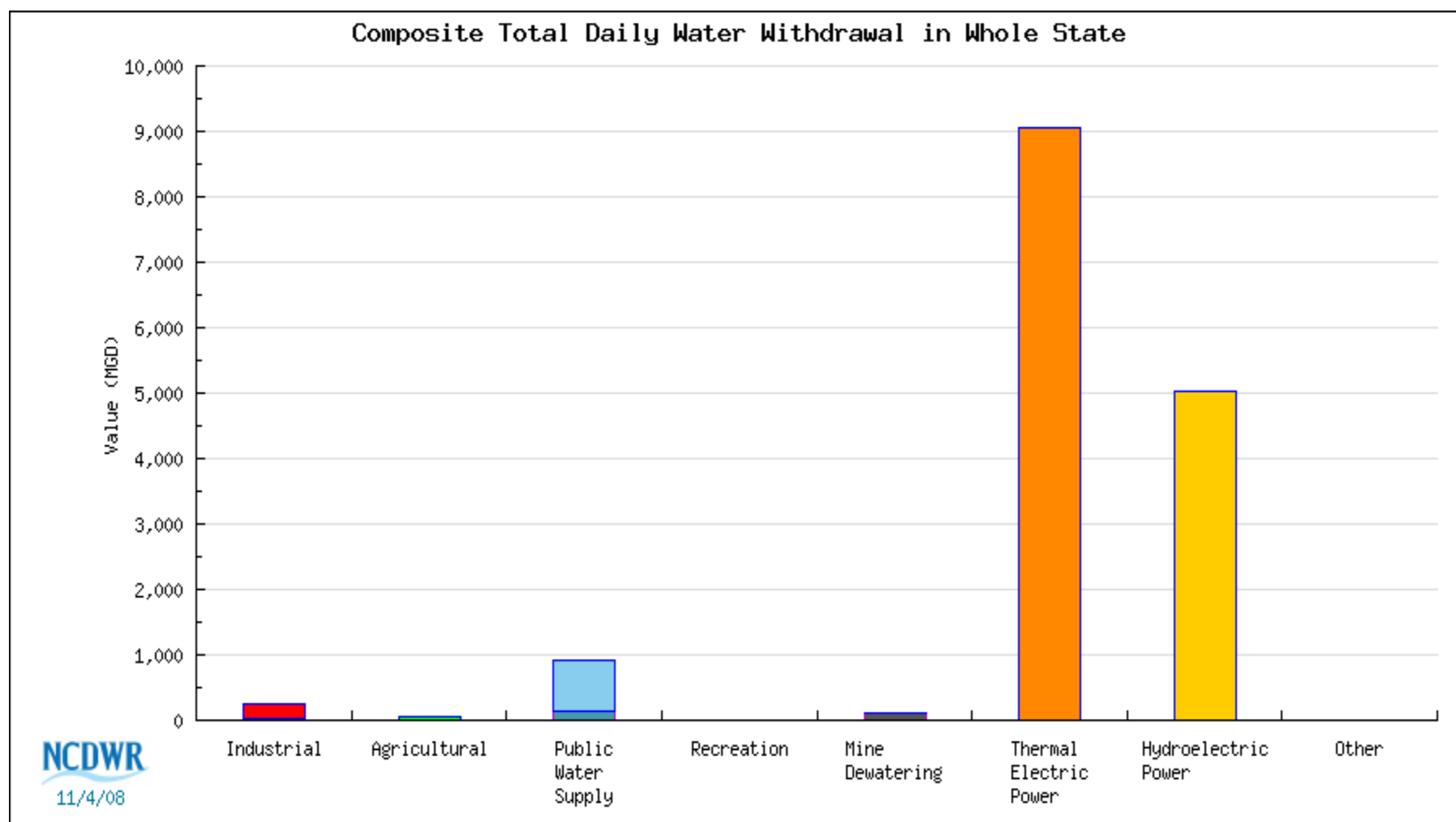
- Based on current DWR database.
 - Surface & ground water withdrawals
 - Non-ag withdrawals > 100,000 gallons per day
 - Ag withdrawals > 1,000,000 gallons per day
- Consumptive & Non-Consumptive Use
 - Non-consumptive: water withdrawn & returned.
 - Consumptive: water consumed & not returned.

Statewide Composite Daily Total Water Withdrawals, By Water Source

Unit: MGD

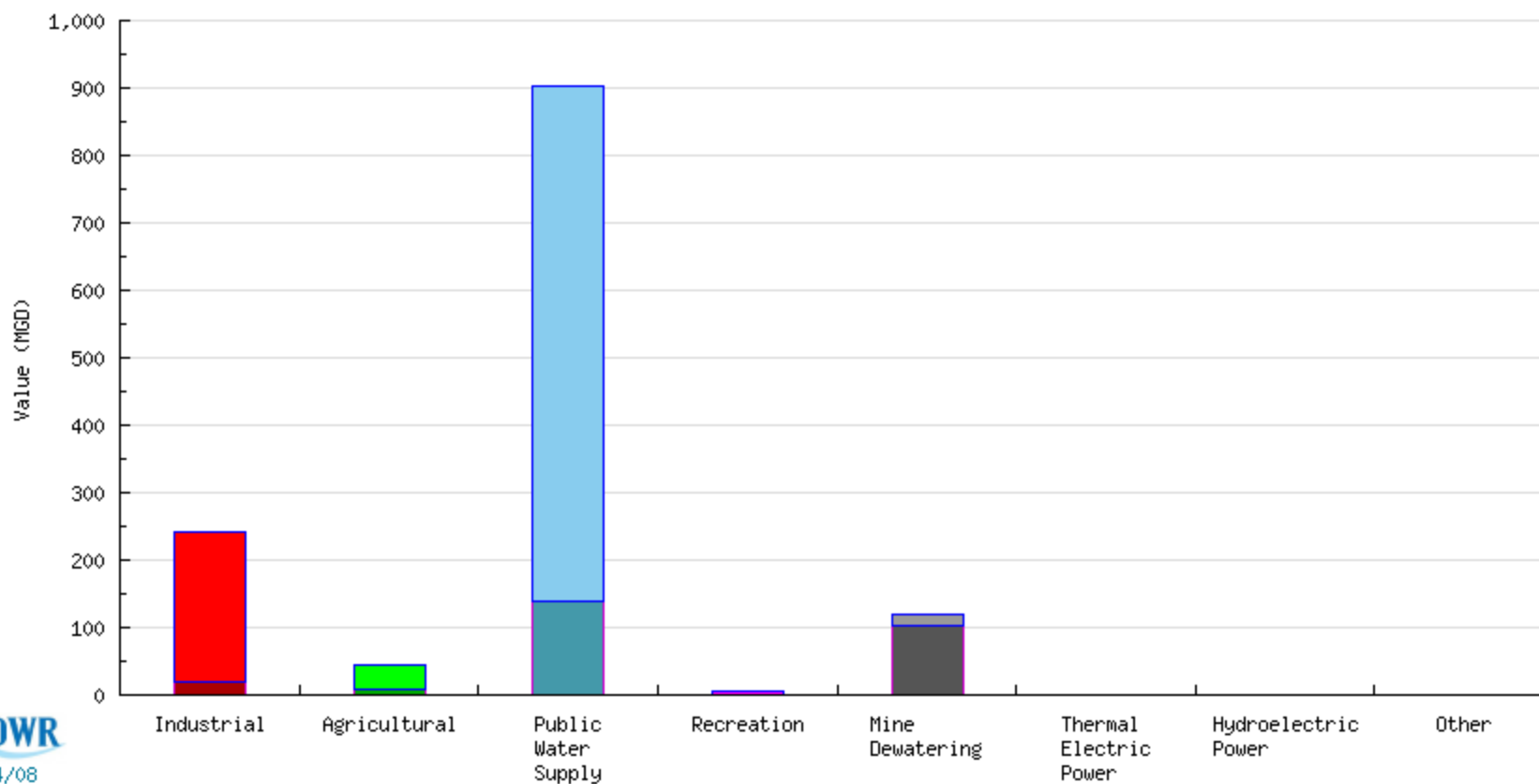


Water Sources	Reported Water Withdrawals (By Use Types)								
	Total	Industrial	Agricultural	Public Water Supply	Recreation	Mine Dewatering	Thermal Electric Power	Hydroelectric Power	Other
Ground	271,395,842	19,650,728	9,400,848	137,865,666	1,142,105	102,592,810	430,437	1,905	311,343
Surface	15,137,615,894	222,228,865	34,447,827	765,854,724	4,904,364	17,088,322	9,055,640,875	5,036,749,971	700,945
Total	15,409,011,735	241,879,593	43,848,675	903,720,390	6,046,469	119,681,132	9,056,071,312	5,036,751,876	1,012,289

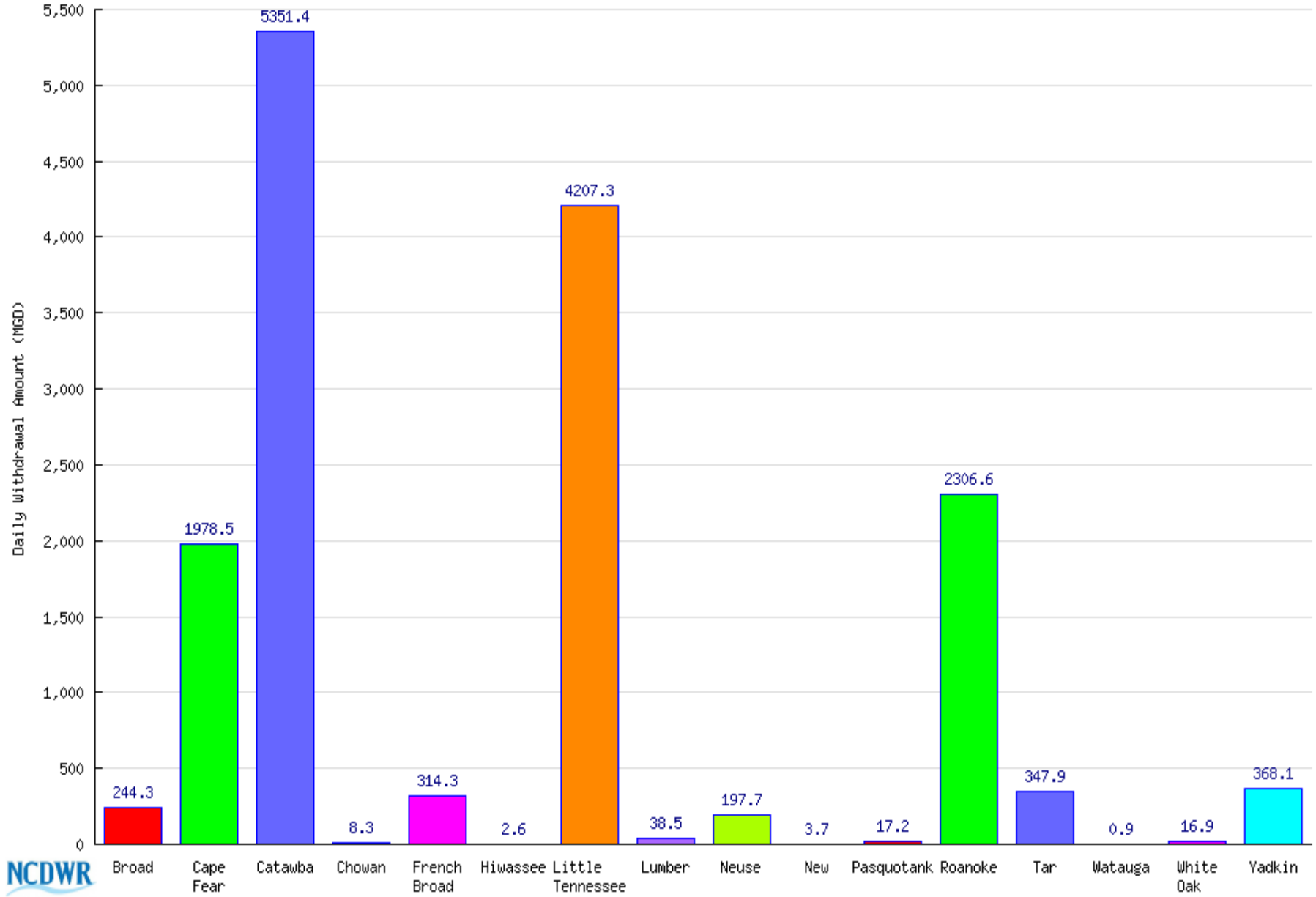


Water Sources	Reported Water Withdrawals (By Use Types)						
	Total	Industrial	Agricultural	Public Water Supply	Recreation	Mine Dewatering	Other
Ground	270,963,500	19,650,728	9,400,848	137,865,666	1,142,105	102,592,810	311,343
Surface	1,045,225,047	222,228,865	34,447,827	765,854,724	4,904,364	17,088,322	700,945
Total	1,316,188,548	241,879,593	43,848,675	903,720,390	6,046,469	119,681,132	1,012,289

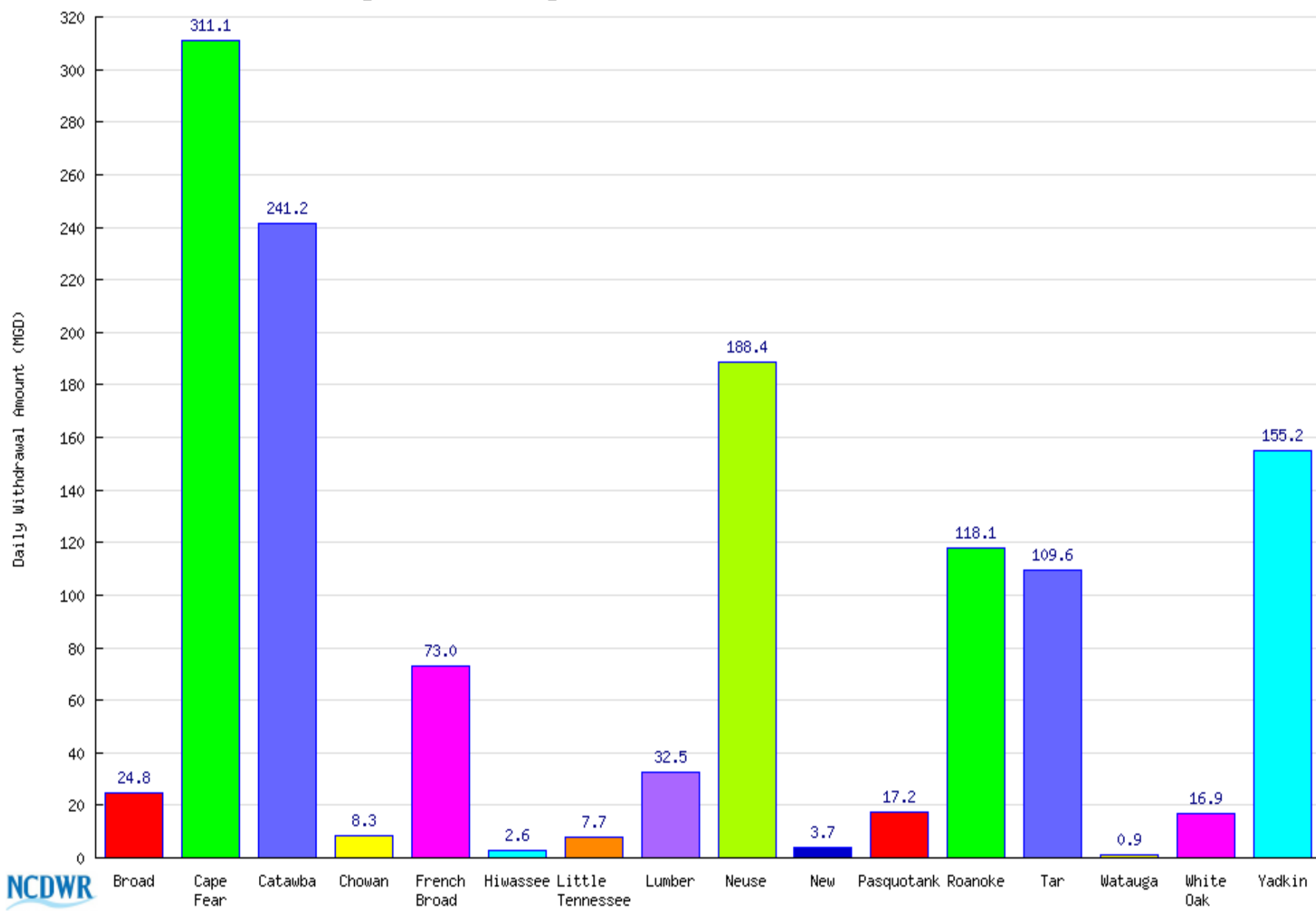
Composite Total Daily Water Withdrawal in Whole State



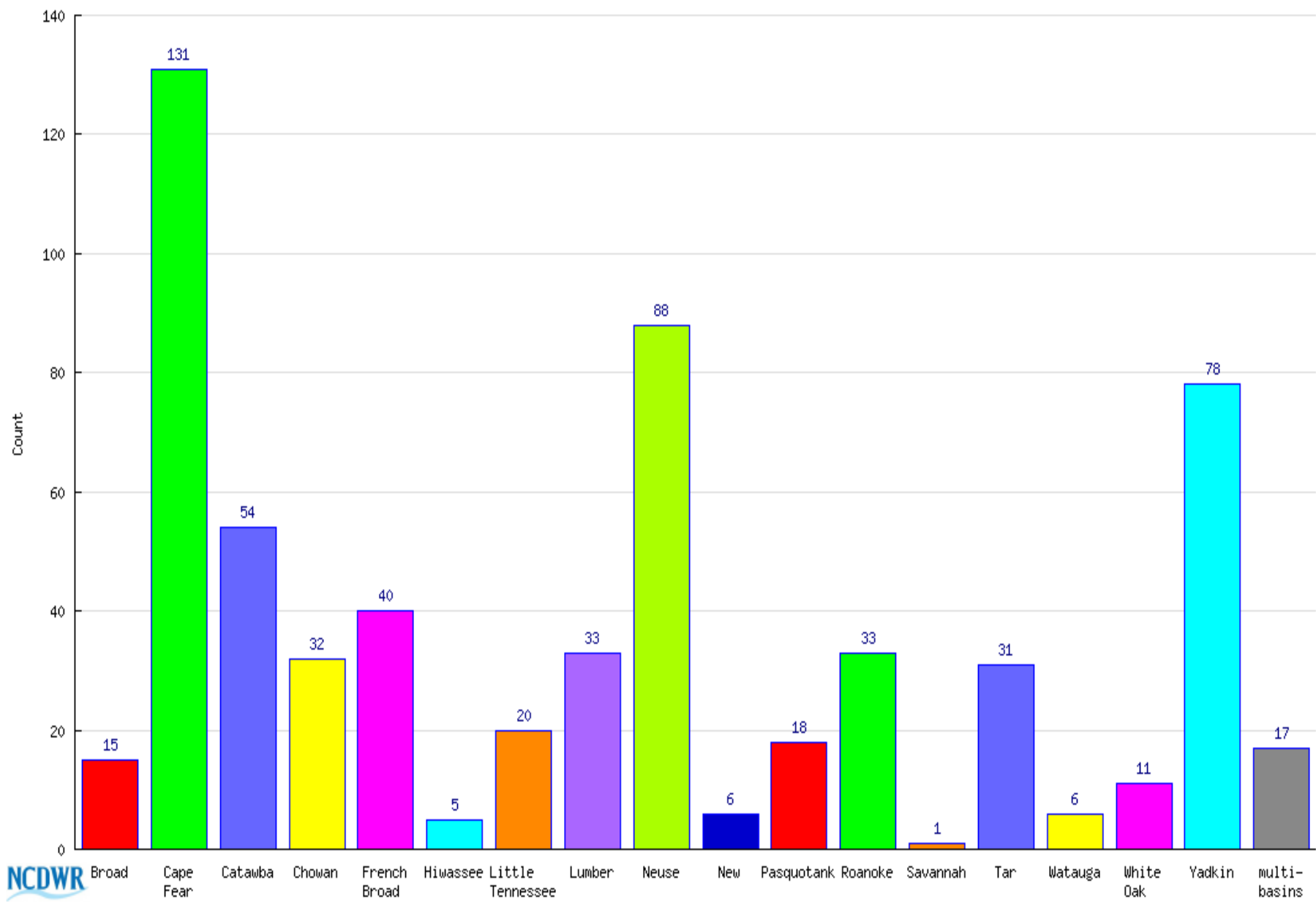
Daily Withdrawals By Basin

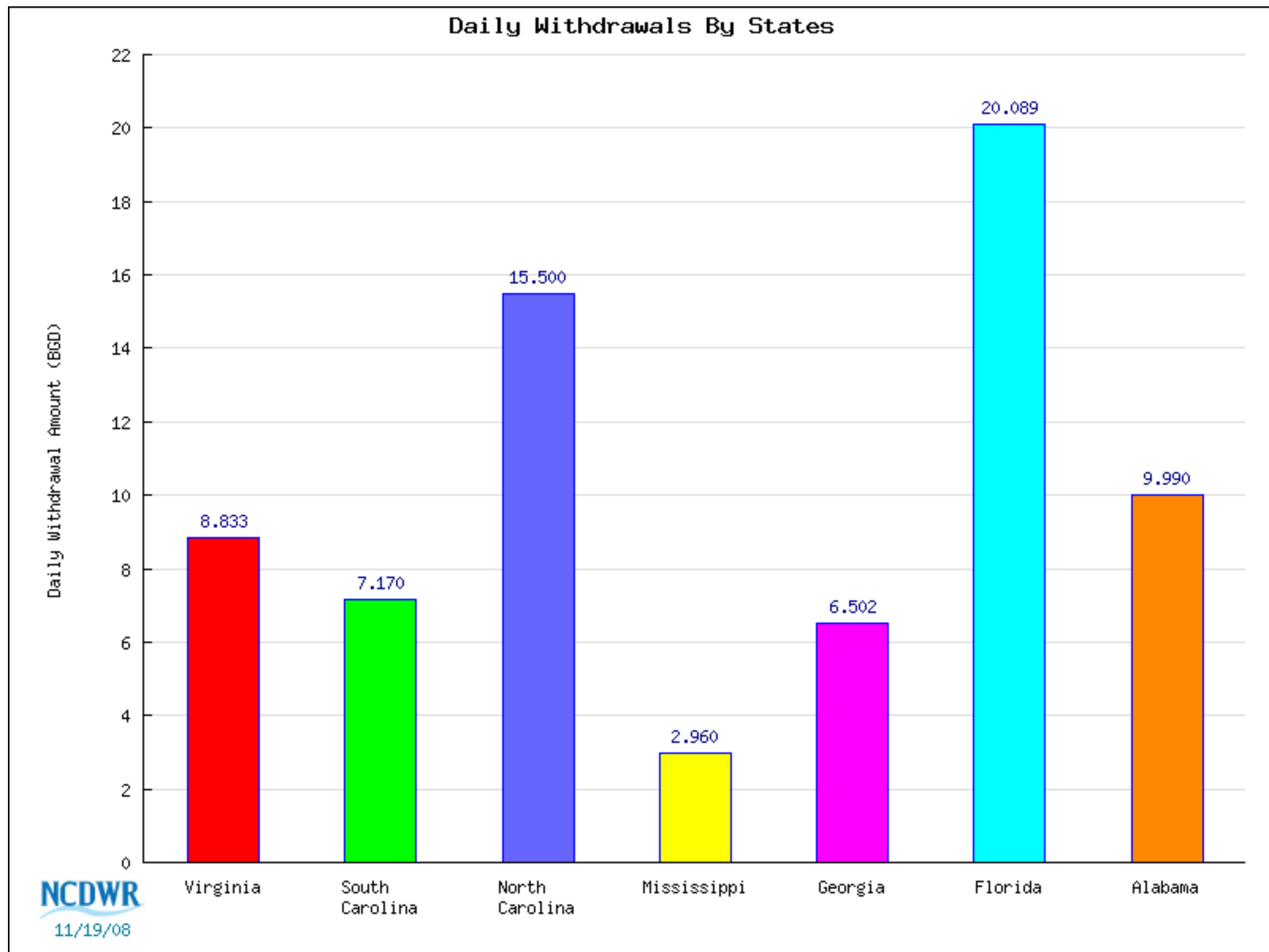


Daily Withdrawals By Basin (Electric Generation Excluded)



Number of Registered Withdrawals by Basin





*Data for States other than NC extracted from 2000 USGS Data.

Water Supply River Basin Planning

- Hydrologic models of projected water use by Basin.
 - Projected out to 50 years into future.
 - Projected use data provided by water systems.
 - Model incorporates periods of drought.
 - Highlights areas of potential future water shortages.
- Draft Cape Fear Plan available Jan 2009.
 - Template for other plans.
- Neuse and Roanoke models completed in 2009.
 - Draft plans completed in 2010.
- Tar-Pamlico & Broad River Basins next.

Bi-State Commission Activities

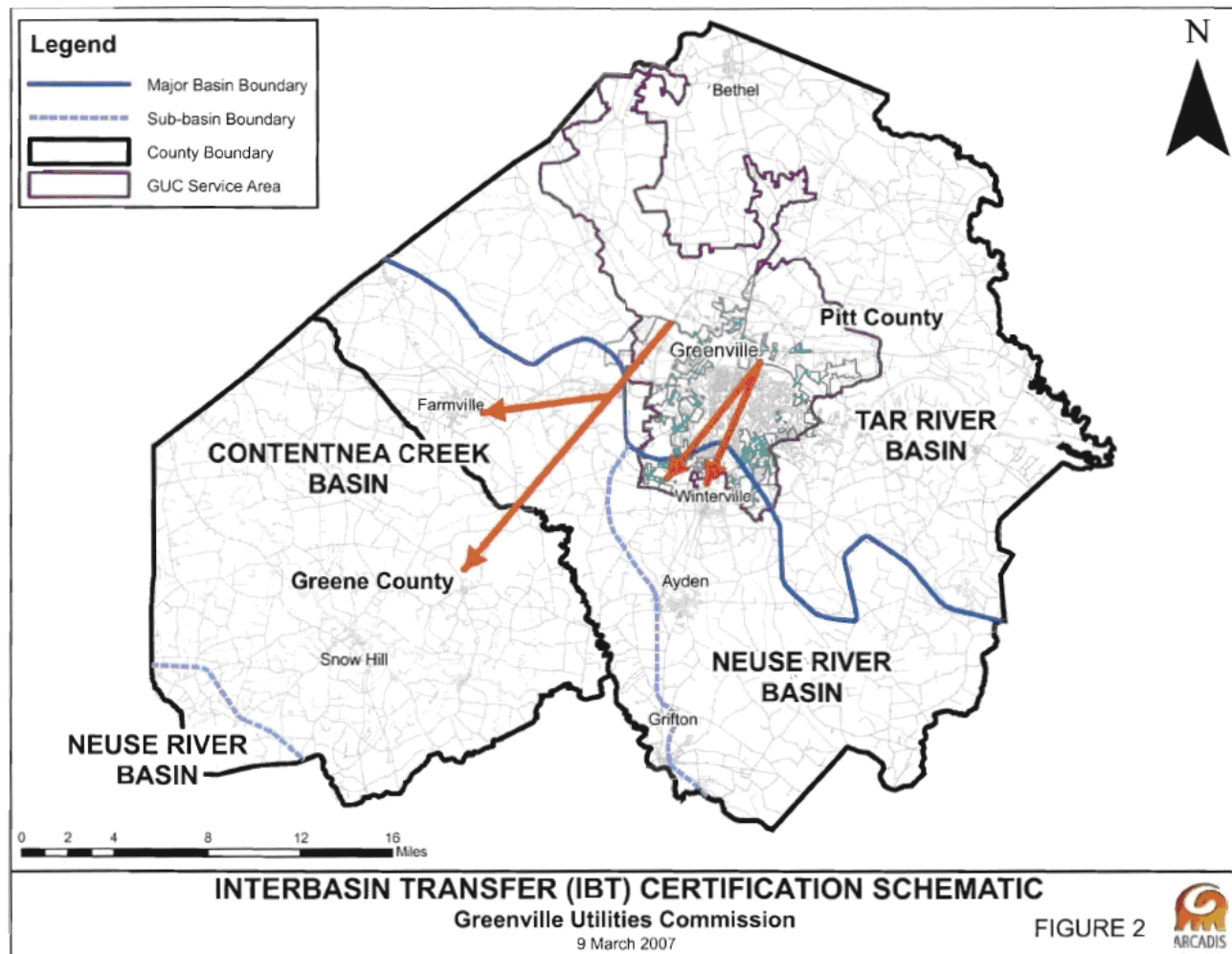
- Catawba-Wateree Commission
 - 3 Bi-State Meetings in 2008
 - Discussion concerning SC/NC Supreme Court case.
- Roanoke Commission
 - 2 meetings of NC Advisory Committee in 2008.
 - 1st Bi-State Meeting scheduled for Dec 2008.
- Yadkin-Pee Dee Commission
 - Neither NC or SC reps appointed.
 - SC may appoint commission members in 2009.

Active Interbasin Transfers (IBTs)

- Greenville Utilities Commission
 - Transfer from Tar to Neuse
 - Needed to comply with capacity use area reqs.
 - Grandfathered under old statute.

Active Interbasin Transfers (IBTs)

- Greenville Utilities Commission

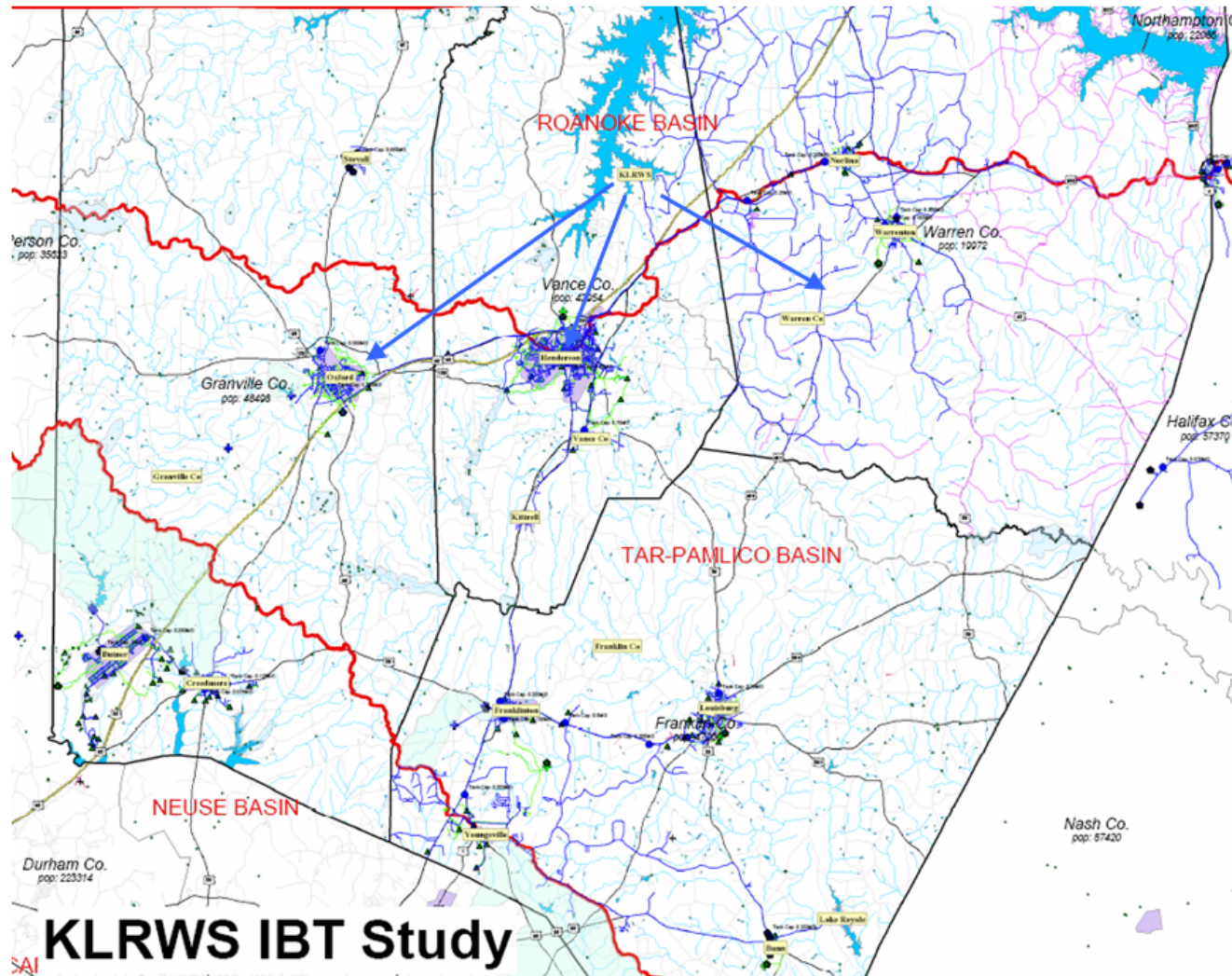


Upcoming Interbasin Transfers (IBTs) Early 2009

- Kerr Lake Regional Water System
 - Transfer from Roanoke to Neuse & Tar.
 - Increase in existing transfer from 10 to 24 mgd.
 - Complex transfer among 18 different systems.
 - Interstate issues.
 - Covered under new statutory requirements.

Upcoming Interbasin Transfers (IBTs) Early 2009

- Kerr Lake Regional Water System

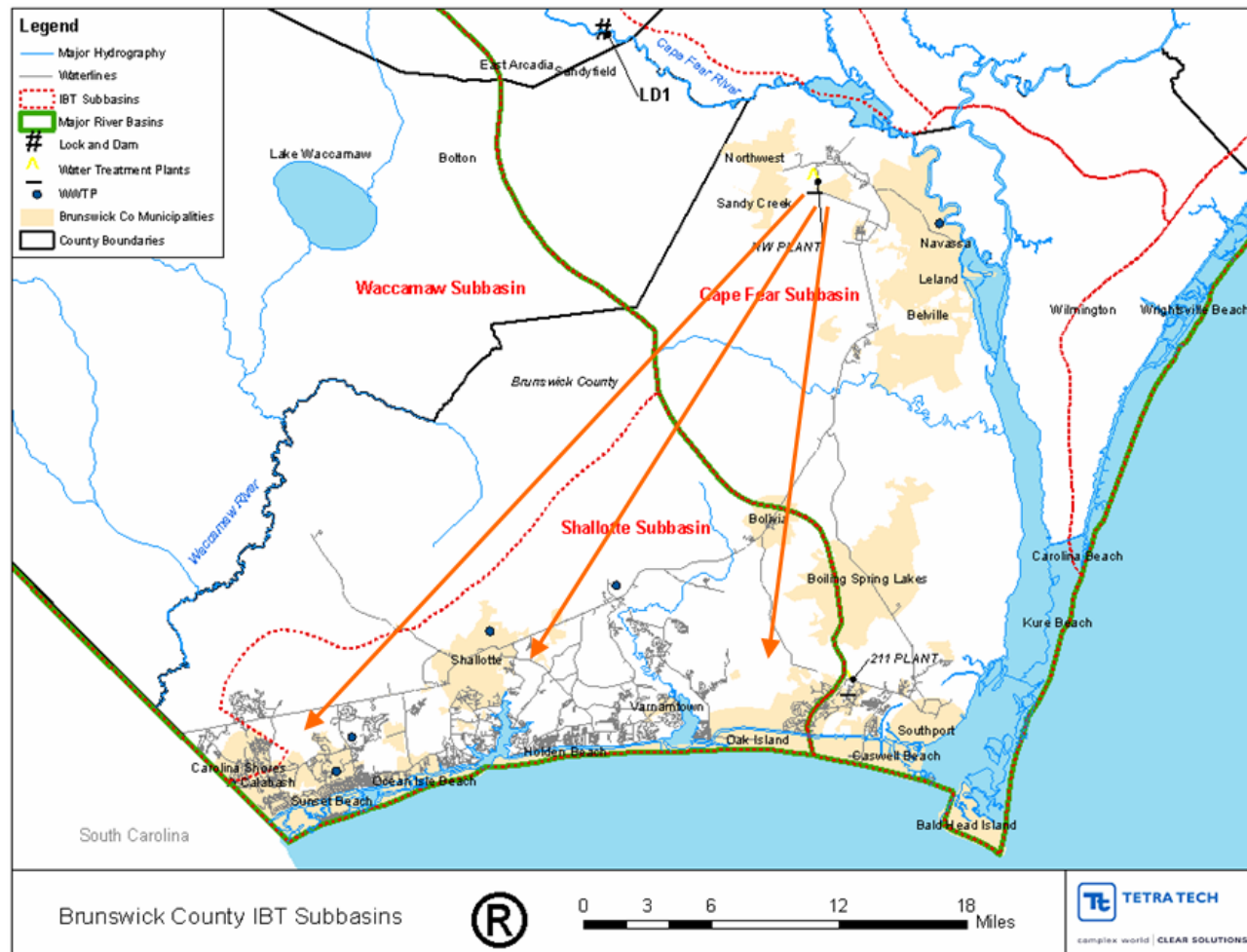


Upcoming Interbasin Transfers (IBTs) Early 2009

- Brunswick County
 - Transfer from Cape Fear to Waccamaw & Shallotte
 - Covered under new statutory requirements.
 - Interstate issues.

Upcoming Interbasin Transfers (IBTs) Early 2009

- Brunswick County



Questions?

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