



FERC Workshop Regional Droughts & Managing Hydropower Projects

NC – Meeting the Demands of Multiple Users

**Division of Water Resources, NC DENR
November 13, 2002**

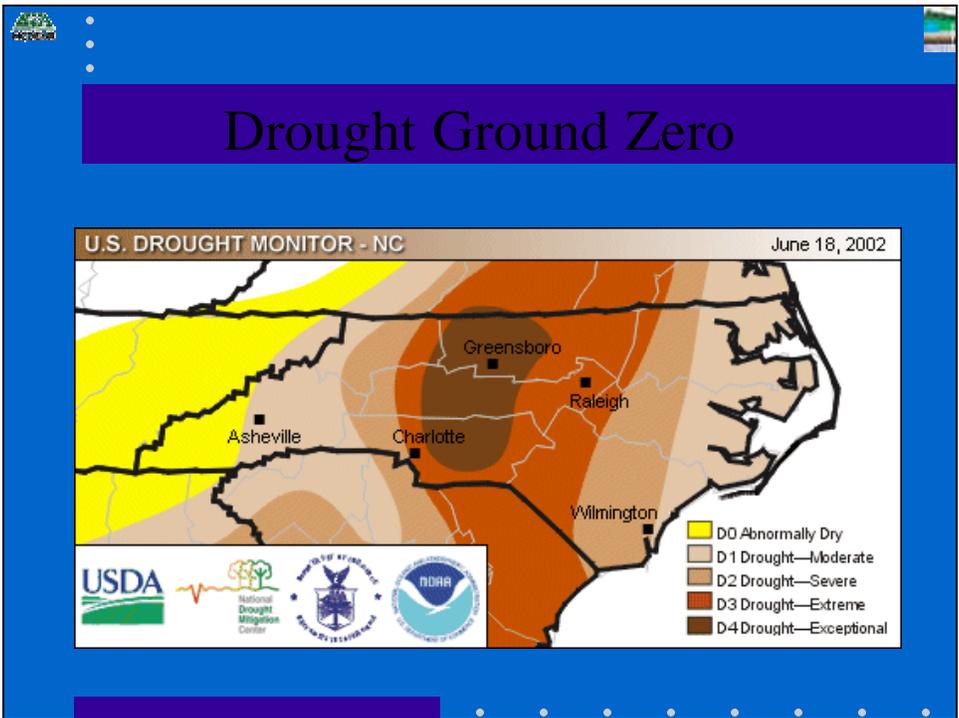
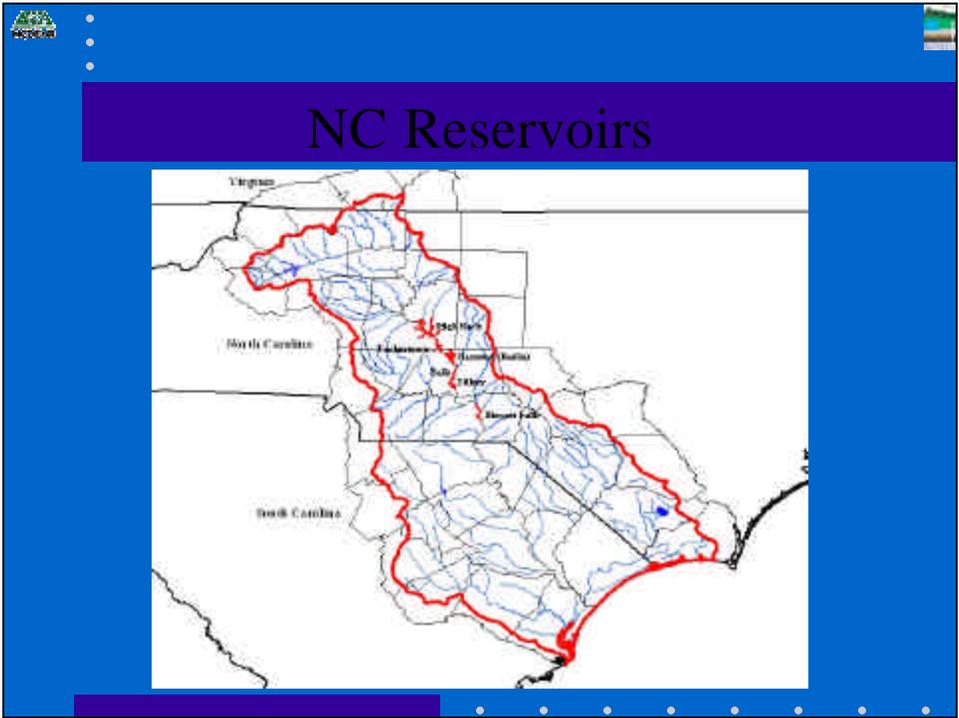


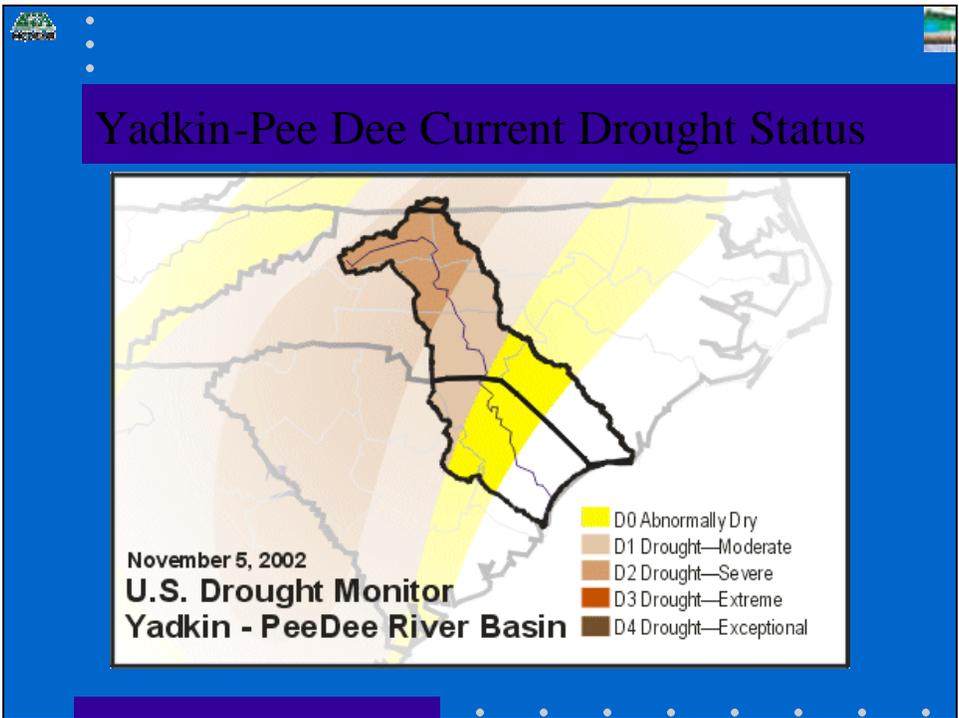
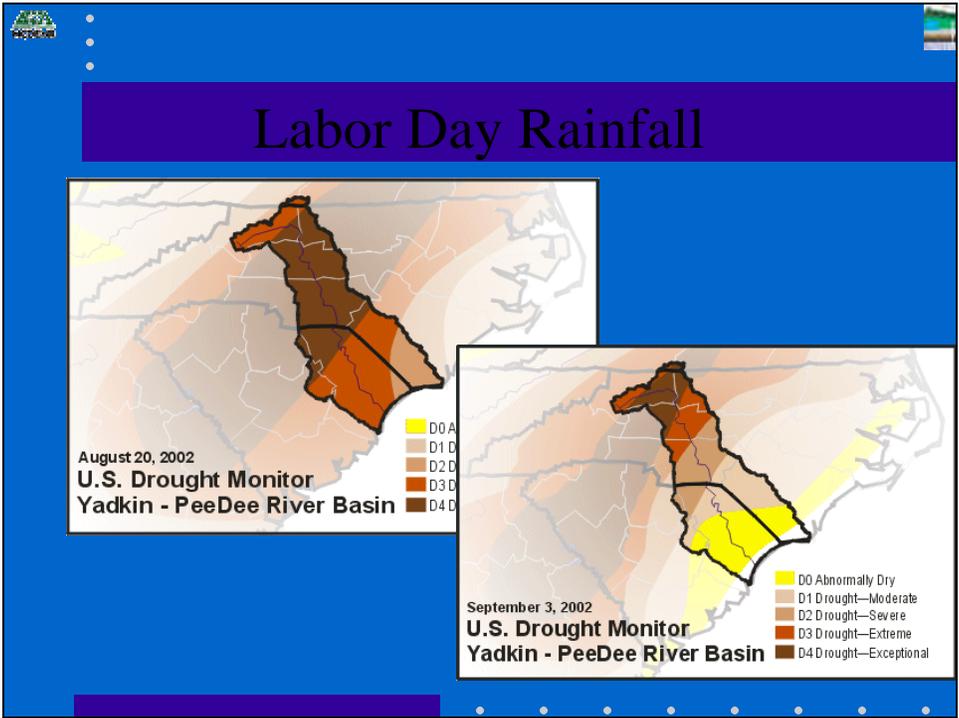
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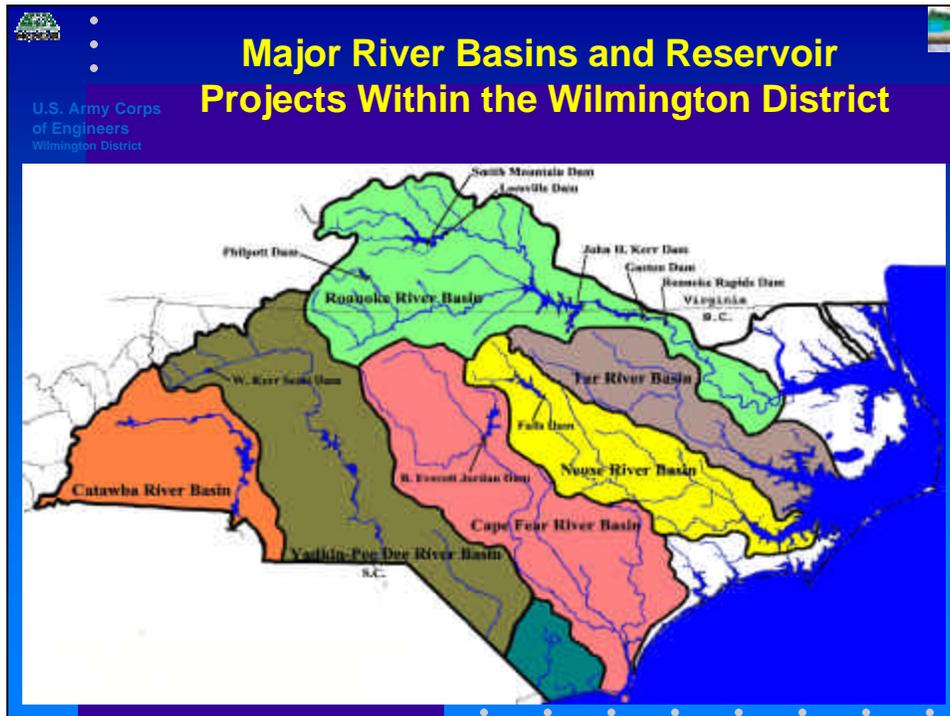
Plan for the worst and hope for the best!



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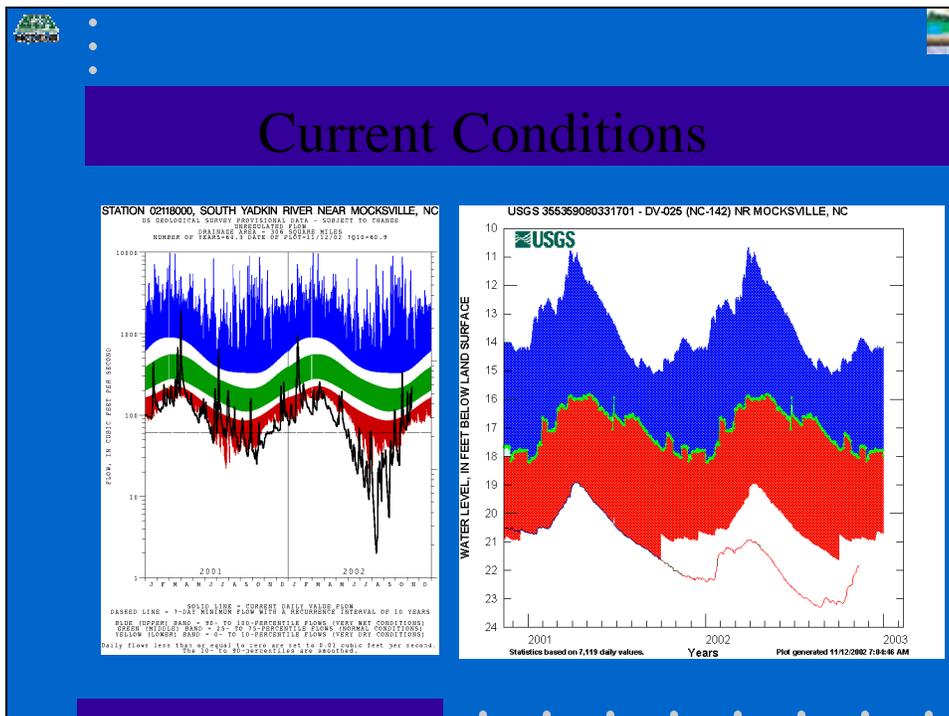
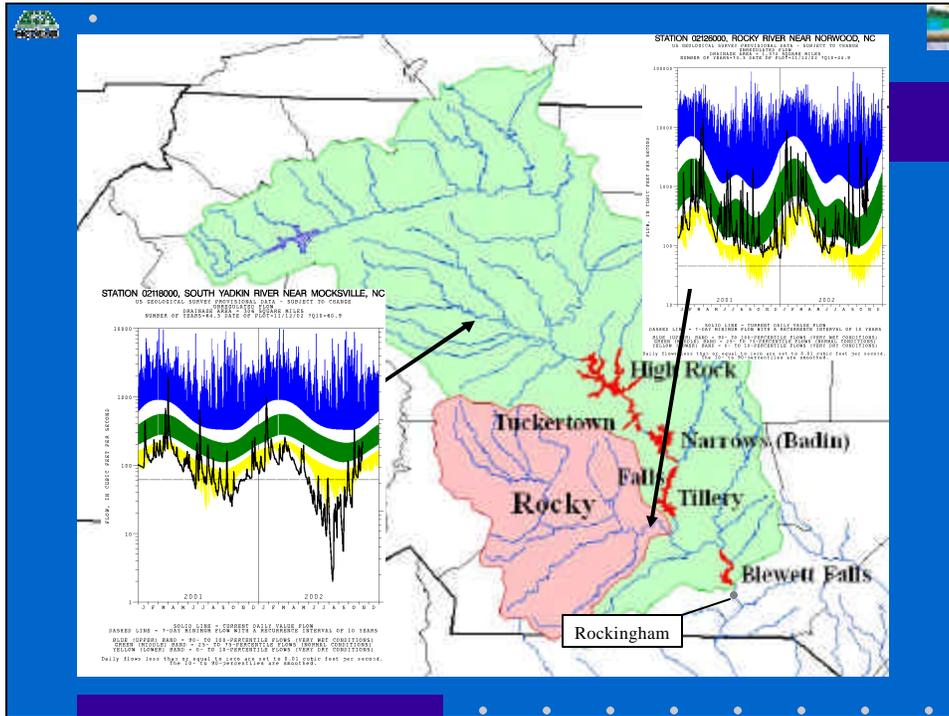
- ### Lessons Learned From Other Basins
- Monitor continuously and base management decisions on the data and other observations.
 - If possible make adjustments slowly.
 - Need to be flexible.
 - Communications.

Timeline

- 7/3/02 – Rockingham flow target reduced from 1,400 cfs to 1,200 cfs
- 7/12/02 – Governor Easley called for a 20% reduction in water use.
- 7/19/02 – Outflows from High Rock stopped to reduce danger of fish kills
- 7/25/02 – Rockingham target reduced from 1,200 cfs to 900 cfs.
- 8/29/02 – NC, SC, Alcoa, and CP&L agree to upon a Post-September 15th Drought Management Protocol.

Reservoir	Public Water System
High Rock	
Tuckertown	Albemarle, Denton
Narrows (Badin)	Albemarle
Falls	
Tillery	Montgomery County, Norwood
Blewett Falls	Anson County, Richmond County

Reservoir	River Miles Above Mouth	Drainage Area (Sq. Mi.)	Storage (ac-ft)	Tier 1 Drawdown (ft)	Tier 2 Drawdown (ft)
W. Kerr Scott	404	350	33,000		
High Rock	253	4,000	234,848	17	24
Tuckertown	244	4,120	6,745	3	3
Narrows (Badin)	236	4,180	128,939	22	25
Falls	234	4,190		5	5
Tillery	224	4,600	136,066	4	10
Blewett Falls	195	6,830	42,470	2	6





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High Rock



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Issues

- Monitor continuously and base management decisions on the data and other observations.
 - There was not the same level of data collection and sharing among all the parties.
- Communications.
 - More open communications earlier.
 - Need to allow all stakeholders to participate in the operational discussions.

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Division of Water Resources & Drought Monitoring Council Website

<http://drought.ncwater.org/Yadkin-PeeDee/>

Using Internet To Track Conditions

Station	Date	Time	Current Discharge cfs	Percent of Median %	Most Recent Daily Average				
					Date	cfs	7 Day Avg cfs	14 Day Avg cfs	30 Day Avg cfs
02116500 Yadkin River at Yadkin College	11/08	8:30	1,930	107.2%	11/06/2002	2,280	1,851	1,709	1,724
02118000 South Yadkin River near Mocksville	11/08	9:15	151	83.4%	11/06/2002	169	113	103	100
02121500 Abbots Creek at Lexington	11/08	9:15	177	357.6%	11/06/2002	6.5	4.6	4.6	5.0
Estimated High Rock Inflow (02116500,02118000, 02121500)			3,272			3,559	2,854	2,634	2,651
02123567 Dutchman's Creek near Uwharrie	11/08	8:30	2.2	183.3%	11/06/2002	6.60	2.19	1.88	3.79
Estimated Tuckertown Local (02123567)			1.0			3.03	1.00	0.86	1.74
Estimated Narrows(Badin) Local (02123567)			1.3			3.79	1.26	1.08	2.18
Estimated Falls Local (02123567)			0.1			0.38	0.13	0.11	0.22
Estimated Tillery Local (02123567)			5.2			15.55	5.15	4.42	8.93
Estimated Combined Local			7.6			22.76	7.54	6.47	13.07
02126000 Rocky River near Norwood	11/08	9:00	1120	655.0%	11/06/2002	3,020	871	743	1,417
02128000 Little River near Star	11/08	7:00	74	336.4%	11/06/2002	2.03	1.51	1.48	1.87
Estimated Blewett Falls Local (02126000,02128000)			1,802			4,560	1,317	1,123	2,141
Estimated Combined Local			1,809			4,582	1,324	1,129	2,154
			Above Tier 1 Target ft	Reservoir Elevation ft	Feet Below Full ft	Tier 1 Target ft	Week of Above Target	11/01/2002 Target ft	
02111391 W Kerr Scott Reservoir	11/08	7:00		1030.76	-0.76				
High Rock	11/8/2002	0900	1,920	649.92	5.08	17.00	0.42	5.5	
Tuckertown	11/8/2002	0900	1,020	594.71	1.29	3.00	0.77	2	
Narrows(Badin)	11/8/2002	0900	1,020	540.46	0.64	11.00	1.36	2	
Falls	11/8/2002	0900	1,020	361.24	2.76	5.00	0.24	3	
TILLERY	THU	07 AM	1,020	277.5	1.5	4.00	0.70	1	
BLEWETT FALLS	THU	07 AM	1,020	176.8	2.2	2.00	0.80	5	

Lessons Learned

- Need better guidelines as to when the States needed to become involved.
- Monitor continuously and base management decisions on the data and other observations.
- If possible make adjustments slowly.
- Need to be flexible.
- **Communications.**

