

Division of Water Resources

North Carolina

Department of Environment and Natural Resources

The Broad River Basin Water Resources Plan

Meeting # 3
Oct. 11th, 2011



Managing Water Resources to Support North Carolina's Future

Discussion Topics

I. Plan Contents

- Review
- Surface Water Demand and Wastewater Discharge Projections for Model Nodes
 - Review request for projected data

II. Update Tentative Plan Schedule

III. Meeting Process

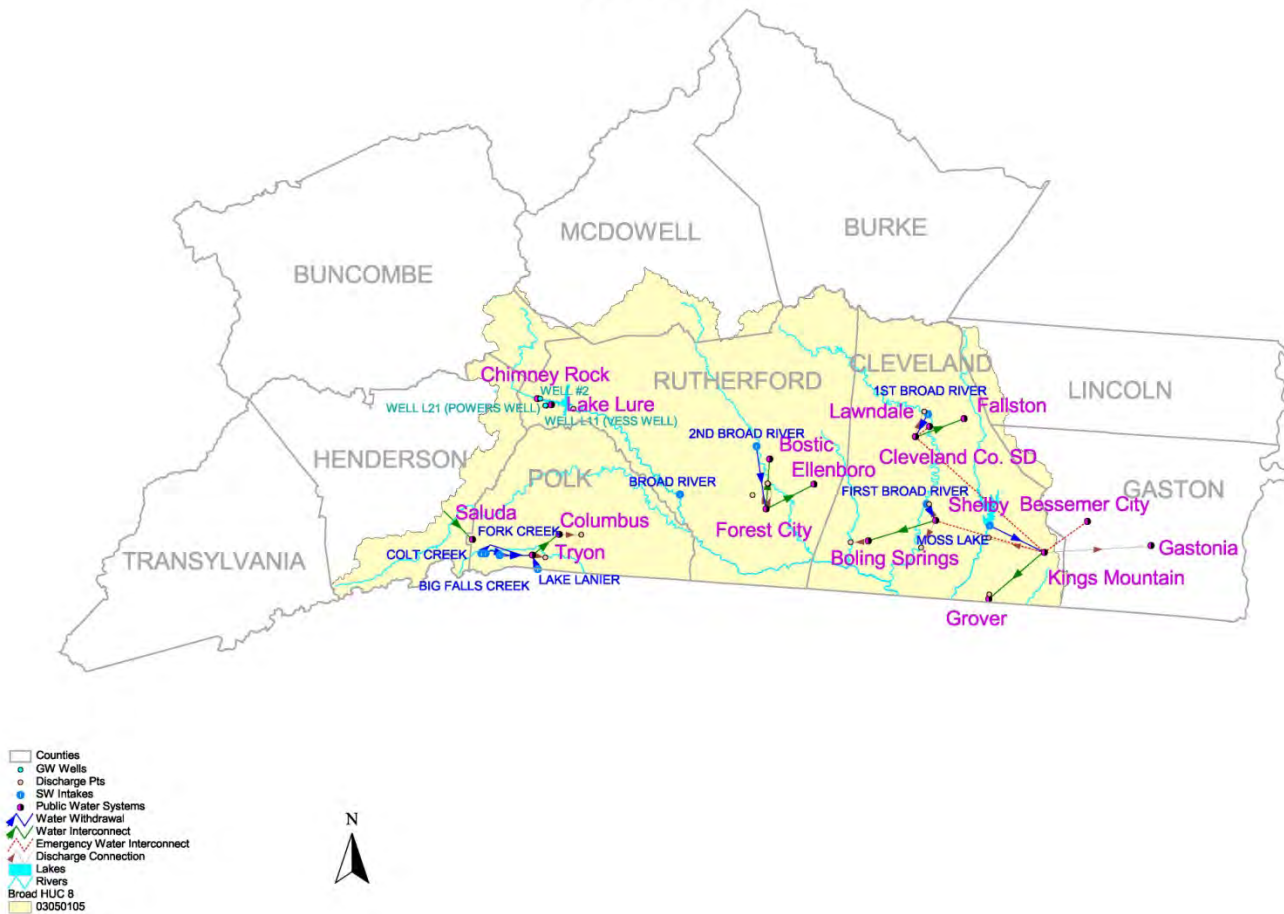
The Content of Water Resources Plan

1. Executive Summary
2. Introduction
3. River Basin Description
4. Conditions and Management Needs
5. River Basin Hydrologic Model
6. Hydrologic Unit Summaries
7. Other Water Resource Management Activities

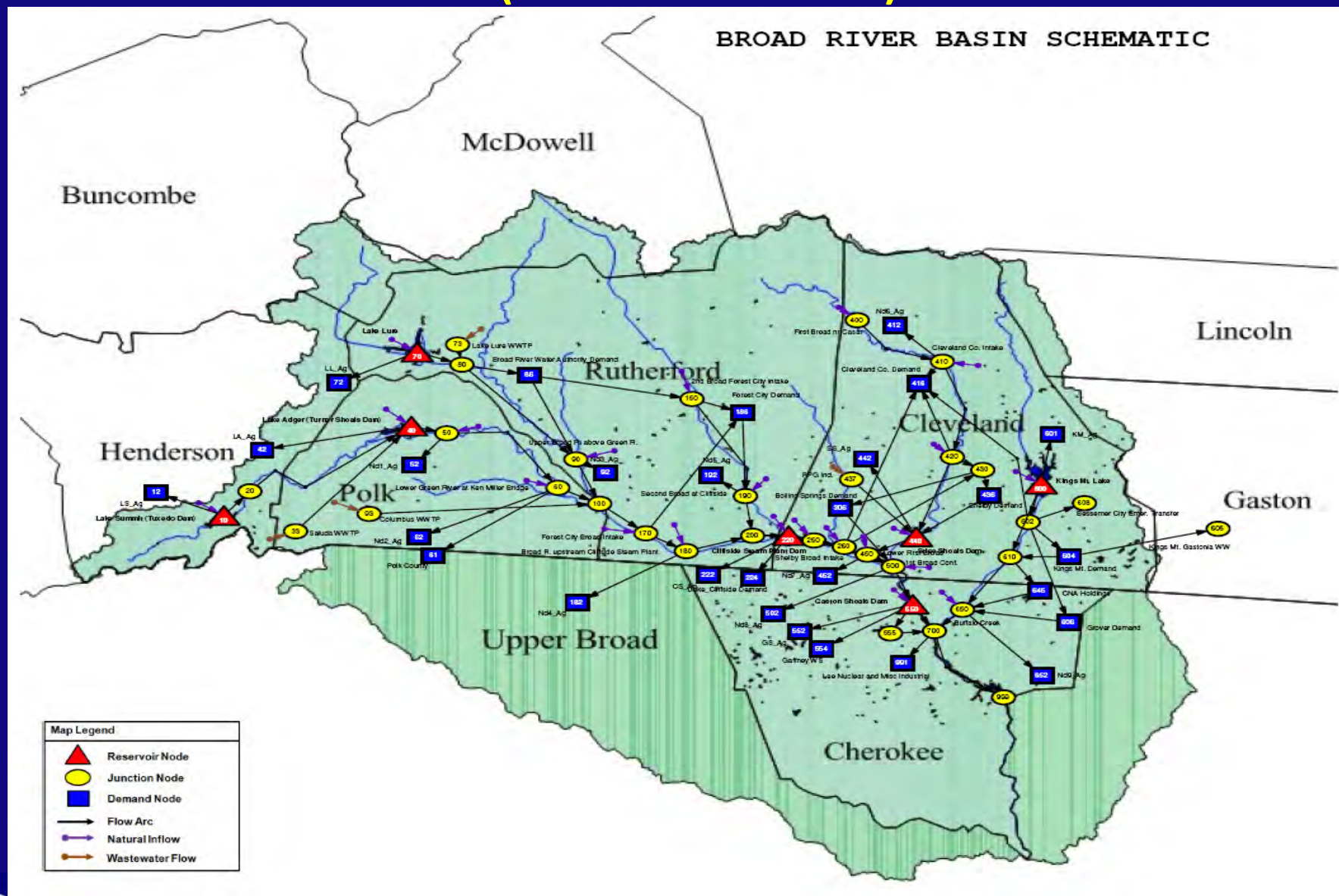
The water resources plan will follow the format of "*The Neuse River Basin Water Resources Plan*"
http://www.ncwater.org/Reports_and_Publications/Basin_Plans/neuse.php

Basin Plan Scope – 1 Hydrologic Unit

Broad River Basin Water and Discharge Interconnect Map
NCDWR

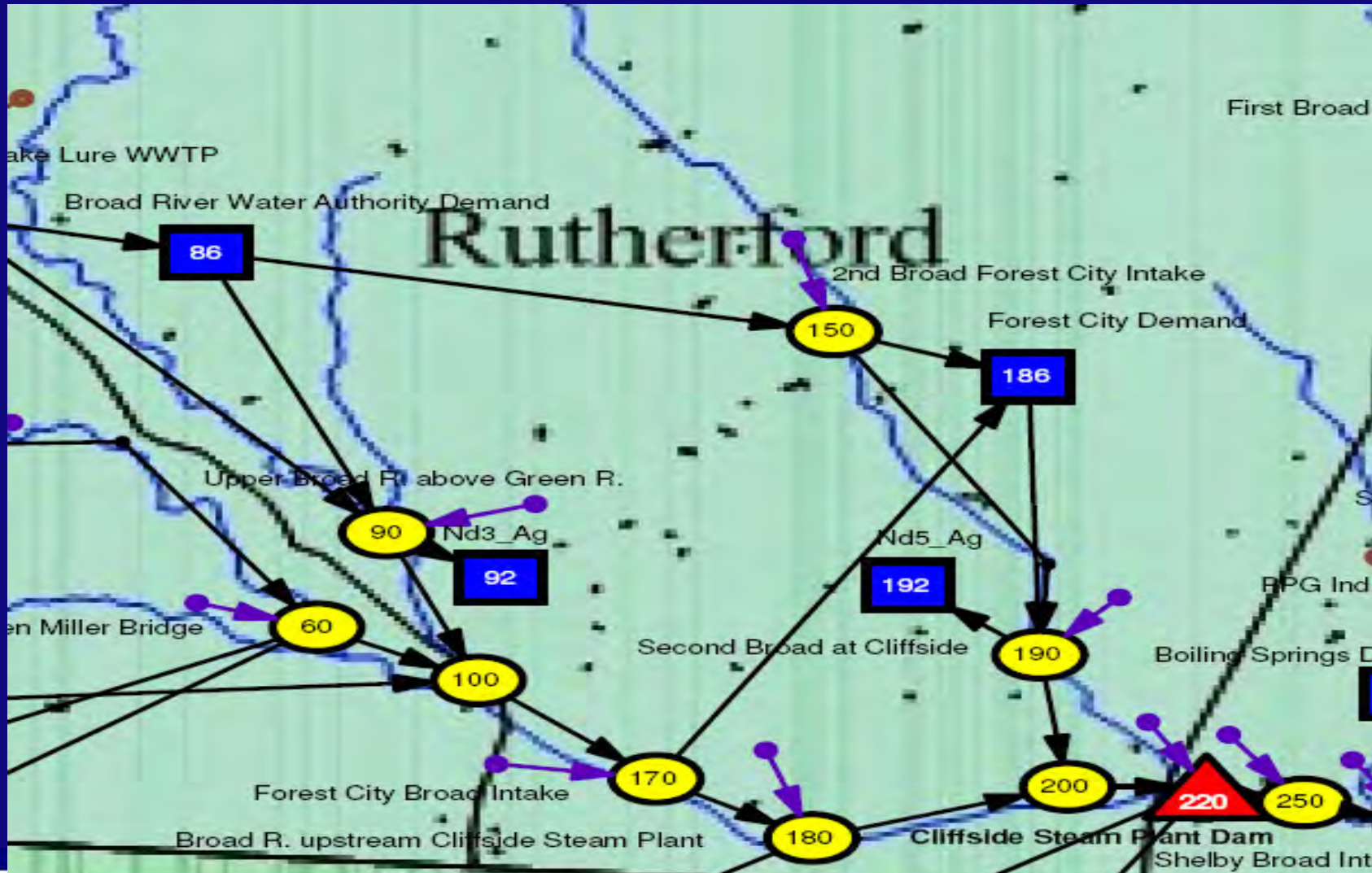


Model Scope – 1 Hydrologic Unit (Surface Water Use)



Example of Interconnected Systems

Broad River– Broad River Water Authority Demand /Forest City Demand/Town of Bostic



Surface Water Demand/WW Projections Group 1

PWS ID#	Model Node	System Name	Multiplier	2010 MGD	2020 MGD	2030 MGD	2040 MGD	2050 MGD	2060 MGD
01-75-010		Tryon		0.417	0.641	0.828	0.958	1.106	1.277
	WW>93	Tryon	0.39	0.164	0.252	0.326	0.377	0.435	0.502
01-75-020		Saluda		0.128	0.181	0.192	0.269	0.375	0.527
	WW>33	Saluda	0.35	0.045	0.064	0.068	0.095	0.132	0.185
10-75-004		Polk County		0.007	0.045	0.072	0.128	0.155	0.177
01-75-015		Columbus		0.322	0.332	0.377	0.416	0.456	0.425
	WW>73	Lake Lure	1	0.067	0.079	0.097	0.143	0.164	0.225
01-81-020		Lake Lure		0.063	0.071	0.087	0.132	0.151	0.211
01-81-107		Chimney Rock Water Works		0.004	0.008	0.010	0.011	0.013	0.014
	86	Broad River Water Authority		5.171	6.179	6.393	6.669	6.979	7.407
01-81-035		Broad River Water Authority		2.311	2.286	2.418	2.554	2.695	2.844
10-75-010		Polk County South	1	0.05	0.056	0.078	0.111	0.22	0.42
10-75-010		Polk County South: Inman Campobelle	1	2.53	3.50	3.50	3.50	3.50	3.50
01-81-038		ELLENBORO	1	0.14	0.184	0.232	0.327	0.375	0.444
01-81-040		Bostic	1	0.049	0.056	0.063	0.069	0.076	0.084
01-81-050		Concord Community WS	1	0.091	0.097	0.102	0.108	0.113	0.115
	86>90	Rutherfordton WWTP NC0025909		0.500	0.550	0.600	0.650	0.750	0.900
	86>150	Spindale WWTP NC0020664		1.2	1.2	1.25	1.3	1.35	1.45

Surface Water Demand/WW Projections Group 2

PWS ID#	Model Node	System Name	Multiplier	2010 MGD	2020 MGD	2030 MGD	2040 MGD	2050 MGD	2060 MGD
01-81-010	186	Forest City		1.83	1.76	1.94	2.12	2.35	2.58
	186>190	Forest City WWTP NC0025984	0.78739726	1.44	1.39	1.53	1.67	1.85	2.03
		Cliffside Steam Plant	NET use	11.37	20.68	20.68	20.68	20.68	20.68
01-23-010	436	Shelby	1	3.85	4.84	4.60	5.12	5.27	5.41
	500>436	Broad River Intake	Emerg. Intake						
	430>436	First Broad River Intake	Primary Intake						
		Shelby NC00	0.61336453	2.36	2.97	2.82	3.14	3.23	3.32
		From Fallston	0.83928571	0.05	0.04	0.04	0.05	0.05	0.05
	436>440	Shelby WWTP NC0024538		2.41	3.01	2.86	3.19	3.28	3.37
	WW>437	PPG Industries NC0004685		0.70	0.90	1.20	1.65	2.20	2.90
01-23-025	306	Boiling Springs	1	0.40	0.50	0.55	0.60	0.64	0.72
	306>500	Boiling Springs WWTP NC0071943	0.695	0.28	0.35	0.38	0.42	0.45	0.50
01-23-055	416	Cleveland County Water		4.23	10.68	14.88	17.30	19.25	22.39
01-23-035		Fallston Water System	0.155	0.06	0.05	0.05	0.06	0.06	0.06
		Fallston WW to Shelby	0.83928571	0.05	0.04	0.04	0.05	0.05	0.05
01-23-045		Lawndale GW		0.05	0.06	0.07	0.07	0.08	0.13

Surface Water Demand/WW Projections – Group 3

PWS ID#	Model Node	System Name	Multiplier	2010 MGD	2020 MGD	2030 MGD	2040 MGD	2050 MGD	2060 MGD
01-75-010		Tryon		0.417	0.641	0.828	0.958	1.106	1.277
	WW>93	Tryon	0.39	0.164	0.252	0.326	0.377	0.435	0.502
01-75-020		Saluda		0.128	0.181	0.192	0.269	0.375	0.527
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01-81-107		Chimney Rock Water Works		0.004	0.008	0.010	0.011	0.013	0.014
	86	Broad River Water Authority		2.641	2.679	2.893	3.169	3.479	3.907
01-81-035		Broad River Water Authority		2.311	2.286	2.418	2.554	2.695	2.844
10-75-010		Polk County - South	1	0.05	0.056	0.078	0.111	0.22	0.42
01-81-038		ELLENBORO	1	0.14	0.184	0.232	0.327	0.375	0.444
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Water Resources Plan – Tentative Schedule

To date

Stakeholder identification and organization

- Kickoff meeting, October 10, 2010
- Preliminary descriptive work ongoing
- Hydrologic model development
- Stakeholder meeting #2, June 7, 2011
- Stakeholder meeting #3, October 11, 2011

Water Resources Plan – Tentative Schedule

Next Phase

- Complete Hydrologic Model
 - Develop scenarios for model runs
 - Training
- Plan Development
 - Sections of draft plan available for review as completed
 - Plan will be finalized after addressing comments on draft plan.

Water Resources Plan Participation

Division of Water Resources:

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- Homepage:

<http://www.ncwater.org>

- Broad page:

<http://www.ncwater.org/basins/Broad>

- Contact us, ask questions, provide inputs, request model account:

dwr-broad-staff@lists.ncmail.net

- E-mail listserv subscriptions:

<http://lists.ncmail.net/mailman/listinfo/dwr-broad>