Modeling Drought Management Plan Strategies

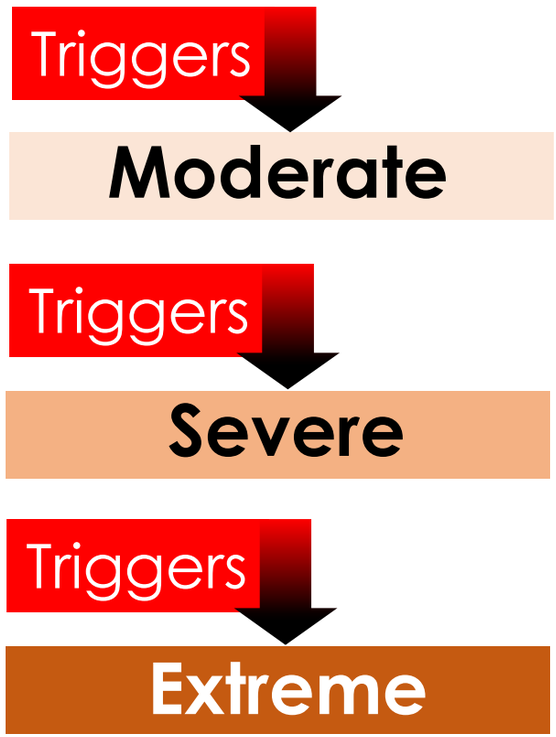
Agenda Item 6

Drought Management Plans

Broad Basin Surface Water Users with Drought Management Plans

- Clinton
- Columbia
- Gaffney
- Greer
- ICWD
- Spartanburg
- SJWD
- Union
- Whitmire
- Winnsboro
- Woodruff-Roebuck
- York

Drought Phases



Overall Water Use Reduction Goals

15%

20%

25%

Typical Drought Ordinance

Moderate Drought Phase Goal of 15% Overall Reduction in Water Use

✓ Request voluntary conservation measures

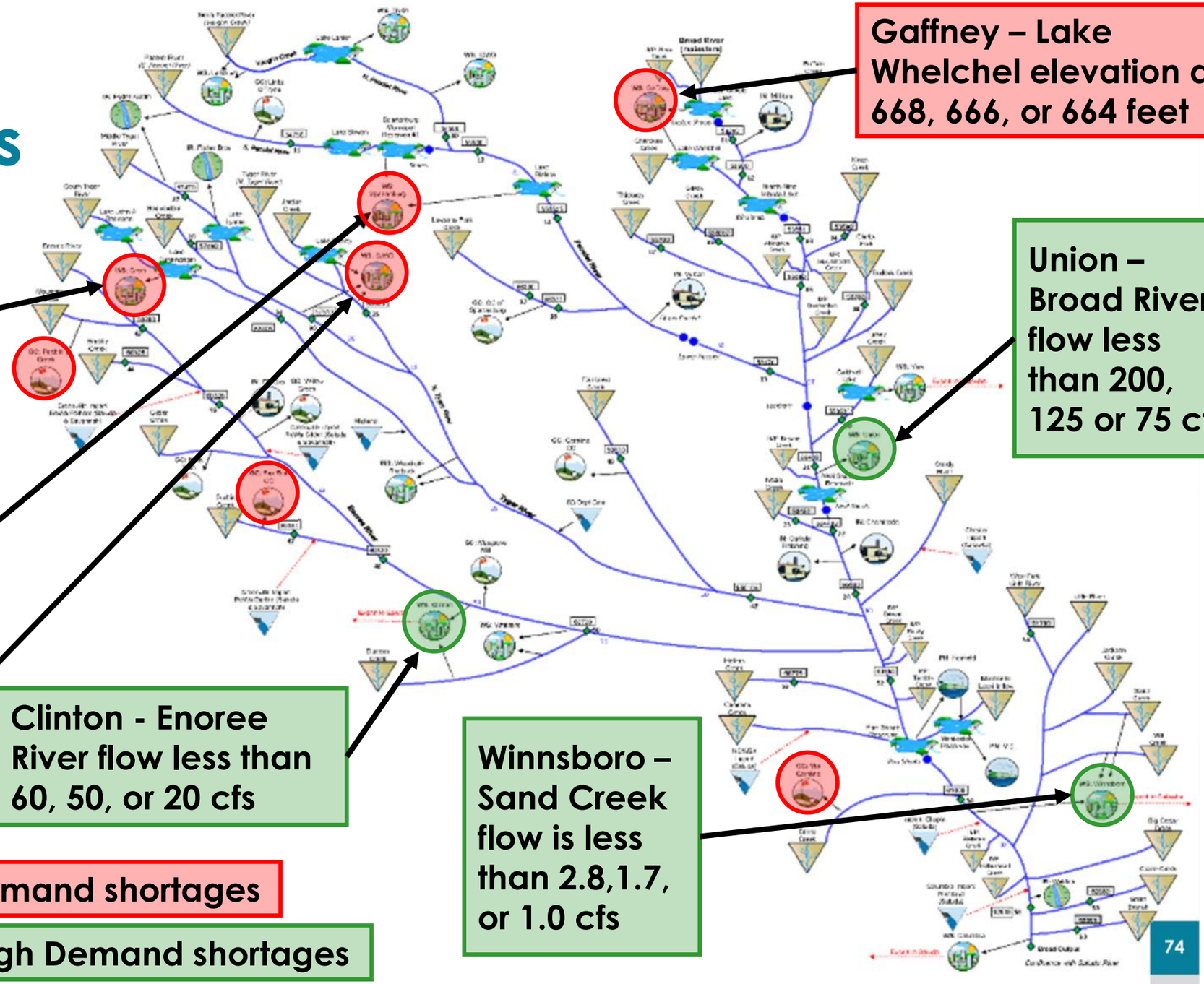
Severe Drought Phase Goal of 20% Overall Reduction in Water Use

✓ Request more stringent voluntary conservation measures enact some mandatory restrictions

Extreme Drought Phase Goal of 25% Overall Reduction in Water Use

✓ Enact additional mandatory restrictions, impose excessive use rate schedule

Modeled Drought Triggers



Greer – System effective storage is 4,484 MG, 4,248 MG, 3,776 MG, or 3,304 MG

SWS – Combined stream flow entering the reservoir system from the N. and S. Pacolet Rivers drops below 60, 40, 30, or 25 cfs

SJWD – Storage in Lake Lyman falls below 841, 840, or 836 feet

Clinton - Enoree River flow less than 60, 50, or 20 cfs

Gaffney – Lake Whelchel elevation at 668, 666, or 664 feet

Union – Broad River flow less than 200, 125 or 75 cfs

Winnsboro – Sand Creek flow is less than 2.8,1.7, or 1.0 cfs

Red = User with 2070 High Demand shortages

Green = User with no 2070 High Demand shortages

High Demand Scenario 2070 Shortages With and Without Drought Management Plan (DMP) Triggers and Tiered Reductions in Demand

Water User	Without DMP Reductions		With DMP Reductions in Demand	
	Freq. of Shortage	Max Shortage (MGD)	Freq. of Shortage	Max Shortage (MGD)
WS: Greer*	7.1%	17.0	No Change	
WS: SJWD*	0.6%	18.3	No Change	
WS: Gaffney	1.1%	27.8	0.8%	19.2
WS: Spartanburg	0.4%	36.9	0.1%	5.2
GC Mid Carolina	0.2%	0.03	No Change	
GC: Pebble Crk.	0.1%	0.1	No Change	
GC: Fox Run	0.1%	0.02	No Change	

* Additional data collection and analysis is being performed to evaluate modeled vs. actual operation of upstream reservoirs, and the effect on modeled shortages.