

An aerial photograph showing a large, irregularly shaped reservoir with a light greenish-brown hue. To the right of the reservoir is a complex of industrial buildings and several large, white, circular storage tanks. The surrounding area is a mix of dense green forest and cleared, brownish soil. A road or path runs along the top edge of the reservoir. The bottom half of the image is overlaid with a dark blue gradient.

Ensuring a Reliable Water Supply
Expanded Water Storage Reservoir

CATAWBA RIVER WATER SUPPLY PROJECT

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Today's Presentation

- About CRWSP and what is driving this project
- Why expanded reservoir is critical to communities we serve
- Details about project design
- Environmental impact and mitigation plans
- How more water storage at CRWSP benefits river basin, downstream users

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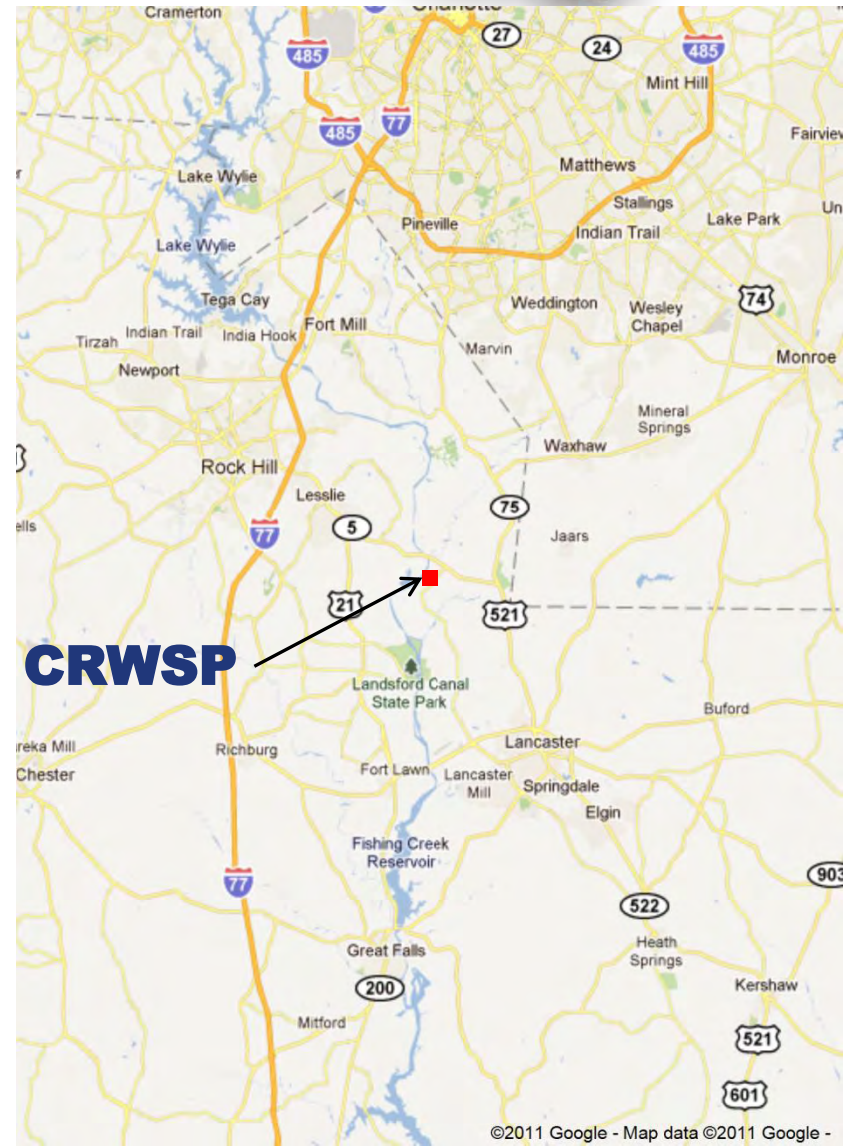
CRWSP is critical for water supply

- Only water supply for Lancaster County, SC
- Primary water supply for Union County, NC
- Supplies water for hospitals, schools, homes, and businesses
- Without CRWSP people of Lancaster and Union County will be without water
- Without a reservoir expansion CRWSP cannot reliably provide water to its customers

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CRWSP is different from other water providers along the river

- CRWSP is a 50/50 joint venture between LCWSD and Union County
- Intake is in the river not in an impoundment
- Treatment facility relies solely on variable flows from the river

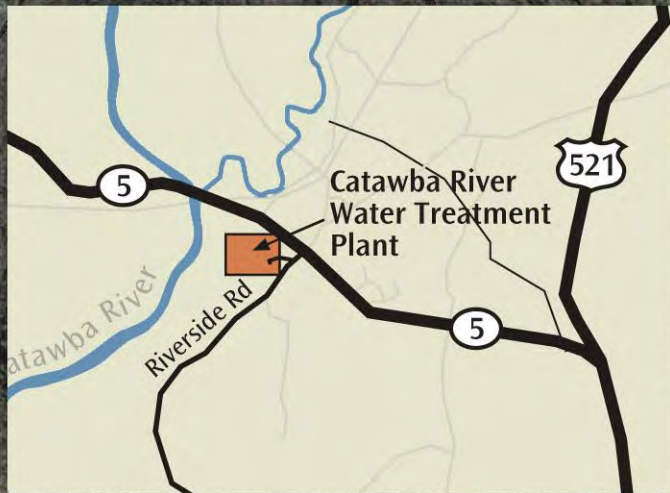


River Intake

Existing Reservoir

Catawba River

Catawba River Water Treatment Plant



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Before 2006-2007 Relicensing

- CRWSP permit requires adequate storage or water release agreement
- In low flows, withdrawals were based on:
 - Normal daily peak releases from Lake Wylie
 - Release agreement with Duke Energy
- Small existing reservoir on site provides short-term supply for water quality and equipment issues
- Existing reservoir was not intended as a drought buffer

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Relicensing/New LIP – Game Changer

- Same permit withdrawal limits still in effect
- Past water release agreement with Duke Energy no longer guaranteed
- Daily releases more consistent
- Drought triggers require higher water conservation
- Stricter water use regulations

Additional storage is required



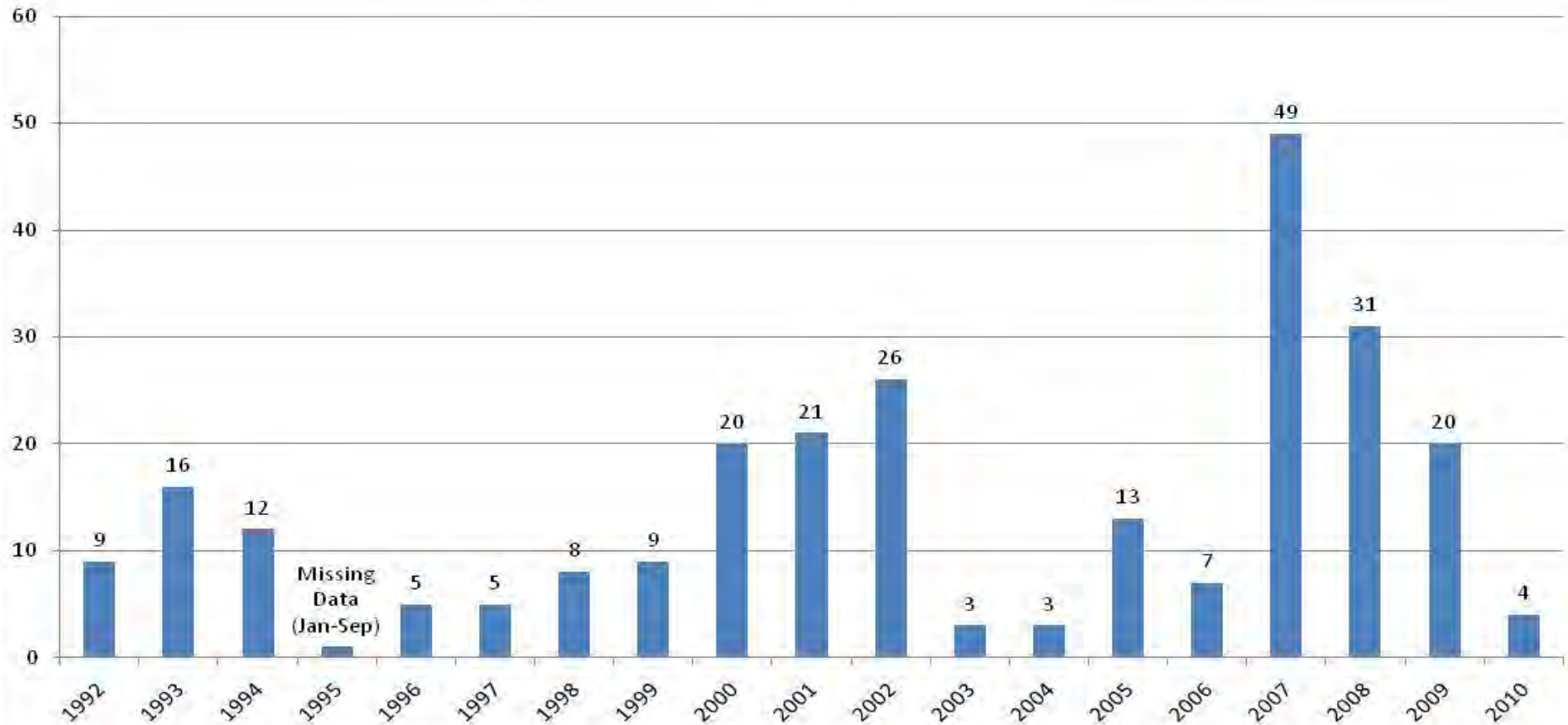
Expanded Reservoir is Critical

- During low flows, all customers out of water after 3-7 days, when current reservoir storage exhausted
- More water conservation and efficiency efforts alone can't solve the problem
- Historical data shows extended periods of low river flow

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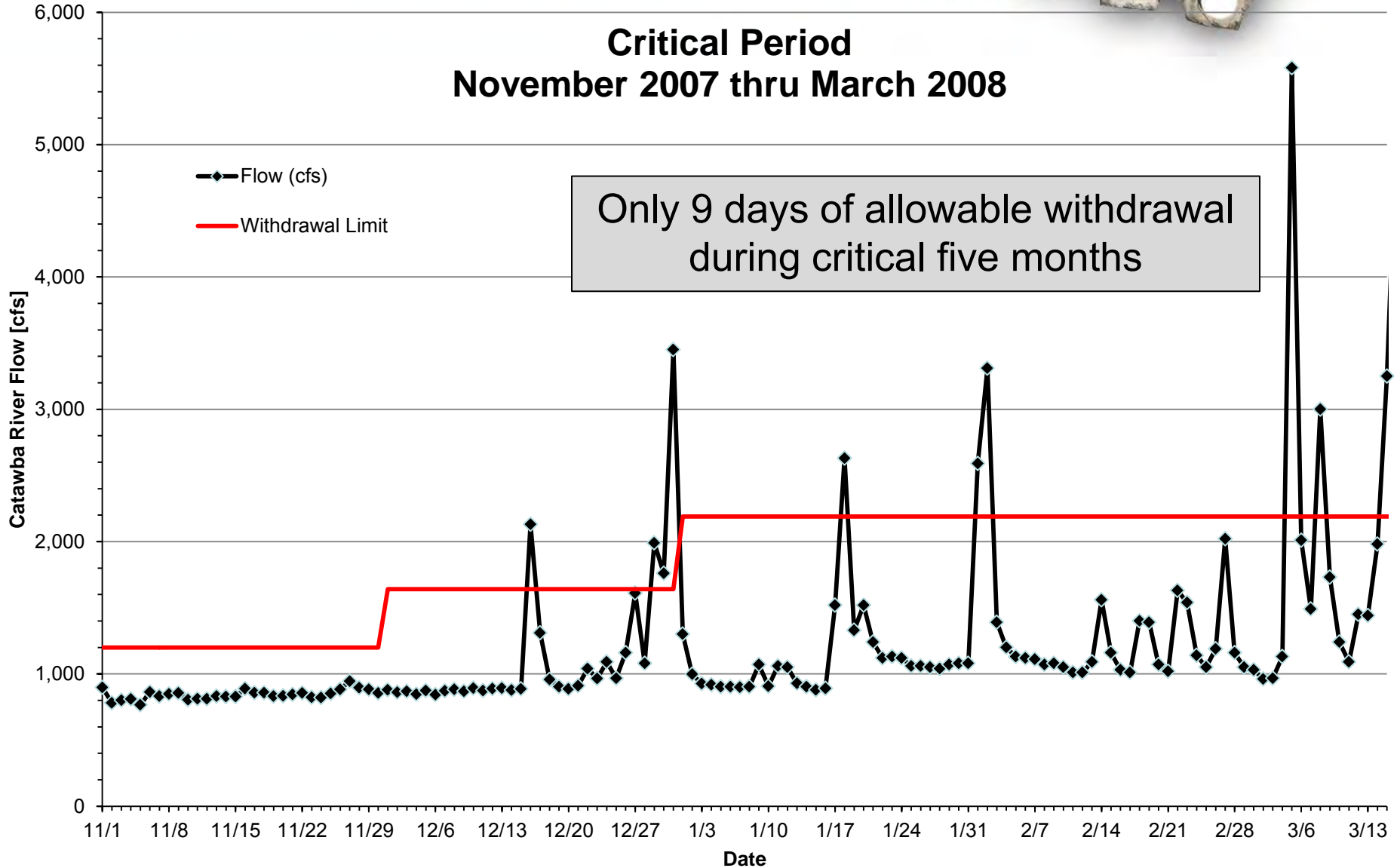


Maximum Consecutive Days Per Year w/Low Flow



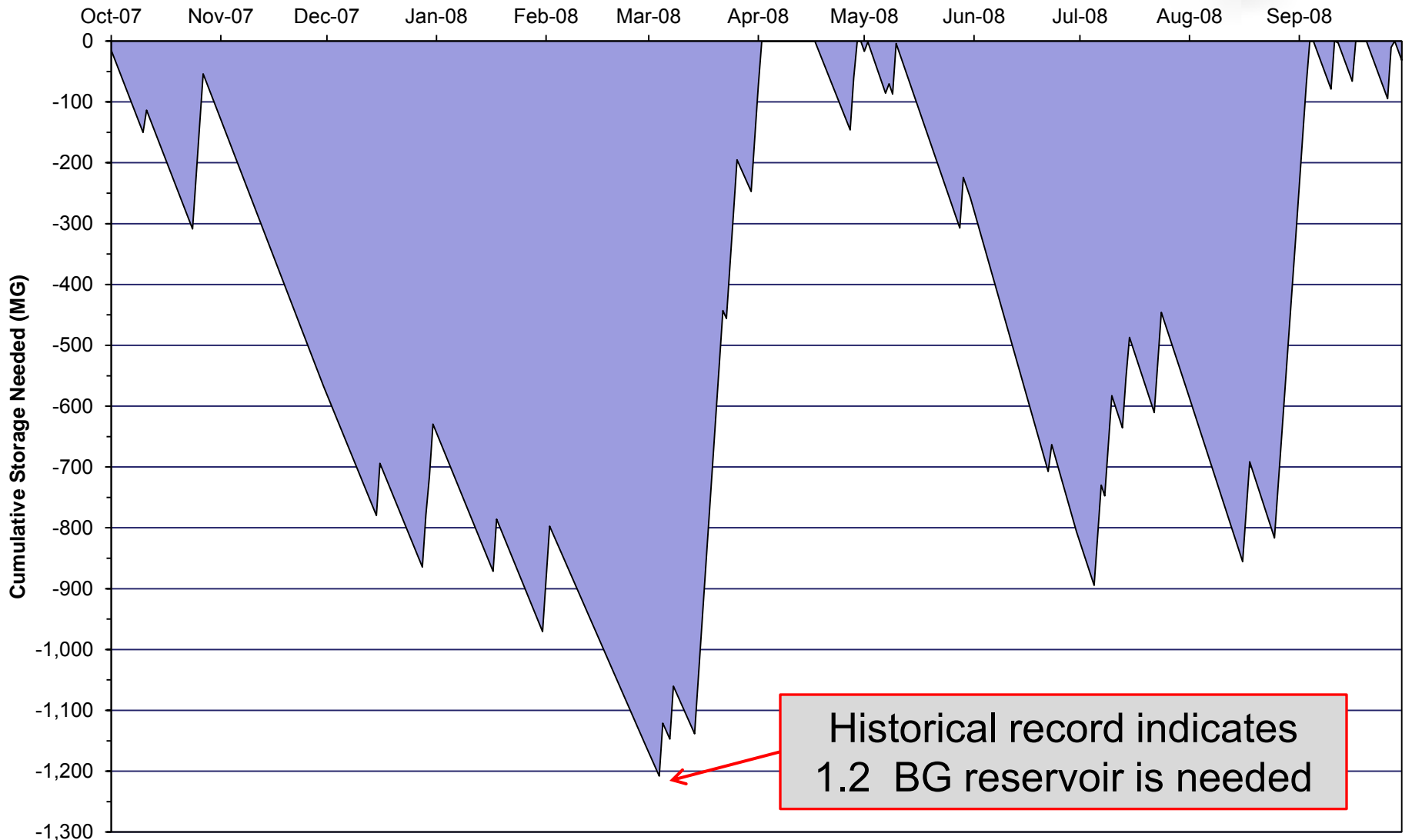
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**Critical Period
November 2007 thru March 2008**



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Drought Year 07-08 Reservoir Volume Analysis



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Existing reservoir is not adequate

- Existing reservoir is about 100 million gallons
- Significantly less than demonstrated historical need
- Existing reservoir provides only 3 to 7 days of storage
- Existing reservoir is for operational contingencies and not for drought
- Expanded reservoir is planned as a drought buffer

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Conservation alone can not eliminate need for additional storage

- Both LCWSD and Union County have restricted usage in accordance with LIP
- Both LCWSD and Union County continue to promote water conservation
- Peak and average uses have been reduced
- 2011 peak demands are 22% lower than in 2007
- Conservation/efficiency still encouraged

Conservation would need to reduce water use by 89% to eliminate storage need.

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Reservoir Alternatives Analysis

- Alternatives evaluated based on reliability, environmental, and cost benefits
 - Alternative reservoir locations
 - Groundwater recharge
 - Available interconnections for finished water supply
- On-site reservoir provided best solution
- Reservoir dam positioned at best geological location
- Site topography offers
 - 1.09 BG total reservoir volume
 - 950 MG usable storage

River Intake Expansion

Existing Reservoir

Proposed Dam

Catawba River

Expanded Reservoir

Catawba River Water Treatment Plant

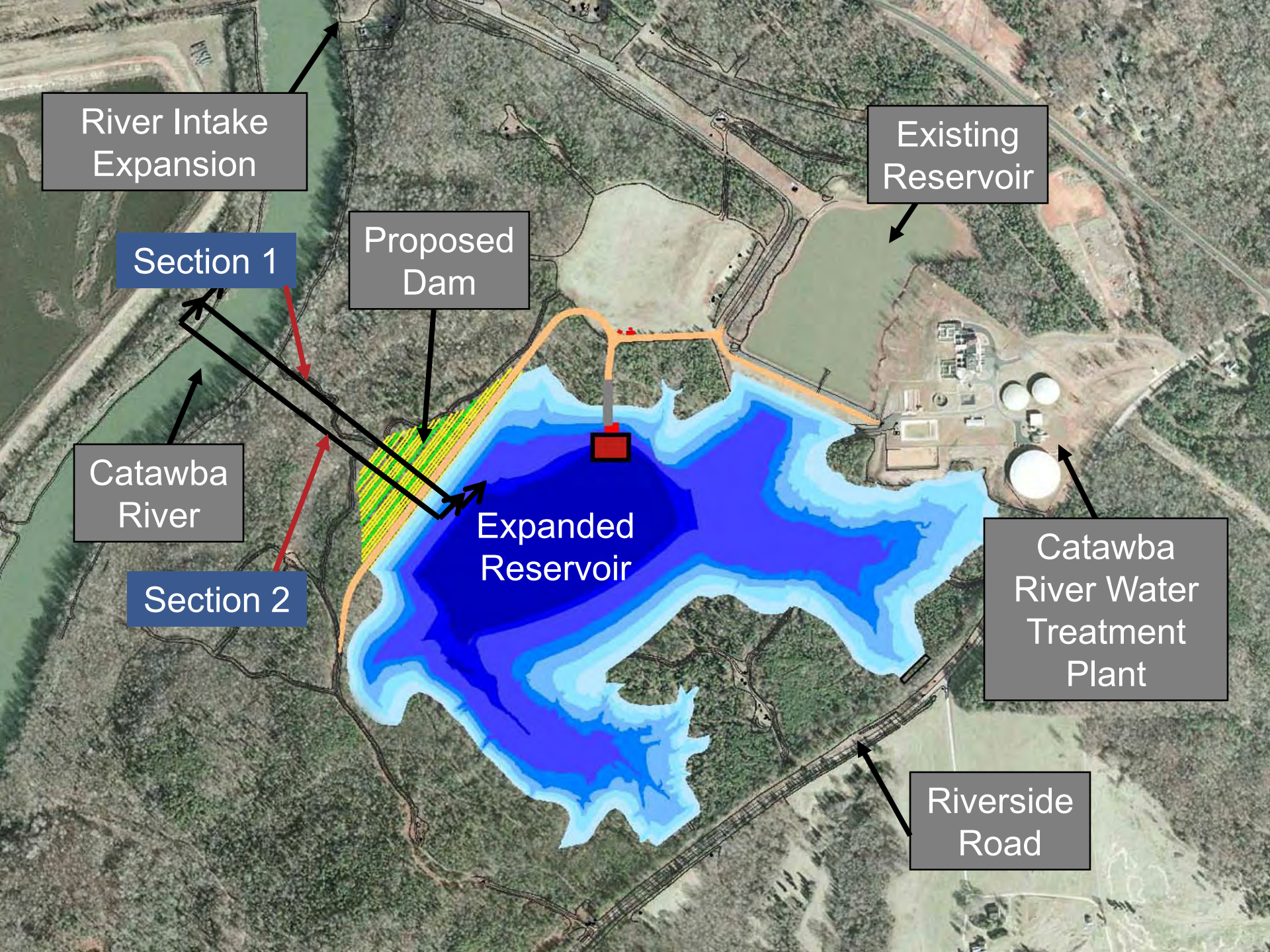
Expanded reservoir is less than 3% of acreage of Fishing Creek Reservoir

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About the Expanded Reservoir

- 92-acre surface area
- Earthen dam with 90 ft impoundment depth - no impoundment in river
- 950 million gallon usable storage capacity
- Expanded river intake and pump station
- New reservoir pump station



River Intake Expansion

Existing Reservoir

Section 1

Proposed Dam

Catawba River

Section 2

Expanded Reservoir

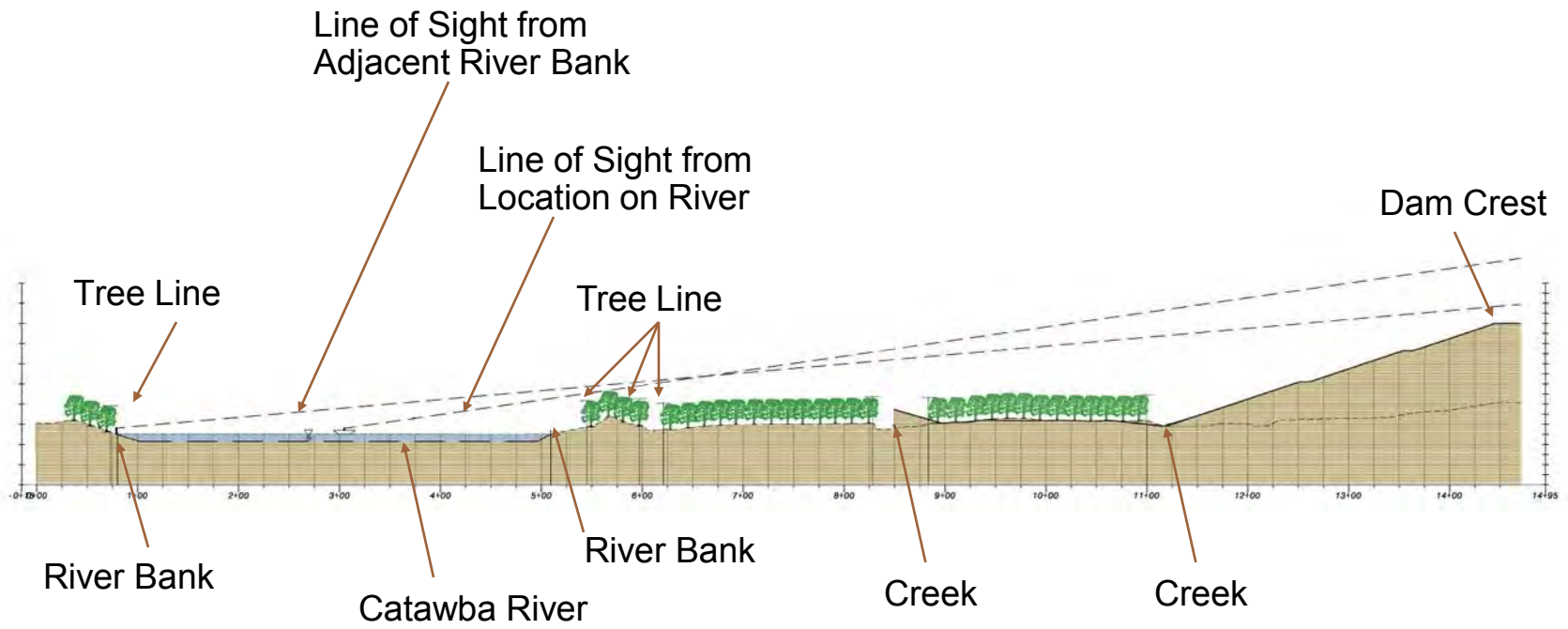
Catawba River Water Treatment Plant

Riverside Road

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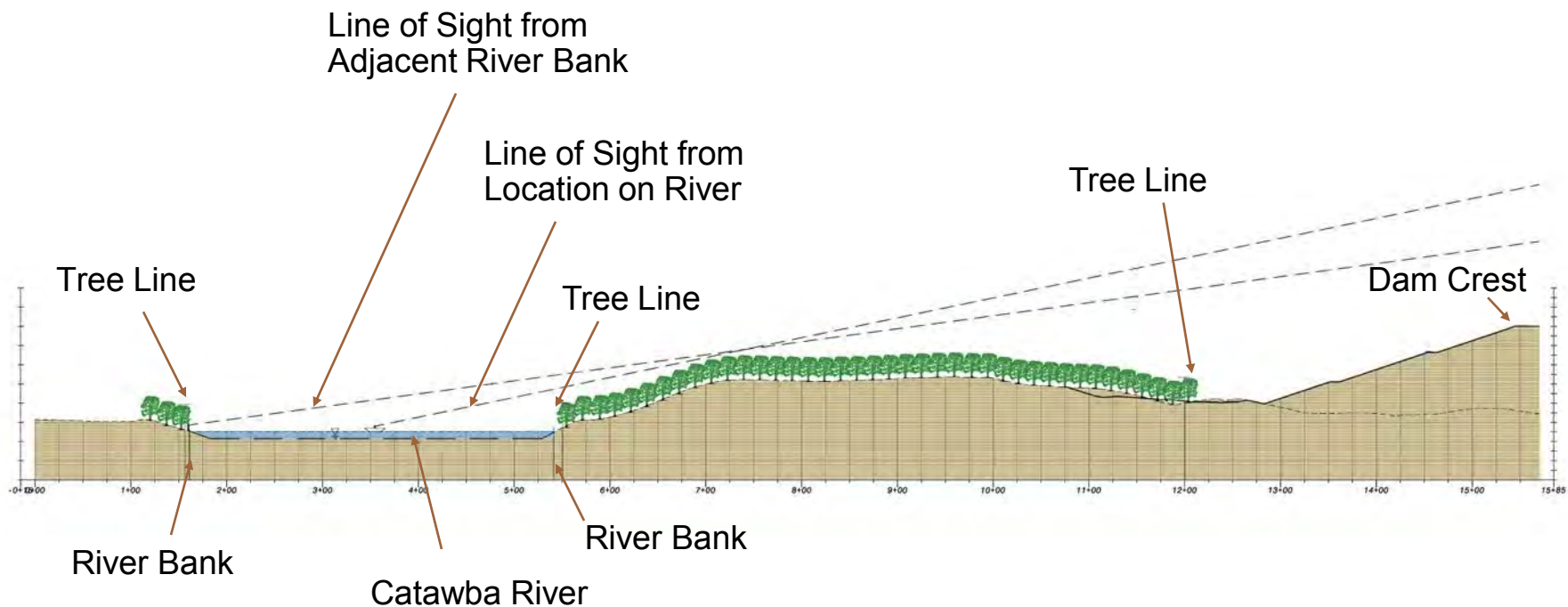
View from Section 1



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View from Section 2



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Plant operations with new reservoir

- Initial fill depends on river flows
- Normally CRWSP will keep reservoir full
- All withdrawals within permitted limits
 - No change in S.C. withdrawal permit
 - No change in S.C. IBT
 - No change in N.C. grandfathered IBT
 - No change in treatment capacity
 - No increase in actual use
- Flexibility to withdraw during high/normal flows and store water for use during drier times

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Environmental Assessment

- No endangered or threatened species found
- No significant cultural or historical resources found
- Reservoir project will impact some streams and wetlands on CRWSP property

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Mitigation Plan Details

- CRWSP will make improvements in nearby areas, using Army Corps of Engineers guidelines
- Banks are primary mitigation tool: Using credits available from three banks in area
- Additional credits earned through a permittee-responsible site identified through in-depth review
 - Site reviewed by the U.S. Army Corps of Engineers
- Majority of credits will be from stream restoration work
- Final mitigation plans submitted to U.S. Army Corps after site negotiations are complete



Benefits of the Expanded Reservoir

- Ability to meet permit requirements, maintain safe and reliable water supply to the two counties with new LIP in place
 - Increase from 3-7 days to 26-55 days stored supply
- Improved river withdrawal flexibility
 - Fills when river flow is normal/high
 - Allows conservation of river withdrawals in droughts
- Conserving withdrawals during low flows lessens impact on downstream users and reduces strain on river

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Formal Endorsements of Support

- S.C. Reps. Neal and Long
- S.C. Sen. Gregory
- Catawba-Wateree Water Management Group
- Lancaster City and County councils
- Kershaw Town Council
- Heath Springs Town Council
- Katawba Valley Land Trust
- Lancaster Chamber of Commerce
- Lancaster Economic Development Corp.

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Committed to Good Stewardship

- We are a member of Catawba-Wateree Management group and CW-DMAG and implements LIP conservation protocols
- We believe expanded reservoir helps protect this valuable water resource and our customers

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Questions and Discussion