

Duck River Utility Commission

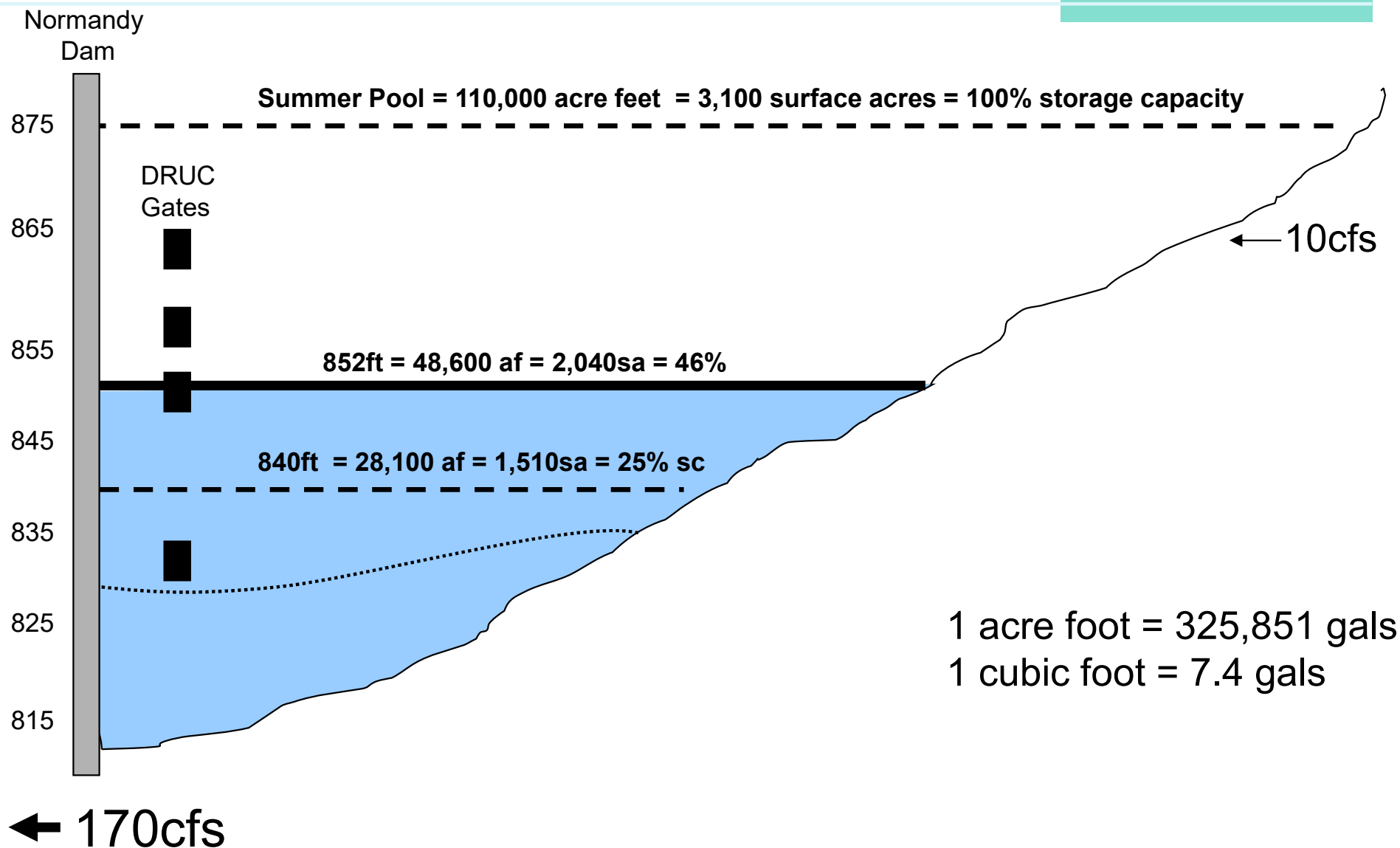


■ Regional Water Authority

- Public Agency
- Wholesale Only to Seven Utilities
- Consecutive/Consecutive/Consecutive Systems
- Manchester and Tullahoma
 - Hillsville Utility District
 - Metro Moore County #2
 - Shelbyville Flat Creek #2
 - Town of Bell Buckle
 - Town of Wartrace

■ Population Served ~ 72,000

Normandy Reservoir Storage Capacity





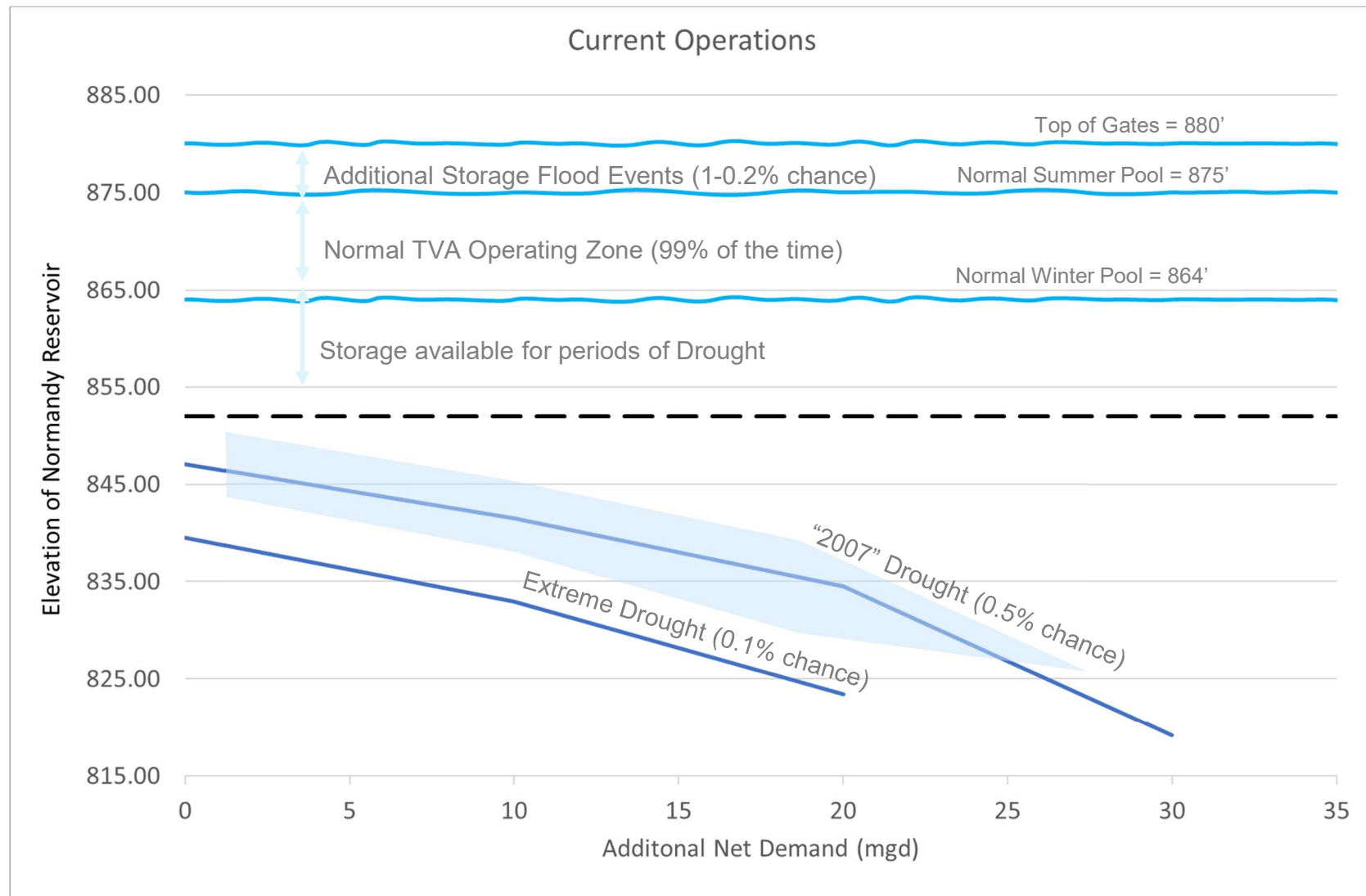
Post Drought Response

- DRUC expressed concern to TVA
- DRA regional drought management plan under development
- Optimization of releases under consideration
- TVA Intake Reliability Study - 2018

Using dendrochronology-based and observed precipitation data applied to TVA's suite of hydrologic and reservoir models, the pool elevation of Normandy Reservoir never fell below the Duck River UC assumed minimum operating intake elevation. This resulted in a no days of shortage and a modeled intake reliability of 100%. These findings indicate that the water supply reliability for this intake is very strong.

- DRUC concern reduced

Model with Current Demands





Drought Mitigation Action

- Higher Pump Head Capacity
 - Higher head due to low water level
- Coagulation and Settling Improvements
 - Poor water quality at low water levels
- Granular Carbon Contactor Upgrade
 - Taste and odor issues
 - Toxic algal blooms
 - PFAS concentration
- Refurbish Old Floc and Settling Basins
 - Performance improvements needed



Project Scope

- Replace Intake Pumps (4)
- Upgrade Intake Electrical Systems
- Add Flocculation Basins (3 stage)
- Add Settling Basins (2)
- Convert Old Filters to GAC (4)
- Refurbish old Flocculators (3)
- Refurbish old Settling Basins (2)
- Replace associated valves and piping



Drought Project Funding

- DRUC prohibited from issuing bonds by State legislation.
- DRUC requests assistance from the DRA
 - \$3 Million contribution
- DRUC requests portion of ARP funds from Manchester, Tullahoma and Coffee County
 - All declined to provide funding
- DRUC applies for two competitive ARP grants
 - Both were unsuccessful
- TDEC responded with State Strategic Regionalization Grant
 - \$8 Million grant
- DRUC proceeds with design and bids project



Construction Bid Results

- Prospective Contractors Report Issues
- Project Scope Reduced
- Only Three Bids Received
- Low Construction Bid: \$12,375,565.00
- Total Project Cost: \$13,338,065.00
- Prior Membrane Filtration System Project
 - 2001 Contract for upgrade - \$1,238,390.00
- \$2 Million Funding Gap
- Project Critical - DRUC Proceeds



Construction Progress

- Contractor Reports Delivery Delays
- Contractor Adds Personnel
- Grant Scope Reduced to Improve Schedule
- TUA Agrees to Upgrade Electrical Service
- Contractor Optimistic
- DRUC seeking additional funding for remaining scope and deleted items.



Project Scope Change

- Replace Intake Pumps (4) (2)
- Upgrade Intake Electrical Systems
- Add Flocculation Basins (3 stage)
- Add Settling Basins (2)
- ~~■ Convert Old Filters to GAC (4)~~
- ~~■ Refurbish old Flocculators (3)~~
- ~~■ Refurbish old Settling Basins (2)~~
- ~~■ Replace associated valves and piping~~



Construction Completion

- Two Pumps Online by August 15th
 - Electrical Upgrades and two pumps complete
- Coagulation and Settling Complete
 - Basins placed in service by September 15th
- Granular Carbon Contactor Upgrades
 - Underway but lack funding
- Refurbish Old Floc and Settling Basins
 - Pending Funding



Regional Benefits

- **Water Supply Reliability**
 - Improved drought resilience
 - Improved facility reliability
- **Water Availability**
 - Increased ability to maintain releases during an extended drought
 - Support economic development
- **Maintain Low Rates**
 - Economy of scale and broad rate base