



Department of  
**Environment &  
Conservation**

# Comprehensive Water Withdrawal Permitting in the Duck River Watershed and the Governor's Conservation Initiative

# Duck River Watershed

Duck River has unique water withdrawal challenges and opportunities:

- Number of public water system withdrawals
- Exceptional Tennessee Water (ETW) designation
- Public interest in the river, known as the most biologically diverse river in North America with 50 documented species of freshwater mussels and 151 species of fish. T&E species include globally significant populations and some species found nowhere else in the world
- There is an existing regional planning organization – the DRA as an established cooperative framework is an asset for this pilot project.
- Water systems' participation in DRA helps to set the framework for participate in this initiative.

# The Need for Comprehensive Regional Permitting

TDEC met with eight water systems in 2019-2020 about new or expanded intakes

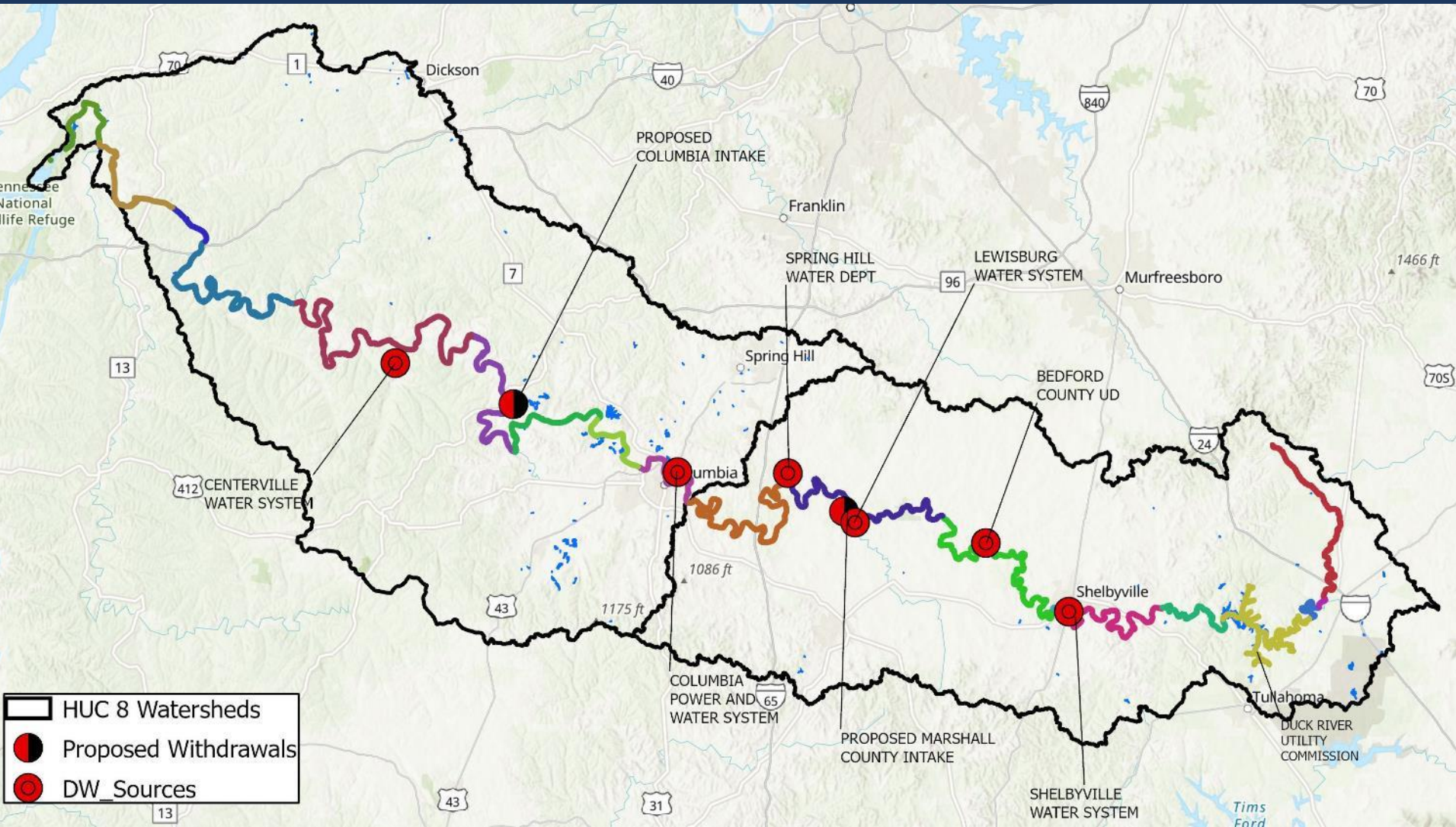
- Concerns about accommodating rapid growth in the area
- Questions about “grandfathering” immediate water availability and purchase options limiting growth potential
- TDEC has received multiple ARAP withdrawal permit applications for the same resource
- DWR believes we can authorize current withdrawals, allowing us to accommodate additional short-term (less than 5 year) needs
- Long-term needs (greater than 5 years) will require further analysis and cooperation to ensure an equitable water withdrawal permitting strategy

# TDEC Rules Drive Water System Planning

## Rule 0440-45-01-.05(10)

*System Capacity - Whenever a public water system reaches eighty (80) percent of the design capacity based on average day usage, the supplier of water shall immediately obtain the services of a competent engineer to prepare plan documents for expansion of said system.*

# Duck River Watershed



# Began Meeting with Stakeholders in 2020

- Water systems (DRATAC members)
- DRA
- stakeholders listed at <https://duckriveragency.org/wrc.htm> (plus Centerville)
- Agencies – TDEC, TWRA, TVA, USACE, USFWS, EPA, later ECD
- NGOs – TNC, SELC, HRC, TWF, Sierra Club
- Individual stakeholders from 9 TDEC stakeholder meetings since June 2020

# What is an ARAP?

- Aquatic Resources Alteration Permit (ARAP)
  - Tennessee Rule 0400-40-07-.01 (3) requires a permit for any activity that results in the alteration of waters of the state, including water withdrawals.
  - ARAP serves as §401 Water Quality Certification, needed for federal permitting



# Grandfathering of Water Withdrawals

- Grandfathering History:
  - Tennessee Rule 0400-40-07-.02 (4) *Existing water withdrawals on July 25, 2000, which do not adversely alter or affect the classified use of the source stream are not subject to these requirements.*
  - These are based on water withdrawals, not the public water supply treatment system capacity at that time.
  - Water quality rule – considered the water quality effect of withdrawals on Duck River at that time
- Permitting is the Path Forward: DWR records show that withdrawals have increased since 2000



# Overview

## 1. Create a baseline of permitted withdrawals

## 2. Consider new intakes and expansions and identify:

- **areas for regional growth planning/regional water need**
- regional interconnection and infrastructure opportunities and projects
- endangered species analysis and mitigation (will involve other agencies)
- how to better understand other designated uses such as recreation, agriculture
- how to utilize ARP, BIL, or other funds to develop and implement collaborative plans

## 3. Based on this info, TDEC will be able to consider and apply such information as the **basis for renewal of the ARAP withdrawal permits.**

## 4. **Ongoing/iterative process** -continually go through steps 2 and 3 into the future as circumstances evolve in the watershed.

# ARAP Timeline

- CPWS\* revoke and reissuance of existing permit
  - Proposed permit adds new intake
  - Public Hearing held on October 19, 2023 in Columbia
  - 60- day public comment period ended November 17, 2023
- Key permit conditions
  - The withdrawal rate near river mile 134 shall not exceed 20 MGD
  - The withdrawal rate near river mile 100/ total withdrawal shall not exceed 32 MGD
  - Withdrawal at the existing intake near river mile 134 is prohibited when flow gaged at the USGS gage Duck River at Columbia, TN 03599500 is below 100 cfs
- Because proposed CPWS intake > *de minimis*:
  - Next step: Notice of Determination of Social and Economic Necessity\*
  - 30 day waiting period
  - Permit issued
  - 30-day appeal period

*\*proposed withdrawal > de minimis*

# ARAP Timeline

- Baseline permits on public notice simultaneously:
  - Duck River Utility Commission
  - Shelbyville\*
  - Bedford County
  - Lewisburg
  - Spring Hill\*
  - Maury County Water Systems
- Public hearing for baseline permits on October 30, 2023 at Henry Horton State Park
- 60-day public comment period to end on December 13, 2023
- TDEC reviews public comments, will issue final permits individually as they are completed

*\*proposed withdrawal > de minimis*

# Key Condition in Baseline Permits

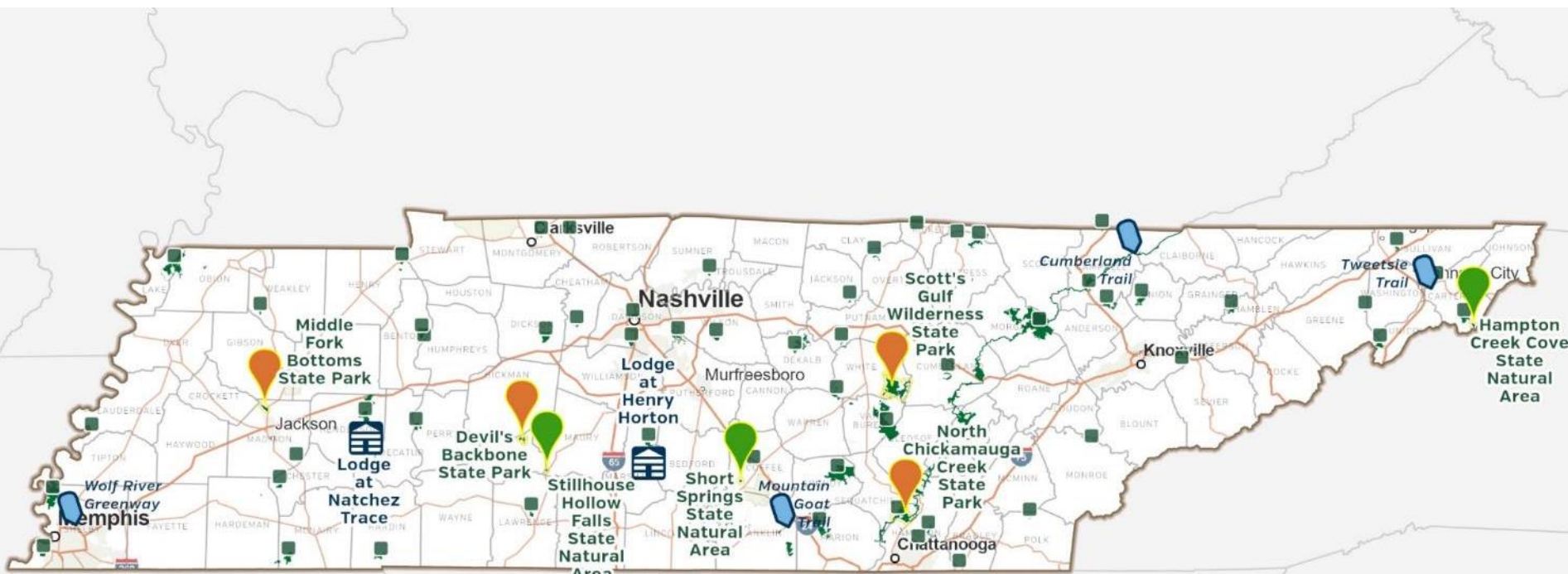
- Special condition 5
  - Withdrawal above the grandfathered amount (in MGD) shall cease when flow at the Milltown USGS gage is at or below 175 cfs
  - Subject to a schedule of compliance:
    - Permittee shall develop a plan for reducing water withdrawal to coincide with certain drought triggers (within 1 year)
    - Permittee shall demonstrate water loss < 25% calculated with specific procedures. If not, develop and implement a plan to reduce water loss.
    - Permittee shall participate in T&E studies
    - Permit condition effective 5 years from effective date of permit

# Governor's Conservation Initiative



## State of the State

*Tennesseans have accomplished remarkable things in our 226-year history. Once again, we are called to be a guiding light & carry the spirit that took our state from **frontier** to **frontrunner**.*

## **Conservation Strategy**



-  New State Parks
-  Improved State Natural Areas
-  New Lodge

-  Existing Tennessee State Parks
-  Trails Funding

# Survey Respondents

## Tennessee State and Local Government Entities

### Tennessee State Government Organizations

- Department of Environment and Conservation
- Department of Agriculture
- Department of Economic and Community Development
- Department of Finance and Administration
- Department of Health
- Department of Tourist Development
- Office of the Attorney General

### Local Governments

- Grundy County
- Jackson County
- Johnson City
- Shelby County
- Madison County
- Fayette County
- Dickson County

## Non-Profit Organizations



## Academic Institutions, Private Sector and Other Entities





# Conservation Strategy

