

DRAFT RECOMMENDATIONS FROM THE DROUGHT MANAGEMENT WORKING GROUP

The Duck River Watershed Planning Partnership (DRWPP) Drought Management Working Group (DMWG) was formed in response to Executive Order 108 to develop recommendations for improved drought management in the Duck River basin.

EO 108 Section 1.B states, “The Partnership shall be responsible for the following: (i) Developing comprehensive watershed management recommendations that balance the needs of water users and economic growth against the need to protect the environmental integrity of the Duck River; (ii) Advising and providing recommendations to the Governor, the DRA, TDEC, TWRA, and Speakers of the Senate and House of Representatives on policies and actions to promote the sustainable use and conservation of water resources in the Duck River Watershed; (iii) Identifying opportunities for water system regionalization, drought resilience, habitat conservation, and water loss reduction; and (iv) Engaging with local communities, utilities, industries, and conservation organizations to ensure broad participation in watershed planning efforts.”

As a reminder, EO 108 Section 2.h states, “Drought Planning. TDEC, in collaboration with the DRA and with appropriate input from other stakeholders, is directed to develop a Comprehensive Regional Drought Management Plan for the Duck River Watershed. This plan shall provide clear guidance and strategies for water utilities within the region to enhance both drought resilience and water conservation efforts to protect existing uses in the Duck River. The plan shall undergo an iterative review every ten (10) years to ensure its effectiveness and adaptability to changing conditions and needs.”

EO 108 Section 3.h states, “TDEC, in partnership with TWRA, is directed to consider and identify other watersheds within this State where the activities in Section 1 of this Order could be replicated...”. Given this directive, the DMWG has also discussed recommendations that could be applied State-wide for the benefit of enhancing water management and water conservation practices, while supporting economic growth across all watershed in Tennessee.

The DMWG has met 7 times (4 meetings and 3 webinars) between April 2, 2025 and September 18, 2025. Based on these meetings and discussions, the DMWG has developed the following suite of recommendations for consideration by the larger DRWPP. The DMWG has broken the recommendations into the following buckets: Duck River Watershed – Drought Management Specific Recommendations; Duck River Watershed – General Recommendations; and State-wide Recommendations.

Duck River Watershed – Drought Management Specific Recommendations

1. Revise the Duck River Regional Drought Management Plan

While each utility should have a utility-specific water shortage response plan, the region should also develop and comply with a revised Regional Drought Management Plan. The current iteration of that plan was finalized in 2013 prior to TDEC’s 2016 Drought management plan guidance, and does not address flows in the Duck River, which is a vital component of water resource management in times of drought. Therefore,

we recommend that the plan be updated without delay. The revised plan should adhere to TDEC's *Guidance for Developing Community Water System Drought Management Plans (2016)*, or any updated TDEC guidance, and at a minimum contain the following components:

- Public communications strategy;
- Mandatory and voluntary water use restrictions for each drought level;
- Monitoring for river flows and withdrawal;
- Incentives for adoption of voluntary conservation practices;
 - Consideration of water conservation rates (rate tier structure based on water user type);
- Local ordinance ability to ensure compliance and enforcement authorities; and
- Management plans.

The updated plan should also be responsive to flow levels within the Duck River and the Normandy Reservoir, and should be developed with public input. Because of the recommendation to monitor flow levels in the Duck River, the revised Drought Management Plan should include an aspect of collaborative monitoring and reporting by all users withdrawing any amount of water from the river as well as users withdrawing well water connected to the river. This would include incentives for voluntary reporting by entities that are currently exempt from mandatory reporting requirements. This element requires documentation of all withdrawals from the stream, survey and documentation of the Duck River Watershed's hydrogeology, as well as documentation of all wells within a distance and at depths that have been determined to directly impact the drawdown of the Duck River. Therefore, we recommend a comprehensive report outlining these key components impacting drought management of the Duck River.

Moving forward, the Regional Drought Management Plan should be re-evaluated regularly in alignment with any major changes in permits, regulations, etc. and updated as appropriate, but not less frequently than once every ten years. This drought management planning process should be coordinated by the Duck River Development Agency (DRA) and TDEC, with meaningful opportunities for input by a full range of stakeholders. This process should begin immediately, and be adopted not later than December 31, 2026.

2. Incorporate Comprehensive Drought Monitoring Analysis in the Duck River

Tennessee should evaluate if there should be additional data collection on the Duck River for more comprehensive drought monitoring and management. This could include installing more streamflow gages, groundwater gages, and/or water quality monitoring on the mainstem of the Duck River and/or its tributaries. This could also include a partnership with University/USGS/Researchers to better understand the interaction between groundwater and surface water in the losing reaches of the Duck River during low flow events by monitoring groundwater or doing specific studies on these losing reaches. In addition to supporting long-term drought monitoring, this recommendation would align with needs for the Habitat Conservation Plan (see EO 108 Section 2.D).

Duck River Watershed – General Recommendations

1. Develop a Duck River Dashboard

In collaboration with the Duck River Agency, a website should be created that has all currently known data readily accessible and should include links to the data sources, including but not limited to Normandy Dam data at TVA, stream gages at USGS, discharge monitoring reporting on EPA ICIS, etc. It should also contain

a dashboard that provides water use data for all utilities, including withdrawals and returns. Once the data need is understood, the Duck River Agency will work with stakeholders to determine where best to host this information, and will at the very least provide a link to the resource on the Duck River Agency website.

2. Analyze Future Demand Needs and Comprehensive Regional Water Supply Plan

Effective drought management requires long-term regional planning, the Duck River Agency should update the Duck River Comprehensive Regional Water Supply Plan from 2011 with an updated analysis of future demand needs. The Plan should address though a 50-year planning period with a 100-year planning horizon to provide direction to the DRA for the management was water resources, including the proposals of specific water supply infrastructure projects. In addition to input from the Duck River Agency Technical Advisory Committee (DRATAC), the Duck River Water Resources Council (DR WRC) which was established in 2002, as well as any additional subject matter experts identified by the Duck River Agency and the aforementioned advisory committees, should also be leveraged during the development of this update.

The Comprehensive Regional Water Supply Plan should be coordinated by the Duck River Development Agency (DRA) and TDEC, with meaningful opportunities for input by a full range of stakeholders. This process should align with the renewal process for TDEC's ARAP process for the Duck River withdrawals.

3. Duck River Agency to Develop On-going Partnership with all Stakeholders

The Duck River Agency should promote informed and coordinated communications with all users within the Duck River Watershed – not limited to utilities. The DRA and collaborating agencies should document and georeferenced all water withdrawals from the river regardless of volume withdrawn as part of overall resource and river flow monitoring. The DRA should work with all users on effective and sustainable management of the river, but especially those whose withdrawals (groundwater and surface water) exceed 100,000 gpd, including but not limited to golf courses, and on a voluntary basis agricultural users, etc. The DRA should partner with users exceeding 100,000 gpd to encourage water use reporting during designated periods of severe, extreme, and exceptional drought. It is recommended that DRA and stakeholders develop an ongoing collaborative partnership that meets regularly well in advance of any drought events.

Statewide Recommendations

1. Create a state-wide Water Monitoring Council

Leverage the existing TEMA Emergency Response to create a state-wide Water Monitoring Council that is mandated to monitor, designate, and coordinate responses to drought and flood conditions. The Council should work closely with impacted stakeholders, and it should be comprised of members from TDEC, TWRA, TEMA, TDA, and the Tennessee Climate Office. The state should coordinate with FEMA, NWS, USGS, USACE, and TVA as well as representatives from the following interest groups: public water systems, forestry, agriculture, local government, conservation, and academia. The Council should be empowered with the following authority and duties:

- Coordinate with local, state, and federal agencies to respond to drought and flood conditions;
- Draft model ordinances, codes, policies, and other emergency measures for use by municipal governments to better prepare for and respond to drought and flood conditions;

- Convene at least monthly and more frequently as needed to predict, evaluate, and designate drought conditions in Tennessee and provide accurate information on those conditions to local governments, water utilities, state agencies, and members of the public;
- Work with local municipalities, water utilities, and watershed organizations to develop mandatory water shortage response plans to be implemented during periods of drought; and
- Provide educational material to the public regarding drought and water conservation best practices as well as flood safety preparation, measures, and responses.

2. Update TDEC's rules for drought management plans state-wide

Utilities should be required to develop mandatory water shortage response plans to be activated during periods of low river flow or drought. TDEC has existing statutory authority both through the ARAP program and through its regulation of public water systems to require such plans. The ARAP rules and the rules for public water systems should be amended to clarify and strengthen requirements for drought management state-wide, including the need to reduce water withdrawals and water usage to protect streams.