

**Goal of the Pilots: to develop a water supply planning process that ensures a safe and secure water supply and preserves and protects our quality of life.**

***Why Take a Regional and Intergovernmental Approach to Solving Water Supply Problems?***

The Tennessee Commissioner of Environment and Conservation's Water Resources Technical Advisory Committee (TDEC/WRTAC) was organized in 2008 under Tennessee Code Annotated § 69-7-309 in the wake of an extreme drought that lasted nearly two years. During that time, numerous water utilities were stressed to the point of nearly running out of water. One town, Orme in Marion County, did. One lesson learned was the importance of interconnections between utilities.

Water is a shared resource. That almost goes without saying. We share it, not only with other customers of the same utility, but also with everyone in the same watershed. Multiple utilities pull water from nearly every stream in the state. Numerous reservoirs have been built across the state with at least part of their mission being to supply drinking water. In times of drought, the utilities pulling from these streams and reservoirs often compete with each other for an adequate supply.

Moreover, some areas of the state are growing fast enough that utilities there are competing for water even in times of plenty. We know now, for example, that utilities along the main stem of the Cumberland River in fast-growing Middle Tennessee are using more water than the main stem alone can supply. The Cumberland River could not meet the water supply demands placed on it and at the same time maintain sufficient depth for navigation without releases of water from the reservoirs built along its tributaries.

We are regularly sharing water among watersheds at least within the same basin, and there is no system for sharing this resource. This situation is currently creating a controversy because utilities pulling water directly from the tributary reservoirs must pay the Corps of Engineers to manage them for water supply, but those along the main stem—even when they are dependent on water from those same reservoirs—do not contribute to the Corps' cost of managing them.

As we grow, it becomes more evident that we share water at the river basin level, not just at the smaller watershed level. Not only does it make sense to manage the state's water supply at that same level, it is necessary to ensure equity among water users.

Even short of establishing some formal system for managing water supply at the watershed or river basin level, there are opportunities and indeed a need to coordinate among utilities to ensure that they all have access to enough water to meet their customers' needs. The drought of 2007 produced numerous examples of actual coordination where utilities took advantage of interconnections to move water among utilities so that none ran short of enough to meet their customers' basic needs.

In the South Cumberland study area, the location of one of the TDEC/WRTAC's two water supply planning pilots, the city of Monteagle relied on interconnections through the Tracy City water system to the Big Creek Utility District to meet its customers' needs during the 2007 drought. It also bought water from the Sewanee Utility District.

All across the state, numerous water utilities buy and sell water through their interconnections, but still many rely mainly on their own intakes, their own treatment plants, and their own

distribution systems. As a result, some have surpluses while others have too little to accommodate growth. In this state of generally plentiful water, the fact that an adequate water supply is a constraint on growth anywhere may come as a surprise to many people, but not to Portland, which lies in the middle of the TDEC/WRTAC's other water supply planning pilot. Here the challenges are different. The city of Portland is not that far from a major water source, the Cumberland River. All around it are utilities that pull directly from the Cumberland and, therefore, have access to a relatively unlimited water supply. Yet Portland remains effectively land-locked and unable to meet the needs of a population that continues to grow because it is both a convenient and an attractive location otherwise.

These two pilot studies illustrate the fundamental notion that access to water supply must be considered in the broader context of watersheds in which all utilities cooperate and coordinate to share the resource in cost-effective ways. That is the challenge faced by the teams working on these pilots and the utilities in these two areas. It is the focus of this broader procedural report on what the TDEC/WRTAC learned from the two pilots.

### ***What Lessons Have We Learned From These Initial Water Supply Planning Efforts?***

As a result of its work on these two water supply planning pilots, the TDEC/WRTAC's general recommendation as a first step is that appropriate policy, regulatory, and legislative changes be made to promote and facilitate increased systematic and routine sharing of water treatment and distribution systems, whether by contract or through formal regional water authorities.

Today we have some utilities with access to enough raw water to more than meet their customers' needs now and for many more years, and right next door to them, systems that barely meet current needs. We have utilities with allocations from the Corps that exceed their customers' needs by millions of gallons per day immediately adjacent to utilities that are routinely hitting their maximums every summer. Collectively, both systems have enough water to meet the needs of their combined customer bases, but one keeps coming up short.

Because we cannot predict when and where growth will occur—and because petitioning for more water or more money to expand water systems is time-consuming and difficult—the incentive is to plan and ask for the most we can conceive of needing. When the potential supply seems more than adequate, the incentive is for regulatory agencies to grant those requests. In some cases, we've gotten permission, but we haven't had the growth we expected. And in today's economy, we may no longer reasonably expect the growth we once did. We may no longer be able to afford it without sharing resources.

The same strategies that we have used to deal with drought and spot shortages can help us meet everyday needs and, in many cases, much of our need to grow our water systems. When our neighbor utility has a surplus, it is more efficient and cost effective to tap that surplus before adding capacity to our own system. We may not like being dependent on another system to meet our own customers' needs, but by acting regionally, communities enlarge the area from which they can draw water, increasing the likelihood that there will be enough precipitation over that broader area and reducing the likelihood of spot shortages and growth constraints. State and federal agencies need to use their permitting and funding authority to make regional action easier and more attractive.

### ***By What Authority Does the TDEC/WRTAC Promote a Regional and Intergovernmental Approach to Water Supply Planning?***

The idea of taking a regional approach to water supply planning as it relates to quantity has a firm basis in state law, as does the idea of state-level management of Tennessee's water resources. Tennessee's lawmakers have long recognized that the waters of the state are the property of the state and are held in public trust for the benefit of its citizens and have multiple times declared the public policy of Tennessee to be that the people of Tennessee, as beneficiaries of this trust, have a right to unpolluted waters (from the Water Quality Control Act of 1971) and both an adequate quantity and quality of drinking water (from the Safe Drinking Water Act of 1983).

As far back as 1957, the Tennessee General Assembly recognized the need for a long-range water resource policy when it created the Water Resources Division. Among its duties were creating water supply districts to improve the quantity of water supply in specific areas of the state, balancing competing uses, and determining which water resources should be reserved for various public purposes. Specific public purposes listed in that law include navigation, sanitation, recreation, maintenance of fish and aquatic life, the maintenance of unusual scenic features.

With passage of the Inter-basin Water Transfer Act of 2000, the Tennessee General Assembly explicitly recognized the need to manage the state's waters at the basin level by regulating diversion of water from one basin to another to protect the public health, safety, welfare and the environment. The primary purpose of that law is to allow regulation on the basis of the quantity of water in river basins.

Two years later, the General Assembly adopted the legislation that created the TDEC/WRTAC. The main purpose of the act was to create a system of water withdrawal registration in order to document current demand for water and to project growth in that demand, but it had another goal as well: to set the stage for regional water supply planning.

Although it is officially known as the Tennessee Water Resources Information Act, it places great emphasis on regional planning and intergovernmental action. It directs the Commissioner and the Water Quality Control Board to encourage and support regional water planning whenever possible, and it authorizes them to require regional water supply planning and provide incentives to encourage such regional planning if an appropriation were made for that purpose. It also expressly recognizes two specific models for regional planning and modeling efforts: The Duck River Agency and the Mississippi, Arkansas, Tennessee regional aquifer study.

The legislature's support for intergovernmental coordination was made plain in this act, as well, when it authorized all state agencies to consider regional planning and regionalization efforts when awarding grants, making loans or funding projects and when it established the membership of the TDEC/WRTAC to include federal, state, and local agencies and private organizations.

The water supply planning pilots undertaken by the TDEC/WRTAC—and the process and policy recommendations developed from them—are the result of this long series of legislative acts to bring state resources to bear on the issue of water quantity through regional and intergovernmental action.



## Appendix—Relevant Legislation

### From the Water Resources Act of 1957<sup>1</sup>

#### **69-7-101. Water resources division created — Appointment of director and assistants. —**

- (a) There is hereby created and established within the department of environment and conservation a division to be known as the water resources division.
- (b) The commissioner . . . .
- (c) The director . . . .

[Acts 1957, ch. 19, § 3; impl. am. Acts 1959, ch. 9, § 11; impl. am. Acts 1963, ch. 169, § 3; 1972, ch. 860, § 1; T.C.A., § 70-2001; T.C.A. § [69-8-101](#).]

**69-7-102. General duties of director. —** The director of the water resources division is responsible to the commissioner of environment and conservation for the general direction of all matters pertaining to conservation, protection and development of the water resources of the state and the continued study of water resources looking toward the creation and development of a basic, long-range water resource policy for the state, with the exception of the functions relating to the water pollution control exercised by the Tennessee water pollution control board, and such other functions as may otherwise be provided in this part.

[Acts 1957, ch. 19, § 4; impl. am. Acts 1959, ch. 9, § 14; impl. am. Acts 1963, ch. 169, § 3; 1972, ch. 860, § 2; T.C.A., § 70-2002; T.C.A. § [69-8-102](#).]

#### **69-7-103. Specific powers and duties of director. —**

The powers and duties of the director of water resources division under the direction of the commissioner of environment and conservation include, among other things, the powers and duties to:

- (1) Establish, maintain, and publish, as directed by the commissioner, an accurate inventory of the state's water resources;
- (2) Determine, maintain and establish estimates of existing and future water use in the state; Define and propose, if necessary, water control districts within the state in the light of the director's findings, and make engineering plans and surveys for improving the quantity of the water supply in such proposed water control districts; Implement the basic water resource policy of the state by creating and defining the rights of respective competing users of the water resources of the state; Perform all duties assigned to the director relating to the determination of the waters that should be reserved for general public purposes, including navigation, sanitation, recreation, maintenance of fish and aquatic life, the maintenance of unusual scenic features and other public purposes; Determine the feasibility of proposed dams and water diversion structures to conserve

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<sup>1</sup> Section 2 of the 1947 act made the following statement: *It is hereby found and declared that because of expanding water utilization and actual or threatened shortages in natural water supply, as disclosed by the recent report of the Commission create to study water resources and water uses pursuant to the provisions of Chapter 82 of the 1955 Public Acts of Tennessee, the general welfare of the people of the State requires that immediate steps be taken to continue and expand the study of water resources and water uses in Tennessee in order to facilitate the creation and development of a basic, long range water resource policy for the state.*

the basic water resources of the state and review and recommend plans for any such proposed dams and diversion structures in any proposed water control districts; and Perform any other duties required by the terms of this part, or as may reasonably be required by the commissioner and the commission in relation to this part.[Acts 1957, ch. 19, § 5; impl. am. Acts 1959, ch. 9, § 11; impl. am. Acts 1963, ch. 169, § 3; 1972, ch. 860, § 2; T.C.A., § 70-2003; T.C.A. § [69-8-103](#).]**From Tennessee’s Water Quality Control Act** (dates back to 1971)

**69-3-102. Declaration of policy and purpose. —**

- (a) Recognizing that the waters of Tennessee are the property of the state and are held in public trust for the use of the people of the state, it is declared to be the public policy of Tennessee that the people of Tennessee, as beneficiaries of this trust, have a right to unpolluted waters. In the exercise of its public trust over the waters of the state, the government of Tennessee has an obligation to take all prudent steps to secure, protect, and preserve this right.
- (b) It is further declared that the purpose of this part is to abate existing pollution of the waters of Tennessee, to reclaim polluted waters, to prevent the future pollution of the waters, and to plan for the future use of the waters so that the water resources of Tennessee might be used and enjoyed to the fullest extent consistent with the maintenance of unpolluted waters.
- (c) Moreover, an additional purpose of this part is to enable the state to qualify for full participation in the national pollutant discharge elimination system established under § 402 of the Federal Water Pollution Control Act, Public Law 92-500.
- (d) Additionally, it is intended that all procedures in this part shall be in conformity with the Uniform Administrative Procedures Act, compiled in title 4, chapter 5.

[Acts 1971, ch. 164, § 2; 1977, ch. 366, § 1; T.C.A., § 70-325; Acts 1992, ch. 684, § 1.]

**From Tennessee’s Safe Drinking Water Act:** (dates back to 1983)

**68-221-702. Declaration of policy and purpose. —** Recognizing that the waters of the state are the property of the state and are held in public trust for the benefit of its citizens, it is declared that the people of the state are beneficiaries of this trust and have a right to both an adequate quantity and quality of drinking water.

[Acts 1983, ch. 324, § 3; T.C.A., § 68-13-702.]

**From Tennessee’s Inter-basin Water Transfer Act:** (dates back to 2000)

**69-7-202. Legislative findings — Purpose. —** The general assembly finds that as the population and demand for water resources grow, it is prudent to engage in planning for the future and to have an explicit mechanism in place to regulate proposals for the diversion of water from one river basin to another. By removing water from rivers, such inter-basin transfers raise issues of the protection of the public health, safety, welfare and the environment as the water is no longer available for use in the original stream. The primary purpose of this part is to allow regulation on the basis of the quantity of water in river basins. Although the common law

addresses some of these concerns, it relies on after-the-fact litigation rather than a modern regulatory system. As this is remedial and police power legislation, all sections of this part shall be liberally construed to effectuate its purpose.

[Acts 2000, ch. 854, § 3; T.C.A. § 69-8-202.]

**From the Tennessee Water Resources Information Act:** (dates back to 2002)

**69-7-302. Legislative intent — System of registration.** — The general assembly recognizes that in other states the withdrawal of ground water has caused the lowering of the ground water table and that there is potential for ground water or surface water withdrawals to impact water uses in Tennessee. Therefore, it is necessary and prudent to institute a system of registration so that adequate information is obtained to document current demand for water and to project growth in that demand as applicable to §§ [69-7-303](#) — 69-7-309.

[Acts 2002, ch. 800, § 3; T.C.A. § 69-8-302.]

**69-7-308. Regional water planning — Models — Report.** —

(a) The commissioner and the board<sup>2</sup> shall encourage and support regional water planning whenever possible. In the future, if there is a specific appropriation of state or federal funds for regional water supply planning, the board may require regional water supply planning and may provide incentives to encourage such regional planning, using the rulemaking authority under this part for so long as such specific appropriation is in effect. Among other criteria, state agencies are authorized to consider regional planning and regionalization efforts when awarding grants, making loans or funding projects.

(b) The general assembly recognizes that the Duck River development agency, compiled at title [64](#), chapter 1, part 6, and the Mississippi, Arkansas, Tennessee regional aquifer study are

<sup>2</sup> **69-7-303. Part definitions.** — As used in this part, unless the context otherwise requires:

- (1) “Board” means the water quality control board established pursuant to § [69-3-104](#);
- (2) “Commissioner” means the commissioner of the department of environment and conservation, the commissioner's duly authorized representative and, in the event of the commissioner's absence or a vacancy in the office of commissioner, the deputy commissioner of environment and conservation;
- (3) “Person” means any individual, corporation, company, limited liability company, partnership, association, group, utility district, federal, state or local government agency, or any combination of them;
- (4) “Source” means a location where surface or ground water is available, including, but not limited to, a water well, cave, spring, stream, river, lake, or impoundment; and
- (5) “Withdraw” means to take water from any source on a regular or recurring basis by means of an intake structure, pipe and pump that diverts water away from a source, or by any other conveyance with or without the use of suction. This does not include nonrecurring withdrawals, including, but not limited to, the filling of a swimming pool from a residential water well or accidental withdrawals caused by failure of pipes or equipment.

[Acts 2002, ch. 800, § 4; T.C.A. § 69-8-303.]

potential models for regional planning and modeling efforts. By January 1, 2003, the Duck River development agency and the Mississippi, Arkansas, Tennessee regional aquifer study shall report to the general assembly their findings and lessons learned. All state agencies are encouraged to cooperate with these agencies.

[Acts 2002, ch. 800, § 9; T.C.A. § 69-8-308.]

**69-7-309. Technical advisory committee.** — The commissioner shall appoint a technical advisory committee, the number of members to be determined by the commissioner, that shall advise the commissioner on the status of the state's water resources and future planning efforts. The technical advisory committee shall be composed of representatives of federal, state, and local agencies and of appropriate private organizations, including not for profit organizations. No member of this committee is entitled to a salary for duties performed as a member of the committee. No member is entitled to reimbursement for travel and other necessary expenses incurred in the performance of official duties.

[Acts 2002, ch. 800, § 10; T.C.A. § 69-8-309.]