

# Tennessee Groundwater Law: A Survey



APIEL CONFERENCE  
OCTOBER 2016

ANNE E. PASSINO

# National and Regional Trends: Drought

## Drought blamed for discolored water at Tennessee prison

The Associated Press

Published: October 19, 2016, 4:11 am

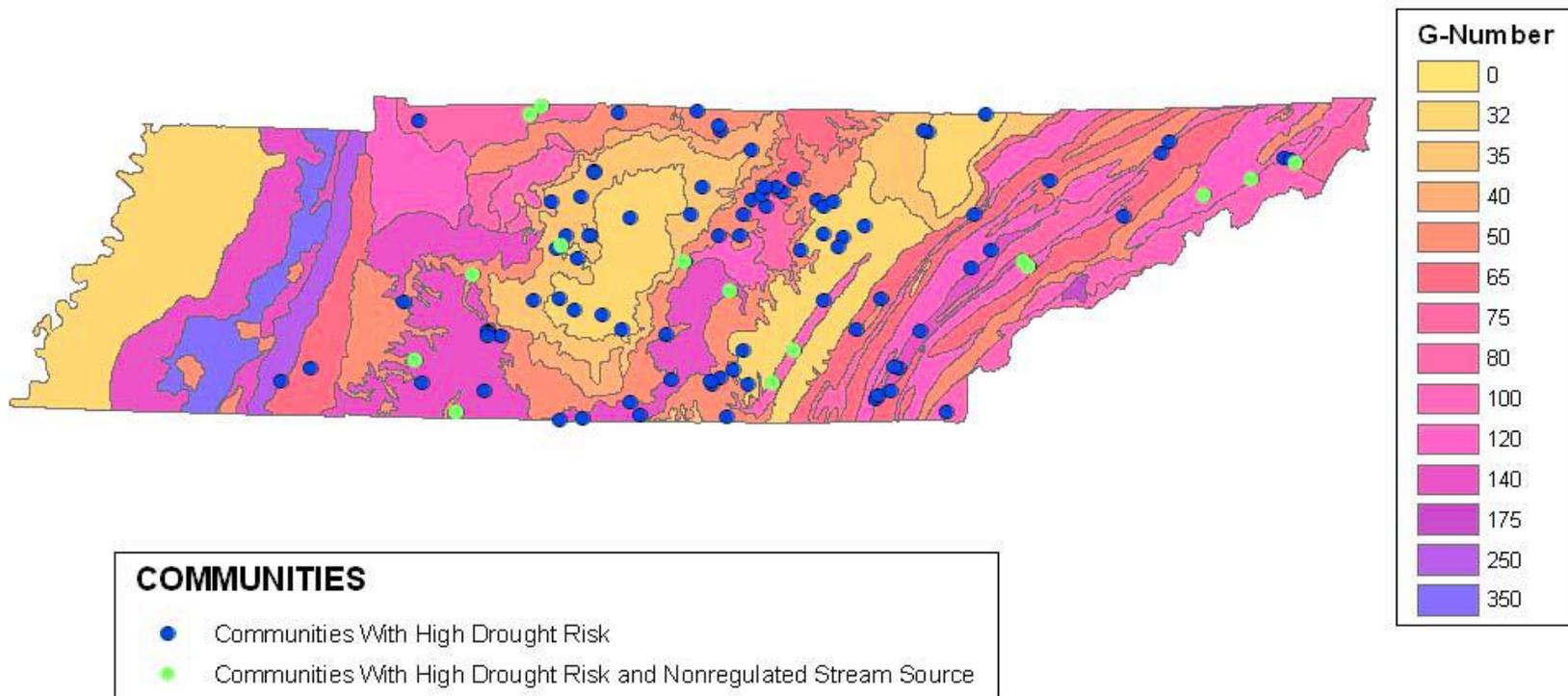


(Photo: WKRN)

PIKEVILLE, Tenn. (AP) — Tennessee corrections officials are blaming drought conditions for a change at a state prison in Bledsoe County that inmates say has brought discolored and stinky water to the facility.

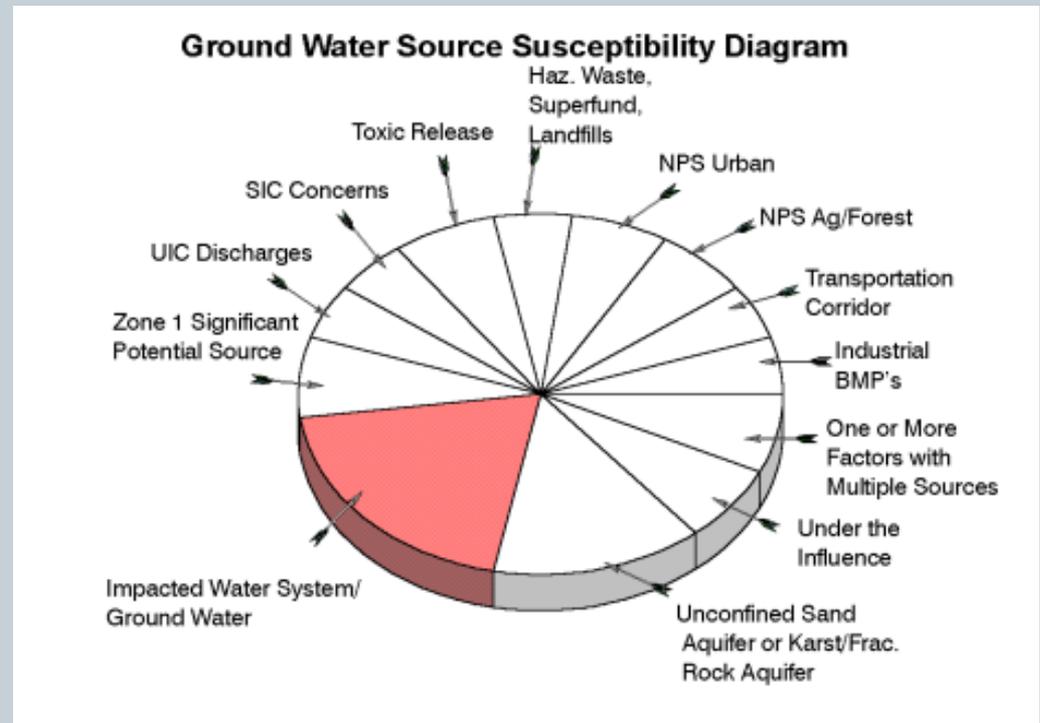
- ✦ In 2015, “NASA examined data about shifts in the planet’s gravitational field, they found alarming news: **21 of the world’s 37 largest aquifers are now running a deficit**, with 13 categorized as particularly concerning. In dry, developing regions of the world like North Africa and Pakistan, groundwater crises are coming fast.” Boyce Upholt, “An Interstate Battle for Groundwater: Mississippi and Tennessee are locked in a dispute over who can use the Delta’s aquifers,” *The Atlantic* (Dec. 4, 2015), available at <http://www.theatlantic.com/science/archive/2015/12/mississippi-memphis-tennessee-groundwater-aquifer/418809/>
- ✦ (hereafter “Upholt, *The Atlantic*”).

# Susceptibility & Threats: Climate



# Tennessee: Drinking Water Source Water

“The geology of Tennessee makes certain aquifers more vulnerable to contamination where there is no confining layer or naturally filtering layer to deter contamination from reaching the ground water (Figure 8). The unconfined sand aquifers of West Tennessee (particularly the Memphis Sand Aquifer) are vulnerable to contamination (see Figure 15) as are the karst limestone aquifers of Middle and East Tennessee. . . .”



Tennessee Source Water Assessment Program Submittal  
(TDEC), available at  
<https://www.tn.gov/assets/entities/environment/attachments/tswafinl.pdf>

# In the News



Memphis Flyer

## News Blog

[Archives](#) | [RSS](#)

« [Memphis Native Immigrates to Israel...](#)

[Jimmy and Rosalynn Carter Start Wor...](#) »

THURSDAY, AUGUST 18, 2016

### Environmentalists Question TVA's Plan to Drill Wells in Aquifer

POSTED BY BIANCA PHILLIPS ON THU, AUG 18, 2016 AT 8:15 PM

The Tennessee Valley Authority's (TVA) proposal to pull 3.5 million gallons of water per day from the Memphis Sand aquifer to cool its new under-construction gas plant is under fire by local environmentalists, many of whom showed up to a Sierra Club-sponsored public forum on the matter Thursday night.

About 100 people showed up to the meeting at the Benjamin L. Hooks Central Library to express concern over the plan to use Memphis' clean drinking water to cool the TVA's gas plant.

"In my opinion, this is not a good use of our drinking water," said panelist Brian Waldron, the director of the University of Memphis' Center for Applied Earth Science and

[click to enlarge](#)



Justin Fox Burks

The TVA is replacing the Allen Fossil Plant with a new gas plant.

# Mississippi v. Tennessee

No. 143, Original

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**In the Supreme Court of the United States**

STATE OF MISSISSIPPI,  
Plaintiff,

v.

STATE OF TENNESSEE; CITY OF MEMPHIS, TENNESSEE;  
AND MEMPHIS LIGHT, GAS & WATER DIVISION,  
Defendants.

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ON BILL OF COMPLAINT

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**ORDER**

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In August 2016, the undersigned directed the parties to meet and confer about whether to hold an evidentiary hearing before submitting for immediate review by the Supreme Court an Interim Report on the Memorandum of Decision on Tennessee's Motion to Dismiss, Memphis and Memphis Light, Gas & Water Division's Motion to Dismiss, and Mississippi's Motion to Exclude. Within two weeks of that order, the parties submitted letter correspondence, agreeing to proceed with an evidentiary hearing on the limited issue of whether the water at issue in this case is interstate in nature. The parties represented that they would work together to prepare and submit for consideration a proposed Case

Management Plan. In another letter submitted in September 2016, the parties represented that negotiations are still ongoing about the Case Management Plan. To hasten progress toward resolving the underlying dispute, the parties are directed to submit a proposed Case Management Plan, identifying any disputed areas, no later than fourteen days after the entry of this order.

**IT IS SO ORDERED, THIS 11th DAY OF OCTOBER, 2016**

  
HON. EUGENE E. SILER, JR.  
Special Master  
United States Court of Appeals for  
the Sixth Circuit  
310 South Main Street, Suite 333  
London, Kentucky 40741  
(606) 877-7930

# Nation States & International Law



United Nations

A/RES/63/124



General Assembly

Distr.: General  
15 January 2009

Sixty-third session  
Agenda item 75

## Resolution adopted by the General Assembly on 11 December 2008

[on the report of the Sixth Committee (A/63/439)]

### 63/124. The law of transboundary aquifers

*The General Assembly,*

*Having considered* chapter IV of the report of the International Law Commission on the work of its sixtieth session,<sup>1</sup> which contains the draft articles on the law of transboundary aquifers,

*Noting* that the Commission decided to recommend to the General Assembly (a) to take note of the draft articles on the law of transboundary aquifers in a resolution, and to annex the articles to the resolution; (b) to recommend to States concerned to make appropriate bilateral or regional arrangements for the proper management of their transboundary aquifers on the basis of the principles enunciated in the articles; and (c) to also consider, at a later stage, and in view of the importance of the topic, the elaboration of a convention on the basis of the draft articles,<sup>2</sup>

*Emphasizing* the continuing importance of the codification and progressive development of international law, as referred to in Article 13, paragraph 1 (a), of the Charter of the United Nations,

*Noting* that the subject of the law of transboundary aquifers is of major importance in the relations of States,

*Taking note* of the comments of Governments and the discussion in the Sixth Committee at the sixty-third session of the General Assembly on this topic,

1. *Welcomes* the conclusion of the work of the International Law Commission on the law of transboundary aquifers and its adoption of the draft articles and a detailed commentary on the subject;

2. *Expresses its appreciation* to the Commission for its continuing contribution to the codification and progressive development of international law;

3. *Also expresses its appreciation* to the International Hydrological Programme of the United Nations Educational, Scientific and Cultural Organization

<sup>1</sup> *Official Records of the General Assembly, Sixty-third Session, Supplement No. 10 (A/63/10).*

<sup>2</sup> *Ibid.*, para. 49.

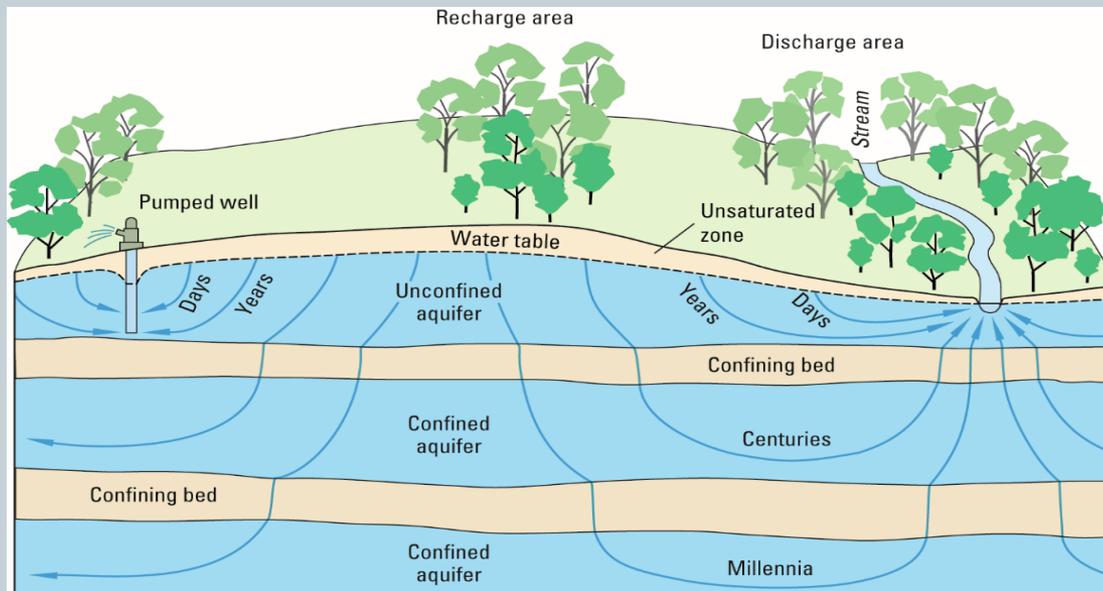
“A dispute between States over rights to water” is a serious matter—so serious, in fact, that it might [be] ‘grounds for war if the States were truly sovereign.’”

*Mississippi v. Tennessee*,  
Mem. Op. (Aug. 2016)  
(quoting *South Carolina v. North Carolina*, 558 U.S. 256, 289 (2010) (citing *Texas v. New Mexico*, 462 U.S. at 571, n.18)).

# Tragedy of the Commons?

# What is groundwater . . . scientifically speaking?

- *Most basic definition:* the water that fills the pores in underground layers of sand, gravel, and rock



American Bar Association Section of Environment, Energy, and Resources Interstate Water Management of a "Hidden" Resource— Physical Principles of Groundwater Hydrology Paul M. Barlow U.S. Geological Survey Northborough, MA 34th Water Law Conference Austin, TX March 29-30, 2016

[http://www.americanbar.org/content/dam/aba/events/environment\\_energy\\_resources/2016/water\\_law/conference\\_materials/5-barlow\\_paul.authcheckdam.pdf](http://www.americanbar.org/content/dam/aba/events/environment_energy_resources/2016/water_law/conference_materials/5-barlow_paul.authcheckdam.pdf)

# What is groundwater . . . Legally speaking?



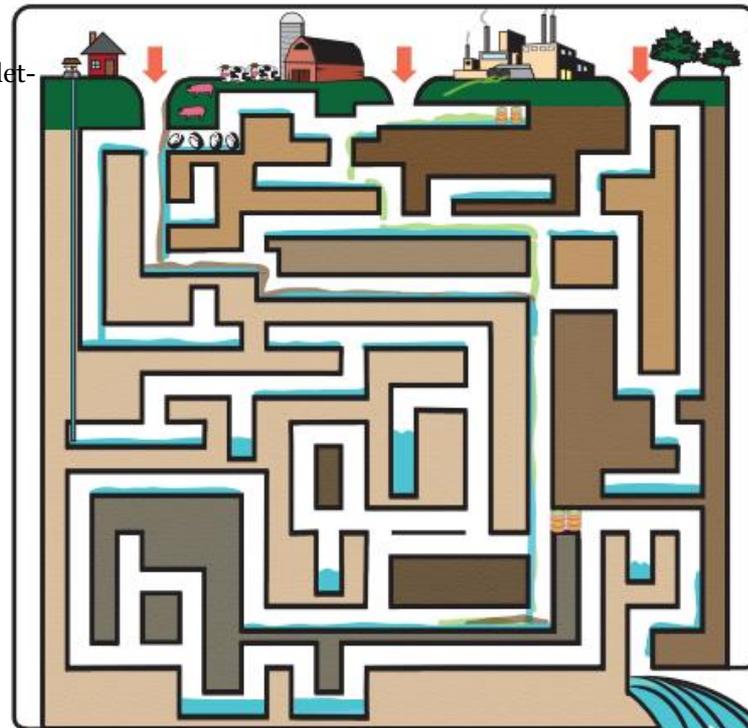
- Not too long ago:
  - “[W]hen it comes to groundwater—the water that fills the pores in underground layers of sand, gravel, and rock—grandiosity is common. In 1861 the Ohio Supreme Court declared such **water “so secret, occult, and concealed” that any attempt to regulate its use would be senseless.**” Upholt, *The Atlantic*.
- These days:
  - “**Ground Water**” means any water beneath the surface of the ground, including those under the direct influence of surface water, and includes any water from any well, cave, and spring.”
    - Tenn. Comp. R. & Regs. 0400-45-08-.04(9). *See also* Tenn. Comp. R. & Regs. 040-45-08-.04(15) (defining “surface water” as water located on the land surface that includes creeks, streams, rivers, lakes, and impoundments).
  - “**Ground Water**” means any waters of the State as defined in T.C.A. 69-3-103 (Tennessee Water Quality Control Act), occurring below the surface of the ground not contained by artificial barriers.
    - Tenn. Comp. R. & Regs. 0400-45-01-.34(d)5. *See also* Tenn. Comp. R. & Regs. 040-45-01-.34(d) (defining “aquifer,” “leaky confined aquifer,” “karst”)
  - “**Ground Water**” means water beneath the surface of the ground within the zone of saturation, whether or not flowing through known and definite channels.”
    - ✦ Tenn. Comp. R. & Regs. 0400-40-07-.03(22). *See also* Tenn. Comp. R. & Regs. 0400-40-07-.03 (defining “ground water table” as the upper surface of the zone of saturation by ground water and “zone of saturation” as a subsurface zone below the ground water table in which all of the interconnected voids and pore spaces are filled with water).
- NOTE: TDEC says, “Tennessee has an abundance of karst . . . . **Water in karst areas is not distinctly surface water or ground water.** In unconfined or poorly confined conditions, karst aquifers have very high flow and contaminant transport rates under rapid recharge conditions such as storm events.” <https://www.tn.gov/assets/entities/environment/attachments/tswafinl.pdf>

<https://www.nps.gov/subjects/caves/upload/Junior-Cave-Scientist-Booklet-07-15-2016.pdf>

# Find a Solution to the Pollution



**Karst** systems can be damaged by things that happen at the surface. **Pollution** by trash, sewage runoff, industrial chemicals, pesticides, herbicides, and fertilizers can harm karst environments. Some of the water we drink travels through karst. It is your job to minimize pollution. **Solve the maze. Enter through any of the three sinkholes and avoid as much pollution as possible.**



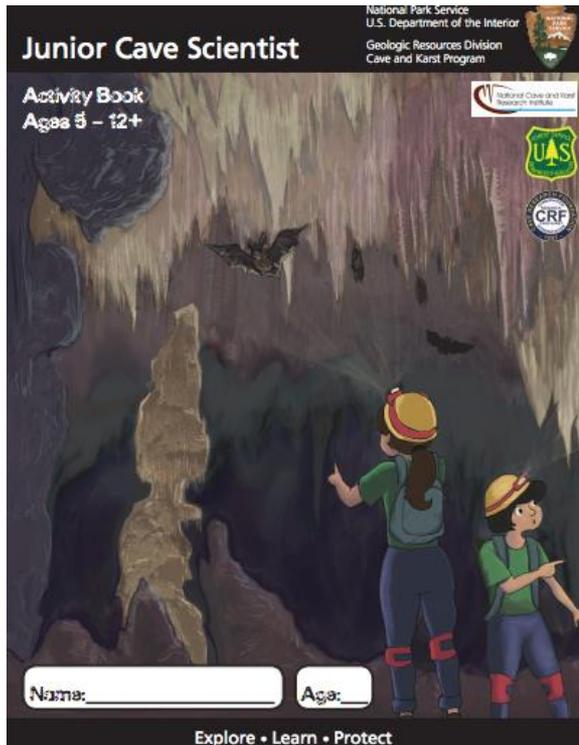
How do actions at the surface affect what happens below the surface?

How can you help keep groundwater clean?

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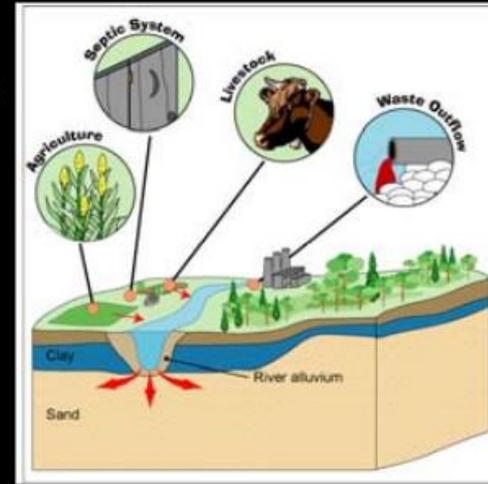
Spazio-Fact: San Antonio, Texas gets all of its water from the Edwards Aquifer, a karst aquifer.



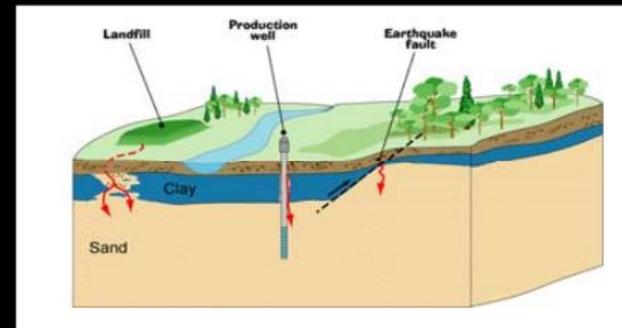
# Susceptibility and Threats to Water Supplies: Terrain

- “Throughout areas of Tennessee where carbonate aquifers are the predominant water-supply source, sinkholes and caves provide **rapid flow paths for the transport of contaminants into these aquifers**. Moreover, such features create complex flow paths that are **difficult to predict**. Disposal of domestic wastes by septic systems is widespread and will continue to threaten the quality of shallow ground water in many areas.” [http://www.ngwa.org/Professional-Resources/state-info/Documents/GWQ\\_Tennessee.pdf](http://www.ngwa.org/Professional-Resources/state-info/Documents/GWQ_Tennessee.pdf)

Point/non-point source pollution of rivers with subsequent transport of contaminants to the aquifer



Potential sources of contamination to our drinking water aquifer in a confined system





123 F.2d 884  
Circuit Court of Appeals, Sixth Circuit.

**SINCLAIR REFINING CO.**

v.  
**BENNETT.**

**No. 8700.**  
|  
**Nov. 11, 1941.**

**Appeal from the District Court of the United States for the Middle District of Tennessee; Elmer D. Davies, Judge.**

**Action by Annie Bennett against Sinclair Refining Company for damages, allegedly arising from pollution of two wells on plaintiff's property by gasoline escaping from nearby tanks of defendant. From a judgment for plaintiff, the defendant appeals.**

**Affirmed.**

The evidence establishes that in 1934 appellee owned about an acre and three-fourths of land in Monteagle, Grundy County, Tennessee, upon which stood an eight-room house in which she lived; that the house was centrally located and was accommodated by two wells, a bored well under the kitchen, about 45 feet deep, used for drinking purposes, and a dug well about 16 feet deep, located just off the porch, and used for other purposes.

In the fall of 1934, possibly early in October, appellee found gasoline in both wells, in such quantities as to render them unusable and despite numerous cleanings, traces of gasoline continued to be found in the wells up to the date of the trial in August, 1939, and they have remained useless for drinking, cooking and other purposes, except the roughest needs. Appellee has been compelled to use a neighbor's well. The pollution was so complete in 1934 that 60 gallons of pure gasoline were drawn from the deeper well.

The Log Cabin filling station, selling Sinclair gasoline and in charge of one Geymont, was located about 325 feet from appellee's property near the top of a ridge. Appellee's home was about 8 or 10 feet lower than the filling station and there was downhill slope from the station to the house so that drainage from the station 'couldn't go any other way.'



 KeyCite Yellow Flag - Negative Treatment  
Declined to Follow by [Reilly v. Gould, Inc.](#), M.D.Pa., May 28, 1997  
855 F.2d 1188  
United States Court of Appeals,  
Sixth Circuit.

Woodrow STERLING, et al., Plaintiffs–Appellees,  
v.  
VELSICOL CHEMICAL CORPORATION,  
Defendant–Appellant.

No. 86–6087.

|  
Argued Dec. 8, 1987.

|  
Decided Aug. 29, 1988.

|  
Rehearing and Rehearings En Banc Denied Oct.  
20, 1988.

In August, 1964, the defendant, Velsicol Chemical Corporation (Velsicol), acquired 242 acres of rural land in Hardeman County, Tennessee. The defendant used the site as a landfill for by-products from the production of chlorinated hydrocarbon pesticides at its Memphis, Tennessee, chemical manufacturing facility. Before Velsicol purchased the landfill site and commenced depositing any chemicals into the ground, it neither conducted hydrogeological studies to assess the soil composition underneath the site, the water flow direction, and the location of the local water aquifer, nor drilled a monitoring well to detect and record any ongoing contamination. From October, 1964, to June, 1973, the defendant deposited a total of 300,000 55-gallon steel drums containing ultrahazardous liquid chemical waste and hundreds of fiber board cartons containing ultrahazardous dry chemical waste in the landfill.<sup>1</sup>

Class action was brought against chemical corporation for personal injuries and property damage resulting to residents who lived near corporation's chemical waste burial site. The United States District Court for the Western District of Tennessee, Odell Horton, Chief Judge, [647 F.Supp. 303](#), entered judgment in favor of plaintiffs. Corporation appealed. The Court of Appeals, Ralph B. Guy, Jr., Circuit Judge, held that: (1) district court had subject matter jurisdiction, and (2) district court erred in attributing all of representative plaintiffs' alleged injuries to drinking or otherwise using contaminated water.

Affirmed in part, reversed in part and remanded.

 KeyCite Yellow Flag - Negative Treatment  
Distinguished by *Tennessee-Jellico Coal Co. v. Young*, Tenn.Ct.App.,  
December 22, 1934

14 Tenn.App. 54  
Court of Appeals of Tennessee.

TENNESSEE ELECTRIC POWER CO., Plaintiff in  
Error,  
v.  
VAN DODSON, Defendant in Error.

May 1, 1931.  
|  
Petition for Certiorari denied by Supreme Court  
Feb. 13, 1932.

**\*\*1 \*55** Appeal in Error from Circuit Court, White  
County; Hon. J. R. Mitchell, Judge.

Reversed and dismissed.

#### **Attorneys and Law Firms**

Shepherd, Carden, Curry & Levine, all of Chattanooga,  
and Malcolm C. Hill, of Sparta, for plaintiff in error,  
Power Co.

Camp & Butler, of Sparta, for defendant in error, Dodson.

#### **Opinion**

CROWNOVER, J.

The defendant Power Company several years ago constructed a forty foot dam across Caney Fork and Collins Rivers at Rock Island, fifteen or twenty miles southwest of Dodson's farm, for power purposes, and in 1925 it constructed or raised its dam to the height of seventy-five feet, which caused the water at pool level to back up Caney Fork and Calf Killer Rivers for several miles.

Dodson claims that since the raising of the dam the back water has obstructed the subterranean passage and outlets, and has retarded the discharge of the water from Sink Creek to such an extent that the waters of Sink Creek back up and overflow, each year, about thirty acres of his valuable bottom land destroy his crops, which renders the land practically valueless.

A lower owner has no right to pen back or obstruct the flow of the water so as to flood the lands of upper owners, or, by raising the level of the water in the channel, interfere with the drainage of the upper land, and the injured party may have an action for damages or for injunction. 30 Am. & Eng. Ency. of Law, 2 Ed., 374, 377; [Allen v. McCorkle, 3 Head, 181](#); [Harmon v. Carter, 59 S. W., 656](#)

As stated by counsel for plaintiff in error, there is not the necessary correlation or connection between the proven facts and the results claimed as justify an inference of responsibility. The fact that the two small springs were at times covered by the water of the pool is established, but there is no proof that this interfered with the flowage of water from Sink Creek. The jury was left to infer from this fact that the flow was retarded or that some underground disorder was thereby caused, and from this inference again infer or \*61 presume that this was sufficient to interfere with the flowage of the water from Sink Creek. It would have to be inferred that there was an obstruction at the two small springs, and it would have to be assumed that the unusually heavy rains had nothing to do with the situation, or that the trash and debris had not interfered with the underground courses, or that the other changing conditions did not substantially affect the water collected on Dodson's land. It is a piling up of inference upon inference, or presumption upon presumption, and is a matter of speculation as to which one of the several causes is responsible for the serious condition of the farm owned by defendant in error.

756 S.W.2d 274  
Court of Appeals of Tennessee,  
Middle Section, at Nashville.

WAYNE COUNTY, Tennessee, Respondent–  
Appellant,

v.

The TENNESSEE SOLID WASTE DISPOSAL  
CONTROL BOARD, Respondent–Appellee,

v.

Margaret GALLAHER, Intervenor–Respondent–  
Appellant.

May 27, 1988.

Published in Accordance with  
Tenn.Ct.App.R. 11.

Following determination by the Solid Waste Disposal Control Board that county landfill contributed to contamination of landowners' well, county was directed to close landfill properly and to provide landowners with permanent, uncontaminated supply of water. Upon county's petition for review, the Chancery Court, Davidson County, Irvin H. Kilcrease, Jr., Chancellor, upheld Board's finding that landfill caused contamination of water but determined that Board exceeded its authority by ordering county to supply landowner with uncontaminated water and appeal was taken. The Court of Appeals, Koch, J., held that: (1) evidence supported finding that landfill caused pollution to water; (2) neither Waste Disposal Board nor Commissioner of Health and Environment had authority to grant remedial relief to landowners in form of requiring county to supply water; and (3) though landowners could not seek administrative redress for interference with use and enjoyment of farm, they were entitled to seek such remedies under private nuisance theory in court of competent jurisdiction.

Affirmed.

The County also insists that the Board exceeded its authority by ordering it to provide the Gallahers with a permanent supply of uncontaminated water.<sup>5</sup> The trial court agreed. While the Tennessee Solid Waste Disposal Act ("Act") gives the Board broad authority to take steps to abate acts causing a nuisance to the public in general, we concur with the trial court's determination that the Board does not have the statutory authority to fashion remedies in essentially private nuisance actions. This relief must be found in the courts.

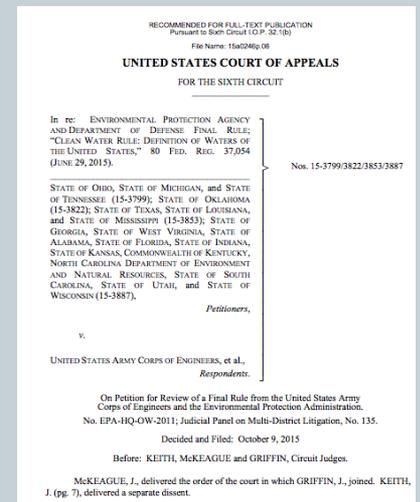
The pollution of a person's water supply has been recognized as conduct amounting to a private nuisance. W. Keeton, *Prosser and Keeton on the Law of Torts* § 87 n. 9 & 10 (5th ed. 1984); Prosser, *Private Action for Public Nuisance*, 52 Va.L.Rev. 997, 1019 n. 175 (1966).

# Artificial Jurisdictional Distinctions?



- Clean Water Act, 33 USC 1251 *et seq.*
  - “navigable waters” and definition of “Waters of the United States,” *see* 40 CFR 230.3 (note: stayed by 6th Cir.)
- Tennessee Water Quality Control Act of 1977
  - “Waters” means any and all water, public or private, on or beneath the surface of the ground that are contained within, flow through, or border upon Tennessee or any portion thereof, except those bodies of water confined to and retained within the limits of private property in single ownership that do not combine or effect a junction with natural surface or underground waters. Tenn. Code Ann. 69-3-103(44).
    - ✦ *See also* Tenn. Comp. R. & Regs. 0400-40-05-.02(36) (defining “hydrologic connection” as interlow and exchange between surface impoundments or containment structures and groundwater or surface water through an underground corridor or pathway – purpose to prevent groundwater flow contact resulting in the transfer of pollutants into groundwater)

Why might this matter?



# A few steps back: American Water Law



- Common Law Riparianism
- Regulated Riparianism
- Prior Appropriation

# Water Law Developed in Context



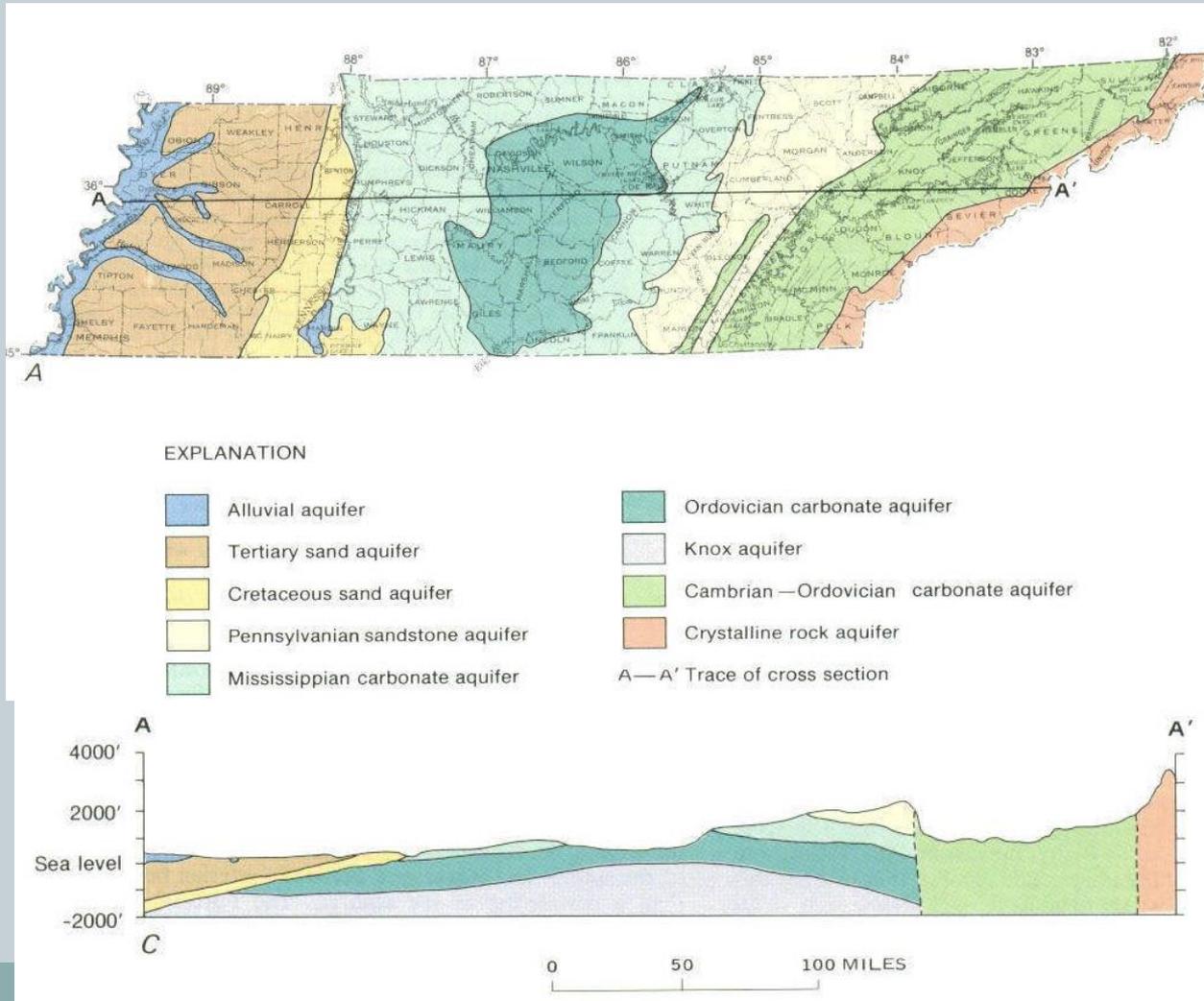
## (Dry) Western Water Law

- prior appropriation doctrine
- first in time, first in right
- rights must continue to be used to be maintained
- rights may be severed and sold separately from real property interests

## (Wet) Eastern Water Law

- Riparian rights
  - rights in association with ownership of land that abuts or underlies a surface watercourse
  - does not depend on when use begins or whether use actually continues
  - non-exclusive and shared
  - reasonable use so long as does not interfere with the use rights enjoyed by the co-riparian owners
  - competing uses may be valued against each other
- “Regulated riparianism”

# Tennessee



[http://www.ngwa.org/PublishingImages/States/Tennessee.jpg](http://www.ngwa.org/Publishing/Images/States/Tennessee.jpg)

# Tennessee: Regulated Riparianism + State Ownership



- Property owners do not OWN the water under the land.
  - Property owners may USE it consistent with “reasonable use” + pursuant to requisite permits
    - ✦ What’s reasonable? Depends on size and flow of stream, purpose of use, etc.; may change with additional user or conditions
    - ✦ Groundwater: Cannot unduly limit or injure neighbors’ rights to supply ponds, springs wells
- The State of Tennessee claims ownership of all waters in Tennessee – including groundwater – in the “**public trust.**” Tenn. Code Ann. 68-221-702, 69-3-102(a), 69-3-103.

“Hydrological knowledge has advanced plenty in the [last] 150 years, but groundwater retains an air of mystery. We know that there is a lot of it—20 to 100 times more than fresh surface water . . . .”

<http://www.theatlantic.com/science/archive/2015/12/mississippi-memphis-tennessee-groundwater-aquifer/418809/>



## TENNESSEE

### Intrastate Surface Water Law

## TENNESSEE

### Intrastate Ground Water Law

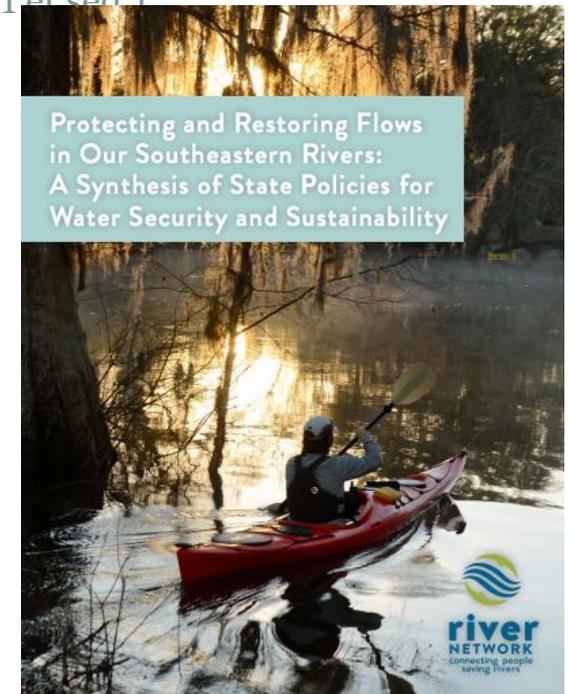
“Groundwater withdrawals in Tennessee are *regulated* through the Aquatic Resource Alteration Permits (ARAPs) *if the withdrawal impacts the flow of surface water*.

The same registration requirements and agricultural **exemptions** that apply to surface water [i.e., agriculture and forestry activities are exempt, and withdrawals existing prior to 2000 are exempt unless an increased withdrawal is requested] also apply to groundwater with the Tennessee Water Information Act requiring any recurring withdrawals of groundwater over 10,000 GPD be annually registered with TDEC.”

<https://www.rivernetwork.org/wp-content/uploads/2016/09/River-Network-Protecting-Restoring-Flows-in-SE-Rivers.pdf> (citing Tenn. Comp R. & Regs 0400-40-07-.02 and T.C.A. 69-7-301 et seq.)

## Groundwater

State	Minimum Registered Withdrawal	Minimum Withdrawal to Trigger Permit Requirement	Exceptions to Registering/ Permitting	Permit Monitoring Requirements
 ALABAMA	100,000 GPD and 50 GPM (only coastal)	NA		
 GEORGIA		100,000 GPD on a monthly average		
 NORTH CAROLINA	100,000 GPD	NA	Agriculture must register only if withdraw more than 1 MGD	
 SOUTH CAROLINA	3 MGM outside of Capacity Use Area	100,000 GPD (3 MGM) in a Capacity Use Area		Annual water use reports
 TENNESSEE	10,000 GPD	Withdrawals that alter the source stream (ARAP)		



<https://www.rivernetwork.org/wp-content/uploads/2016/09/River-Network-Protecting-Restoring-Flows-in-SE-Rivers.pdf>

# More on “Exemptions” – a barrier to knowledge?



## **0400-45-08-.03 SCOPE.**

These rules shall apply to all persons withdrawing water from either a surface water or ground water source if the average withdrawal is 10,000 gallons or more a day for any purpose, except those excluded by the Act and listed below:

- (1) A person may withdraw water for agricultural purposes without having registered the withdrawal. If a person withdraws water for agricultural purposes and another purpose, the water used for agriculture shall not count towards the calculation of whether the withdrawal exceeds an average of ten thousand (10,000) gallons or more per day. For purposes of this part, “agricultural purposes” shall mean use in the production or harvesting of an agricultural product, including, but not limited to, irrigation of crops, vines, production of hay, turf

September, 2012

1

WATER REGISTRATION REQUIREMENTS

CHAPTER 0400-45-08

(Rule 0400-45-08-.03, continued)

production and nursery stock production as defined at T.C.A. § 43-1-112, and watering of poultry or livestock.

# Tennessee Protections



## Prohibition:

- “The discharge by any person of sewage ***or any other waste or contaminant*** at such a proximity to the intake, ***well or spring*** serving a public water system in such a manner or quantity that it will or will likely endanger the health or safety of customers of the system or cause damage to the system.”

<http://www.tn.gov/assets/entities/environment/attachments/2014-gw-305b.pdf>

See Tenn. Comp. R. & Regs. 0400-45-01-.34(5)(a) (listing PROHIBITIONS), available at <http://share.tn.gov/sos/rules/0400/0400-45/0400-45-01.20160605.pdf>

# Another Prohibition/Protection



- “After concerns over addressing a major commercial water withdrawal in vicinity to a water supply spring and at the request of the Division of Water Resources, an additional prohibition was added (bolded in italics):
  - ‘The heavy pumping or other heavy withdrawal of water from a public water system ***or its water supply source*** in a manner that would interfere with existing customers’ normal and reasonable needs or threaten existing customers’ health and safety.’”  
<http://www.tn.gov/assets/entities/environment/attachments/2014-gw-305b.pdf>
  - See Tenn. Comp. R. & Regs. 0400-45-01-.34(5)(b), available at <http://share.tn.gov/sos/rules/0400/0400-45/0400-45-01.20160605.pdf>

# Interstate Waters



- Interstate water supplies can be allocated three ways:
  - ✦ through Congress
  - ✦ through interstate compacts
  - ✦ through decrees of the Supreme Court
    - ✦ “Federal common law governs interstate bodies of water, ensuring that the water is equitably apportioned between the States . . . .” *Virginia v. Maryland*, 540 U.S. 56, 74 n.9 (2003).
  - ✦ U.S. Constitution
    - “In all cases affecting Ambassadors, other public Ministers and consuls, and those in which a State shall be Party, the supreme Court shall have original jurisdiction.” U.S. Const., Art. III, sec. 2.
    - “No State shall, without the consent of Congress, . . . enter into any Agreement or Compact with another State.” U.S. Constitution, Article I, Section 10, Clause 3.

# Conflict?



- Competition for declining water supplies has led to increased competition and interstate water disputes, e.g.:
  - *Florida v. Georgia* -- Apalachicola-Chattahoochee-Flint River Basin
    - ✦ Atlanta needs water in hot, dry season BUT downstream: power generation, navigation, oyster farming, saltwater intrusion interests rely on a steady adequate flow
  - *Montana v. Wyoming* -- Yellowstone River Compact
  - *Kansas v. Nebraska* -- Republican River Compact \*
  - *Texas v. New Mexico* -- Rio Grande Compact (1974-89) \*
  - *Kansas v. Colorado* (1984)-2009)
- \* *Issue: how groundwater pumping depletes water supplies allocated to downstream states under their respective compacts*

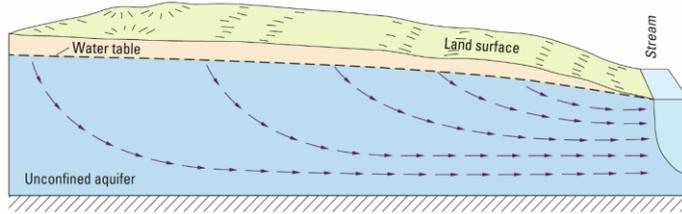
# Mississippi v. Tennessee: Background Facts



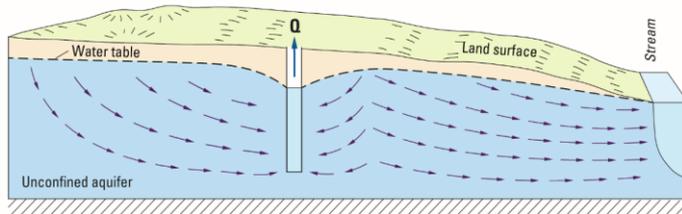
- Yellow fever (1870s)
- Muddy & polluted Wolf River (1880s)
- Ice company downtown drilled well, discovering aquifer (1887)
  
- “A water-protection task force in Memphis estimates that **58 trillion gallons** sit under Shelby County, stored deep beneath a kind of geological layer cake. In this metaphor, the layers are made up of water-storing sand and gravel separated by layers of less permeable clay. The alluvial aquifer used by farmers is just below the icing.”

<http://www.theatlantic.com/science/archive/2015/12/mississippi-memphis-tennessee-groundwater-aquifer/418809/>

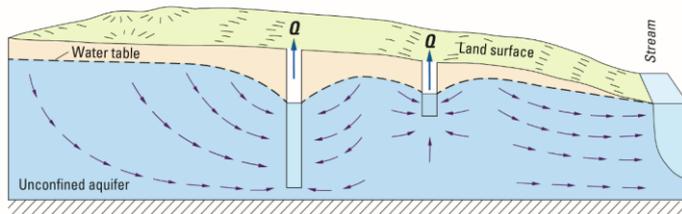
**A** Prepumping conditions



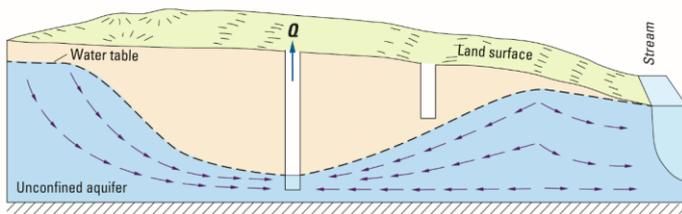
**B** Well pumping with cone of depression



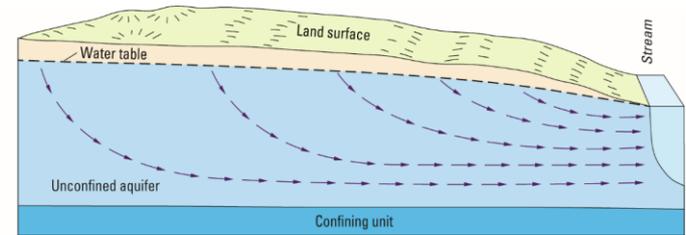
**C** Two wells pumping with well interference



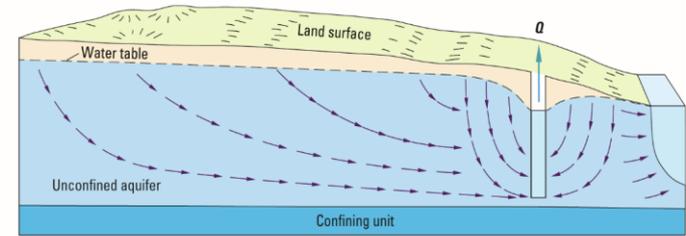
**D** Single well pumping—second well has gone dry



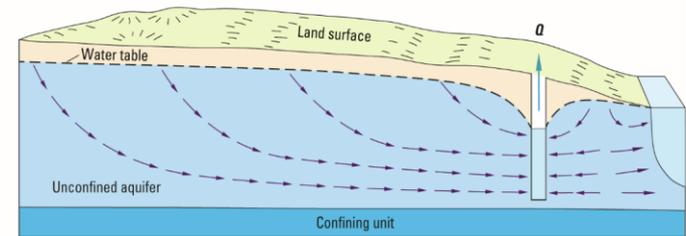
**A**



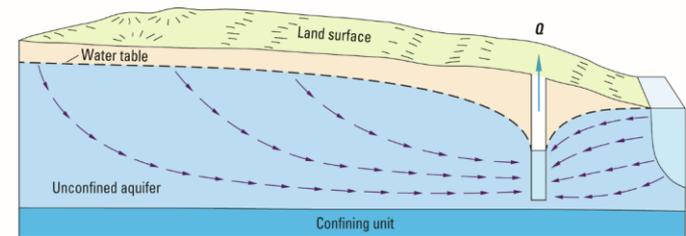
**B**

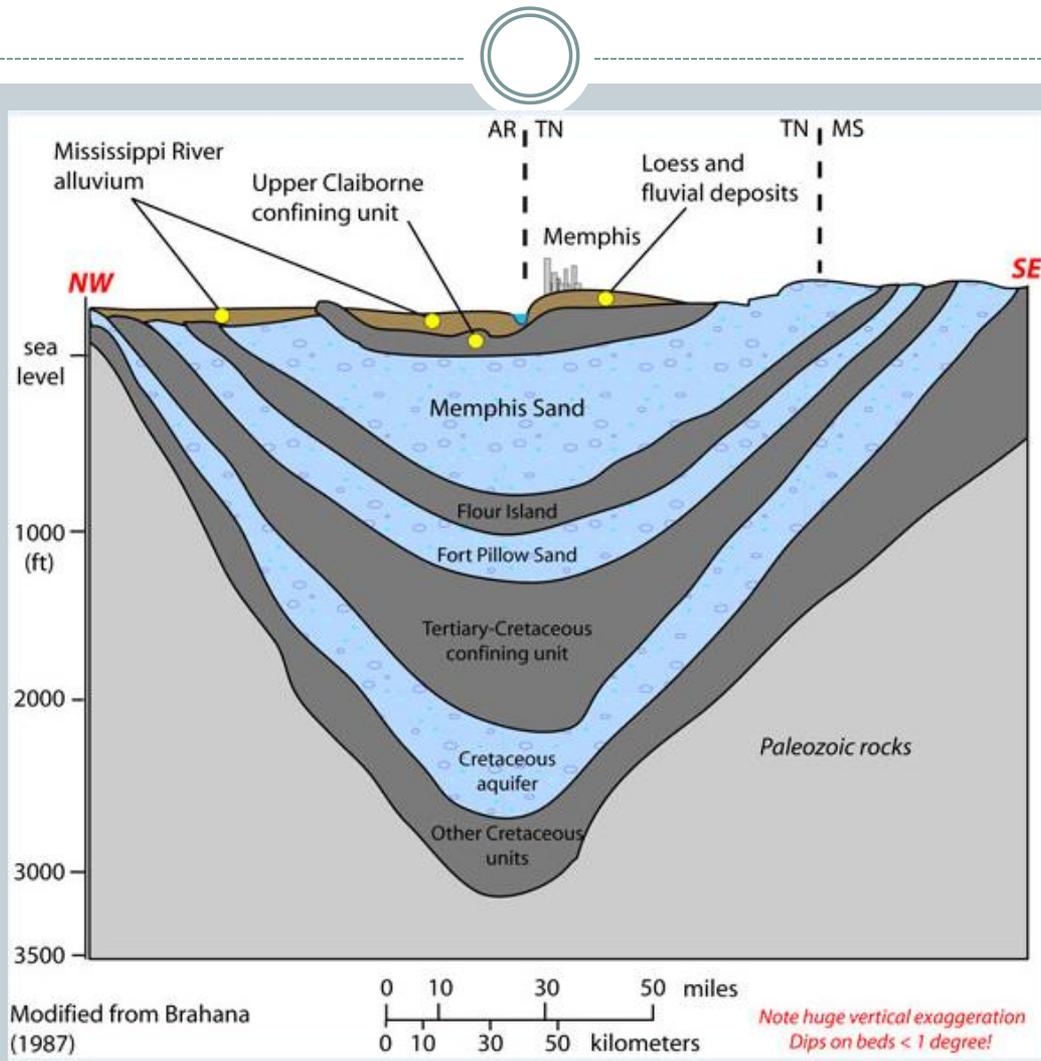


**C**

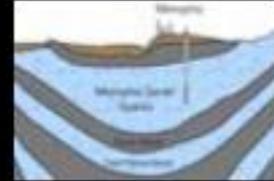


**D**





Shelby County and the surrounding region is well known for the quality and abundance of drinking water



However, USGS studies have indicated breaches in the confining unit once thought to protect the Memphis aquifer

These breaches or "windows" are where the confining clay thins or becomes absent

The windows provide a short circuit pathways for contamination to enter the Memphis aquifer

Note Memphis aquifer source water area



Source: USGS WRI 90-4092

# Mississippi v. Tennessee: Issue



- **Mississippi's Claim:**
  - \$615 million
  - never asks for equitable apportionment
  - Says aquifer should not be treated like surface water
  - Says it “owns” the water [note: Even Mississippi itself, when regulating groundwater use within its boundaries, does not consider overlying property as a signal of ownership], see U.S. Const. Art. IV, Section 3; Tenth Amendment
  - Tennessee has allegedly:
    - invaded Mississippi's sovereign territory,
    - committed trespass against Mississippi,
    - converted Mississippi natural resources,
    - intentionally violated Mississippi water law
  - Requests Tennessee use the Mississippi River as an alternate source of supply
- **Tennessee's Response**
  - **Mississippi is not due any relief until the aquifer is equitably allocated**

~Question about the Models~

# Mississippi v. Tennessee: Predictions



- ✦ Injunction?
  - Mississippi didn't ask for one
- ✦ Equitable allocation?
  - Arguably premature
- ✦ Interstate nuisance?
  - *See* Hall & Regalia, “Interstate Groundwater Law Revisited Mississippi v. Tennessee,” 34 Virginia Environmental Law Journal 152 (Feb. 2016) *available at* [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=273293](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=273293)  
[O](#)
- ✦ *Cf. Lindsley v. Natural Carbonic Gas Co.*, 220 U.S. 61 (1911) (if the wells reach a common source of supply, excessive or wasteful pumping from them may affect injuriously the rights of other surface owners, although the force exerted by the pumps does not reach their lands )

# Special Master's Decision on Tennessee's Motion to Dismiss & Mississippi's Motion to Exclude

No. 143, Original

*In the Supreme Court of the United States*

STATE OF MISSISSIPPI,  
Plaintiff,

v.

STATE OF TENNESSEE; CITY OF MEMPHIS, TENNESSEE;  
AND MEMPHIS LIGHT, GAS & WATER DIVISION,  
Defendants.

ON BILL OF COMPLAINT

**MEMORANDUM OF DECISION ON TENNESSEE'S MOTION TO DISMISS,  
MEMPHIS AND MEMPHIS LIGHT, GAS & WATER DIVISION'S MOTION TO  
DISMISS, AND MISSISSIPPI'S MOTION TO EXCLUDE**

HON. EUGENE E. SILER, JR.  
Special Master  
United States Court of Appeals for  
the Sixth Circuit  
310 South Main Street, Suite 333  
London, Kentucky 40741  
(606) 877-7930

August 12, 2016

## I. INTRODUCTION

This memorandum of decision addresses the motions for judgment on the pleadings filed by Tennessee; the City of Memphis, Tennessee ("Memphis"); and Memphis Light, Gas & Water Division ("MLGW"), as well as Mississippi's motion to exclude materials outside the complaint from consideration. As discussed in more detail below, the complaint appears to fail to plausibly allege that the Sparta Sand aquifer ("Aquifer") or the water in it is not an interstate resource. Because, under federal common law, equitable apportionment is necessary to grant relief in a dispute over interstate water in the absence of an interstate compact—and Mississippi has made it explicit that it does not seek an equitable apportionment of the Aquifer—dismissal would likely be warranted under Rule 12.

But the Federal Rules of Civil Procedure are only guides in cases within the Supreme Court's original jurisdiction, and not mandatory. The Court has tasked Special Masters with the responsibility of preparing an adequate record for review, and it has counseled them to err on the side of over-inclusiveness. On the other hand, the Court requests that Special Masters move the case along in timely and efficient manner. With the aim of balancing these interests, the undersigned concludes that holding an evidentiary hearing on the limited—and potentially dispositive—issue of whether the Aquifer is, indeed, an interstate resource is appropriate.



- “More troubling, perhaps, is that Mississippi’s claims run counter to the recommendations of most scientists and water-policy experts. **The dream for years has been a “conjunctive” system of water management—one that treats all of water as “one water.”** In such a system, surface water and groundwater are both viewed as parts of a single, continuous system. . . . [M]ost people involved in the debate over groundwater law understand how ridiculous the current policy is—but that the path to new legislation is difficult. Water rights are considered property rights, which are protected by both the U.S. and state constitutions. That leaves courts wary of entering decisions and legislatures wary of enacting new laws.”

<http://www.theatlantic.com/science/archive/2015/12/mississippi-memphis-tennesee-groundwater-aquifer/418809/>

# Sierra Club's Appeal



## Sierra Club appeals TVA permits to



Tom Charlier, [tom.charlier@commercialappeal.com](mailto:tom.charlier@commercialappeal.com) 5:42 p.m. CDT October 4, 2016



(Photo: Mike Brown, The Commercial Appeal)



The Sierra Club is appealing the Shelby County Health Department's recent approval of two permits authorizing the Tennessee Valley Authority to drill wells into a pristine aquifer to obtain cooling water for a power plant under construction in Southwest Memphis.

The Tennessee chapter of the conservation group sent a letter to the county Groundwater Quality Control Board seeking a formal hearing on its appeal of the final two of five well permits issued to TVA for its Allen Combined Cycle Plant. The first three permits, issued between May and July, are no longer subject to appeal.

TVA wants to draw some 3.5 million gallons of water daily from the Memphis Sand aquifer -- the source of drinking water throughout the county -- to cool the \$975 million natural gas-fired power plant that is scheduled to be completed by June 2018. Environmentalists and other critics have called on the agency to use an alternative water source, saying it would be wasteful to pump aquifer water for cooling purposes.

# Questions?

