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Lines in the Sand: Interstate Groundwater Disputes in the Supreme Court

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Since the turn of the twentieth century, states have brought their battles over shared *surface* waters to the U.S. Supreme Court. The U.S. Constitution grants the Supreme Court original jurisdiction to hear disputes between the states—and the Court has concluded that this includes disputes over surface water. The many rivers and lakes that flow across state boundaries have created a steady stream of interstate water cases over the past eleven decades.

Now, over a century after the Supreme Court established precedents for hearing and resolving interstate disputes over surface water, the Court faces its first case of a dispute over interstate groundwater. One might expect the Court to simply use its established surface water doctrines and apply them to groundwater disputes. Indeed, the modern trend is to treat disputes over groundwater the same way that we treat disputes over surface water. But the Court seems to be entertaining the idea of treating water underground differently from that above it. The fight between Mississippi and Tennessee will not only impact the drinking water supply for residents of Memphis; how the Court ultimately resolves its first interstate groundwater case will have tremendous implications for national water policy, state budgets, and the nature of property rights.

Before diving deeper, we must first ask: What is "groundwater"? Groundwater is water found beneath the Earth's surface within the saturated zone of a porous geologic formation known as an aquifer. In other words, groundwater is water that is stored not in aboveground formations (such as rivers and lakes) but instead rests beneath the Earth's surface in aquifers.

How the Court addresses its first groundwater case matters because groundwater matters. States have increasingly relied on groundwater to meet their growing water needs, so it was only a matter of time before interstate disputes over this resource reached the nation's highest court. Notably, this increase is not driven by people consuming more water. States are fiercely competing for water, but consumption rates have remained nearly flat for several decades. This is largely because of developing norms surrounding conservation and restoration of natural waterbodies. Legislatures, agencies, and other groups have consistently pushed to maintain and restore surface water in-stream flows, environmental protections, and ecosystem services. But groundwater is also sought after for other reasons. It is generally high quality and relatively unpolluted; widely available through drilling wells and pumping; and typically avoids the conflicts over navigation, recreational use, and habitat for fisheries that challenge surface water uses.

So it is unsurprising that the country has increasingly relied on groundwater. Since 1950, groundwater withdrawals have more than doubled, from 34 billion gallons per day to 76 billion gallons per day (as of 2010). Groundwater now provides almost one-fifth of the freshwater used in the United States.

Until the rise of interstate disputes, groundwater use was almost exclusively a matter of state law. Western states generally use the prior appropriation doctrine (known as first in time, first in right) for groundwater, just as for surface waters. Eastern states most typically use some form of correlative rights for groundwater use (like riparian rights for surface waters), although some states have clung to the old rule of capture in varying forms. From west to east, the trend is for states to supplement their common law doctrines with statutes regulating groundwater use by administrative bodies and agencies. And as groundwater science improves, states have turned their legal and policy attention to the surface water–groundwater connection and more integrated water management.

As states increasingly rely on groundwater to meet their freshwater demands, interstate conflicts have emerged across the country. This article discusses the two most prominent interstate groundwater disputes, one from the east and one from the west. The eastern case, *Mississippi v. Tennessee*, is the first interstate groundwater case before the Supreme Court and will set important precedent for future litigation. The western case, a dispute between Utah and Nevada, provides a promising alternative to litigation—an interstate compact that could serve as a model for cooperative management and protection of shared interstate aquifers.

Mississippi v. Tennessee—*the Supreme Court's First Interstate Groundwater Case*

In June 2015, the United States Supreme Court granted the State of Mississippi leave to file a bill of complaint against the State of Tennessee, the City of Memphis, and its utility Memphis Light, Gas & Water Division for wrongfully converting groundwater from the Sparta-Memphis Aquifer. Memphis is just north of the Mississippi border and relies heavily on this shared aquifer for its municipal water supply. Over a quarter million Memphis residents rely solely on groundwater for drinking water, making Memphis second only to San Antonio, Texas, among the nation's cities that depend solely on groundwater for municipal water supply.

Groundwater withdrawals by Memphis from the shared aquifer have grown steadily and significantly for over a century, paralleling the area's population growth over the last few decades. Withdrawals now average over 187 million gallons per day. According to Mississippi, this means that Memphis

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has been pumping water at rates much higher than that of the aquifer's natural recharge rate, resulting in permanent, harmful changes to a vital source of groundwater. Mississippi does not suffer from a water shortage itself, but argues that the pumping of groundwater has resulted in the wrongful conversion of its state property by Memphis.

Mississippi's attorney general first filed suit against Memphis on the claim of wrongful conversion of state property in 2007 in the United States District Court for the Northern District of Mississippi. *See Hood ex rel. Mississippi v. City of Memphis*, 533 F. Supp. 2d 646, 648 (N.D. Miss. 2008). The city of Memphis first responded with a motion to join the state of Tennessee as a defendant party (which Mississippi opposed). The district court ruled that Tennessee was a necessary and indispensable party "because in its absence complete relief cannot be accorded among those already parties to the action," but the court did not have the jurisdiction to join the state. *Id.* at 649. The district court ultimately ruled that relief could not be granted until it was determined "which portion of the aquifer's water is the property of which State." *Id.* at 648. The court cited the Supreme Court's precedent of applying equitable apportionment for resolving interstate water disputes, concluding that the Supreme Court would have to apportion the Sparta-Memphis Aquifer between the two states.

Equitable apportionment is the Supreme Court's established common law doctrine for resolving interstate disputes over shared waters and other natural resources. Equitable apportionment rests on two related rationales. The first, explained by Justice Holmes in *New Jersey v. New York*, 283 U.S. 336, 342–43 (1931), is a practical one: water is a "necessity of life that must be rationed among those who have power over it," and where two states "have real and substantial interests" in interstate water, those interests "must be reconciled as best they may be." The second, derived from our constitutional scheme and international law, respects the states as sovereigns with "equality of right," as described in *Kansas v. Colorado*, 206 U.S. 46, 97–98 (1907), when

> the action of one state reaches, through the agency of natural laws, into the territory of another state, the question of the extent and the limitations of the rights of the two states becomes a matter of justiciable dispute between them, and this court is called upon to settle that dispute in such a way as will recognize the equal rights of both and at the same time establish justice between them.

Equitable apportionment is a flexible doctrine and highly fact-dependent, looking at natural conditions, human needs and uses, effects and harms, and the states' relative benefits and damages. While it was developed and has been used most commonly for surface waters, the Supreme Court has considered groundwater issues within the equitable apportionment of groundwater-connected surface water. In *Kansas v. Colorado*, 206 U.S. 46, 114–15 (1907) and *Washington v. Oregon*, 297 U.S. 517, 524–26 (1936), the Supreme Court recognized that groundwater connected to a river should be treated as part of the flow of the river in an interstate equitable apportionment case. Further, in *Idaho ex rel. Evans v. Oregon*, 462 U.S. 1017, 1024 (1983), the Court held that interstate runs of anadromous fish, such as salmon and steelhead trout, were a resource that could be equitably apportioned, explicitly drawing parallels to the Court's water law precedents.

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Instead of pursuing an equitable apportionment claim against the state of Tennessee before the Supreme Court, Mississippi appealed the district court's dismissal to the Fifth Circuit. Mississippi again argued that Tennessee was not an indispensable party because the suit did not involve Tennessee's sovereign interests. Mississippi further argued against the equitable apportionment of the Sparta-Memphis Aquifer, claiming that it *owned* the groundwater resources within its sovereign territory.

The Fifth Circuit affirmed the district court and held that the Sparta-Memphis Aquifer was shared interstate water and must be equitably apportioned "before one state may sue an entity for invading its share." *Hood ex rel. Mississippi v. City of Memphis*, 570 F.3d 625, 629–30 (5th Cir. 2009). The court rejected Mississippi's argument that it owned a "fixed resource" interest in the aquifer water, stating that water "is not a fixed resource like a mineral seam, but instead migrates across state boundaries." *Id.* at 630. The Fifth Circuit concluded:

> The fact that this particular water source is located underground, as opposed to resting above ground . . . is of no analytical significance. The Aquifer flows, if slowly, under several states, and it is indistinguishable from a lake bordered by multiple states or from a river bordering several states depending upon it for water.

Id.

Mississippi then filed its first petition for writ of certiorari to the Supreme Court, based on the same arguments of absolute ownership of groundwater rejected by the lower courts. When the Court denied certiorari in 2010, *Mississippi v. City of Memphis*, 130 S. Ct. 1319 (2010), it seemed to tacitly approve the holdings of lower courts that interstate groundwater disputes must be resolved by equitable apportionment.

But after several years of further study and attempts at a negotiated resolution, Mississippi came back to the Supreme

Court for another try in June of 2014. This time it sought leave to file a bill of complaint before the Court against the state of Tennessee, the City of Memphis, and its utility Memphis Light, Gas & Water Division. Mississippi again argued that it has sovereign ownership of the water being drawn from the Sparta-Memphis Aquifer and that Tennessee's pumping is tantamount to wrongful conversion. Mississippi did not even seek equitable apportionment as an alternative to its novel wrongful conversion claim. Rather, it requested relief in the form of "a declaratory judgment establishing Mississippi's sovereign right, title and exclusive interest in the groundwater stored naturally in the Sparta Sand formation underlying Mississippi," along with $615 million in damages. Bill of Complaint, *Mississippi v. Tennessee*, No. 220143 (2014).

Despite opposition from the U.S. solicitor general, the weight of authority from analogous cases, and unanimous rulings from lower courts, the Supreme Court granted Mississippi leave to file its bill of complaint on June 29, 2015. The Supreme Court's grant of leave opens the door to three potential outcomes and precedents for deciding interstate groundwater cases. First, the Court could accept Mississippi's position that it has a sovereign ownership of water in the aquifer, and that Tennessee is converting this water regardless of whether this water was apportioned. This argument would bring back to life the state ownership theory that was explicitly rejected by the Supreme Court in a line of cases culminating in *Sporhase v. Nebraska*, 458 U.S. 941 (1982). In *Sporhase*, the Court "traced the demise of the public ownership theory and definitively recast it as 'but a fiction expressive in legal shorthand of the importance to its people that a State have power to preserve and regulate the exploitation of an important resource.'" 458 U.S. at 951.

The dispute over the Snake Valley Aquifer, which straddles the Utah-Nevada border, is not simply a fight between two states, but rather a complex dispute between a growing distant city in a desert region, local agriculture, and environmental protection.

Bringing the state ownership theory back to life would reverse decades of precedent and signal a radical change in our natural resources and water law jurisprudence—and it would significantly undermine progress in national policy making. This approach also would inefficiently deplete state budgets: using interstate resources will now come with a price tag for wrongful conversion. Given both precedent and national policy concerns, the Court should instead apply its equitable apportionment doctrine to groundwater, as both the U.S. solicitor general and defendants have argued.

Alternatively, the Court could fashion a rule for interstate groundwater disputes out of its interstate nuisance doctrine. Interstate nuisance has the benefit of allowing the Supreme Court to consider the benefits and harms of different uses of a shared interstate resource and then determine which uses are reasonable—without the full technical and legal process of quantifying and then apportioning the interstate aquifer. Interstate nuisance is most commonly used for pollution. But as demonstrated in *Wisconsin v. Illinois*, 278 U.S. 367 (1929), it can be used to restrict one state's water use to levels that minimize harm to neighboring states, while taking into account both the need for municipal water use and the importance of conserving freshwater resources. So the doctrine could be used here as well.

The Snake Valley Agreement—Utah and Nevada Craft a Model for Interstate Cooperation

Although conflicts over shared interstate groundwater are inevitable, lawsuits are not. Cooperative agreements, formalized as interstate compacts, offer an attractive alternative to litigation. The Snake Valley Aquifer straddles the Utah-Nevada border and is a classic example of shared interstate groundwater. The Snake Valley Aquifer dispute between Utah and Nevada is a telling case study and resulted in a cooperative agreement for groundwater protection and management—the proposed Agreement for Management of the Snake Valley Groundwater System, *available at* www.greatlakeslaw.org/files/Final_NV_UT_Snake_Valley_Agreement.pdf. Although the states have yet to adopt the negotiated agreement, it could serve as a model for other states who want to avoid the strife of protracted litigation.

The Snake Valley Aquifer dispute is not simply a fight between two states, but rather a complex dispute between a growing distant city, local agriculture, and environmental protection. The limited water in this desert region has historically been used for local agriculture, with the groundwater supporting a small community of residents and farmers on both sides of the Utah-Nevada border. While local water use for domestic supply and agriculture has remained fairly constant, climate change has led to a loss of winter snowpack. This is important because the snowpack feeds the aquifer, and thus future water supplies will likely shrink. The fragile local balance between water supply and demand is further threatened by Las Vegas (300 miles away), which needs water for its growing urban population. On top of all of this, environmental interests want to limit total water withdrawals to protect groundwater-dependent ecosystem functions and environmental services, most notably vegetation that prevents erosion and dust storms.

Since at least 1989, Nevada and Las Vegas have looked to the Snake Valley Aquifer to meet growing water demand. Opposing Las Vegas are local interests on both sides of the Utah-Nevada border. It's tempting to demonize Las Vegas as a water-hungry sin city, with a booming population and iconic images of luxurious water fountains surrounded by arid desert, but the truth is more complex. Las Vegas has developed some of the nation's most progressive and effective water conservation policies, resulting in a decline in per capita water usage. Despite these conservation measures, Las Vegas and Nevada face long-term water management challenges, including a

relatively small share of Colorado River water and the impacts of climate change on snowpack and resulting water supplies.

When the Las Vegas Valley Water District (later succeeded by the Southern Nevada Water Authority as the utility supplying Las Vegas) began making applications for groundwater in the Snake Valley, local residents and ranchers were alarmed. Legal challenges were filed and protests made. While these fights continue, Nevada has simultaneously pursued building a 300-mile pipeline to deliver the distant aquifer water to Las Vegas.

The pipeline route would cross federal land, another potential source of opposition. But Las Vegas has good friends in the United States Senate. In 2004, Nevada's Senators Harry Reid and John Ensign inserted a clause into the Lincoln County Conservation, Recreation, and Development Act of 2004, Pub. L. No. 108-424, § 301(e)(3), 118 Stat. 2413, 2414 (2004), directing the federal Bureau of Land Management to release land for the pipeline. However, Utah was already concerned about conflicts over the shared interstate groundwater, and Utah's Senator Bob Bennett inserted a clause requiring an interstate agreement before pumping from any shared basins:

> Prior to any transbasin diversion from ground-water basins located within both the State of Nevada and the State of Utah, the State of Nevada and the State of Utah shall reach an agreement regarding the division of water resources of those interstate ground-water flow system(s) from which water will be diverted and used by the project. The agreement shall allow for the maximum sustainable beneficial use of the water resources and protect existing water rights.

Id.

The 2004 act further required that a federal study be conducted of the Snake Valley Aquifer and surrounding region. The study was delivered to Congress in December 2007. The study ultimately determined that some excess water flowed out of the Snake Valley Aquifer, setting the stage for negotiations over this resource.

During and after the study, Nevada and Utah entered into nonpublic negotiations to apportion the water, eventually reaching a proposed agreement four years later. Under the terms of the proposed Snake Valley Agreement, unappropriated excess water would be split roughly evenly between the two states. Further, the states would implement an extensive environmental protection and water management scheme with provisions for ongoing data collection, monitoring, and dispute resolution. In retrospect, negotiating the terms of the cooperative agreement was easy, or at least rational. It was the political process of signing the agreement into law, which would typically be done as an interstate compact, which proved to be the real challenge.

A compact can be understood as a contract between states, subject to federal approval. Article I, Section 10, of the U.S. Constitution provides the authority and process for interstate compacts, requiring congressional approval. As happened with the proposed Snake Valley Agreement, interstate compacts are typically negotiated by governors and other state agency officials. Enactment then requires both the legislative approval of all party states and approval by Congress (with presentment to the president). Once effective, compacts have the full force and supremacy of federal law, and state commitments can be enforced in federal court.

Nearly 30 interstate compacts manage shared surface waters in the United States, including the Great Lakes, the Colorado River, the Rio Grande, the Arkansas River, the Susquehanna River, and the Delaware River. A few of these interstate compacts address groundwater resources that are hydrologically connected to the subject surface-water system. But before the proposed Snake Valley Agreement, no interstate compact had focused primarily on shared interstate groundwater.

The Snake Valley Agreement began with a premise "to work cooperatively to . . . resolve present or future controversies" over the shared groundwater, "assure the quantity and quality of the Available Groundwater Supply," "minimize the injury to Existing Permitted Users," "minimize environmental impacts," "maximize the water available for Beneficial Use in each State," and "manage the hydrologic basin as a whole." While "[t]he Agreement does not grant any water rights," it "allocates the Snake Valley groundwater resources between the two States, and provides for the joint management of the aquifer." This preserves the regulatory authority and decision making of the states for groundwater withdrawals within their respective borders.

Not all good policy deeds get rewarded politically. After the release of the Snake Valley Agreement, Utahns rallied against it. Much of the opposition was based on mistrust and rivalry with Las Vegas, rather than concerns with the terms of the agreement itself. Because of public opposition, Utah Governor Gary Herbert delayed signing the document for four years, and in 2013, ultimately announced that he would not sign the Snake Valley Agreement. He explained that "[a] majority of local residents do not support the agreement with Nevada. Therefore, I cannot in good conscience sign the agreement because I won't impose a solution on those most impacted that they themselves cannot support" and "[t]here is no more complex and emotional issue with which I have grappled as governor of this great state." Press Release, Office of the Utah Governor, *Governor Will Not Sign Snake Valley Water Agreement* (Apr. 3, 2013), *available at* www.utah.gov/governor/news_media/article.html?article=8675.

The political demise of the Snake Valley Agreement may prove only temporary, as potential litigation often causes parties to rethink previously rejected settlement agreements. However, regardless of its political fate, the Snake Valley Agreement should be used as a model for states with conflicts over shared groundwater resources. But ultimately, the motivation for entering into cooperative agreements is linked to the outcome of the *Mississippi v. Tennessee* case. If the Supreme Court sides with Mississippi and adopts the state ownership theory for groundwater, states may not be motivated to cooperate to manage interstate groundwater. Instead, they might choose to invest in determining their respective property and assessing damages for wrongful conversion. Hopefully the Court recognizes the shared interstate nature of groundwater and applies equitable apportionment or interstate nuisance. This way, states will see the benefits of proactive and cooperative management over litigation when it comes to this critically important natural resource.