

# Regulating Unprotected Texas Groundwater: The Final Frontier

By **Vanessa Puig-Williams**

Law360, New York (January 27, 2017, 10:11 AM EST) -- Beneath the great state of Texas, there is water. Texas has nine major aquifers and 21 minor aquifers underlying the state. These aquifers are a vital water supply source in Texas, providing approximately 60 percent of the 16.1 million acre-feet of water used in the state annually.[2] These underground waters also sustain surface water flow in rivers across Texas; thus, they are integral to the health of watersheds throughout the state and the economies that depend on this water. When W.H. Auden wrote, “Water is the soul of the Earth,” he must have been referring to groundwater.

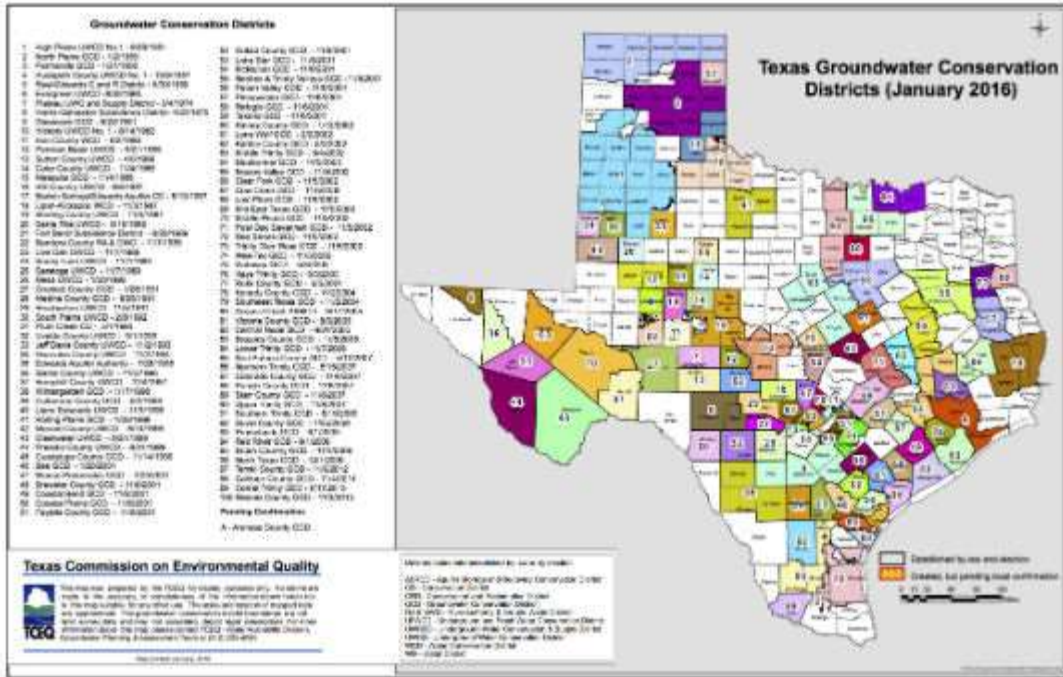


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In Texas, groundwater is regulated on the local level by groundwater conservation districts (GCDs), whose regulatory authority over subsurface aquifers is generally confined by county boundary lines rather than hydrogeological ones. In 1917 after devastating drought, voters approved the Conservation Amendment to the Texas Constitution, which provided the authority for the [Texas Legislature](#) to establish GCDs to conserve the state’s groundwater resources.[3] Chapter 36 of the Texas Water Code governs the powers and duties of GCDs in Texas.

Texas landowners own the groundwater beneath their land as private property.[4] While a landowner is entitled to drill for and produce groundwater below the surface of his property, the Texas Supreme Court has held that he is subject to reasonable regulation through GCDs.[5] In GCD-managed areas, a landowner’s right to pump groundwater is tempered by the Water Code’s goals of protecting property rights in groundwater and the groundwater resource. Groundwater regulation ideally prevents one landowner from pumping to such an extent that nearby wells are impacted.

Not all areas of Texas, however, are controlled by a GCD. Approximately one-third of the surface area of Texas is not regulated by a GCD. These areas where a GCD does not exist are depicted on the map below as areas without color. Out of the 254 counties in the state, 174 counties are either fully or partially within a confirmed or unconfirmed GCD.[6] In unprotected areas, there is no regulatory authority to monitor the rate and amount of groundwater withdrawal, and the rule of capture permits landowners to pump unlimited amounts of groundwater, even if doing so dries up neighboring landowners’ wells. Unregulated areas in Texas are the final frontier — the last remaining, lawless parts of the state where groundwater protection is nonexistent.



During a time of unparalleled pressure on groundwater resources across the state, the lack of groundwater protection in some areas of Texas is undermining important areas of law and policy — from property rights and natural resource protection, to groundwater management and regional water planning.

## Problems Caused by Lack of Regulation

### *Groundwater Management*

In the 1999 Texas Supreme Court case, *Sipriano v. Great Spring Water of America Inc*, a seminal decision upholding the rule of capture in Texas, Chief Justice Nathan Hecht noted in his concurring opinion that, “[w]hat really hampers groundwater management is the established alternative, the common law rule of capture.”[7] Indeed, large-scale groundwater pumping from unregulated areas in an aquifer can affect the ability of an adjacent GCD to effectively manage the portion of the aquifer within its jurisdiction.

Under Chapter 36 of the Water Code, the Texas Legislature has created a process where GCDs with jurisdiction over shared aquifers work together in a groundwater management area (GMA) to establish management goals, called desired future conditions (DFCs) for these aquifers. Chapter 36 requires groundwater districts to manage groundwater in a way that achieves the adopted DFC.[8] Unregulated pumping from a common aquifer, however, can affect the ability of a GCD to achieve the DFC. As “pumping in these areas is unregulated and, similarly, groundwater conditions are generally not monitored ... the ability of a GMA to achieve a DFC with any level of confidence” is impacted.[9]

### ***Protection of Springflow and Surface Water***

In unregulated areas of the state, the law — or lack of it — is failing to preserve and conserve not only groundwater but surface water as well. When unregulated groundwater pumping threatens springflow or surface water flow, Texas law provides no mechanism for protection. Texas law regulates groundwater and surface water as though they are distinct bodies of water, which is completely contrary to the water cycle.[10]

As groundwater from an aquifer is pumped for irrigation, municipal or industrial use, the water level in the aquifer is lowered and can result in decreased flow from springs at the surface. Reductions in springflow are problematic because springs sustain numerous creeks and rivers, especially during drought when surface runoff from rainfall is low. As springflow decreases, so does the flow of surface water, degrading aquatic habitats, threatening consumptive uses of water, interfering with recreational activities, and harming water quality. For example, Comanche Springs in Fort Stockton, Texas was once a treasured watering hole for travelers in West Texas and was the habitat of the endangered Comanche Springs pupfish before unregulated pumping of the Edwards-Trinity Aquifer caused springflow to cease.[11]

### ***Protection of Private Property***

Texans are passionate about protecting private property rights. The Texas Supreme Court's decision in *Edwards Aquifer Authority v. Day* clarified that land ownership includes a vested interest in groundwater in place that cannot be taken for public use without compensation, holding that “[g]roundwater rights are property rights” and that landowners own the groundwater beneath the surface of their land in place.[12] The court's decision, however, has resulted in an inequitable outcome, where the law now adds heightened protection of the property interest of landowners who seek to pump their groundwater over those who wish to conserve it.

As a result of *Day*, to protect his property interest, a landowner in a regulated area of the state can bring a takings action against a GCD that limits the landowner's ownership interest in groundwater by denying or reducing his production permit.[13] In an unregulated area, however, a landowner whose groundwater is drained and pumped away by another landowner has no remedy or no ability to protect his property interest. The landowner's only recourse, following the law of oil and gas, is to drill his own well and begin producing the groundwater he desired to preserve. This recourse only affords the landowner the option to claim and use his property interest rather than preserve or conserve his property for future use.

### **Challenges with Groundwater Regulation**

While a lack of groundwater regulation causes a number of inequities and management dilemmas, groundwater regulation in Texas has its own share of controversies. The difficulty in proposing solutions to problems caused by an absence of groundwater regulation is that some of the same problems occur when groundwater is regulated. To bring effective management of groundwater in areas where regulation does not exist, therefore, it is

essential to offer solutions aimed at improving the management of groundwater regulation where it does.

### ***Fragmented Regulatory Structure***

When numerous GCDs with different rules and management plans regulate a shared aquifer, effective management can be difficult to achieve long term. Under this circumstance, each GCD must work hard to develop a local regulatory approach that is consistent with and does not impair the regulatory approaches of other area GCDs. Aquifers are not confined by GCD boundaries, and GCDs managing the same aquifer can have different management goals, unique rules, permitting and spacing requirements, and often entirely distinct concerns. As a result, “[m]anaging for sustainability or even some level of allowable depletion breaks down with small-scale, county-based GCDs that do not have the power to regulate wells that are outside their district, even though such wells may draw from and deplete groundwater resources common to multiple districts.”[14]

One possible solution to preserve local accountability and control but move toward a more regional, aquifer-based management structure, is for the Legislature to require GCDs within a GMA to develop consistent rules and management plans that apply regionally to aquifers.

### ***Lack of Funding***

Many smaller GCDs in Texas have difficulty managing the groundwater resources within their jurisdiction because their budgets are limited. Chapter 36 provides GCDs with the authority to levy taxes and require permittees to pay user fees and production fees, but enabling legislation for many GCDs across the state limits this revenue authority. Many GCDs do not have the authority to levy taxes and others are not permitted to set production fees or production fees are set at a very low rate. This can “hinder operational efficiency and limit the availability of resources and human capital needed to effectively manage the resource.”[15] Without sufficient funding, some GCDs are limited in their ability to study aquifer dynamics, develop modeling, monitor drawdown and study the connection between groundwater and surface water.

At a minimum GCDs need the authority to set reasonable production fees and the ability to assess taxes if approved by voters. Moreover, if the state provided funding to GCDs, GCDs would have the financial ability to conduct scientific studies and monitoring and to defend their permitting decisions in the face of takings lawsuits.

### ***Failure to Protect Springs and Surface Water***

The presence of a GCD does not necessarily mean that springs and surface water are protected. Throughout Texas, in regulated areas and in unregulated areas, aquifers are declining.[16] The pressure to develop water supplies has resulted in more groundwater being pumped from aquifers than what these aquifers receive through recharge. Currently, most of the DFCs adopted by GCDs across the state allow for some level of drawdown in aquifers. Under DFCs that allow for declining aquifer levels, GCDs are essentially managing the depletion of aquifers across the state rather than their sustainability.

While Chapter 36 of the Water Code requires GCDs to consider impacts to springflow when

adopting DFCs for aquifers, it does not require GCDs to protect springflow. Chapter 36 of the Water Code requires GCDs, before granting or denying a permit, to consider whether “the proposed use of water unreasonably affects existing groundwater and surface water resources,”[17] but many GCDs fail to meaningfully consider this permitting criteria because they lack the tools to do so. For GCDs to know whether localized pumping or a regional DFC will impact surface water, scientific studies are necessary. Many GCDs lack the funding necessary to conduct these studies. While the Water Code contemplates the connection between groundwater and surface water by requiring GCDs to consider the impact to surface water in both adopting DFCs and making permitting decisions, the state has not assisted GCDs in making these considerations because it has not provided the necessary funding.

Recently, groundwater developers are maintaining that there is far more groundwater available in storage from aquifers across the state than what DFCs allow GCDs to permit.[18] The arguments in favor of pumping water stored in aquifers ignore the reality that in many parts of the state, before water from an aquifer is pumped, base flows to rivers and springflow will be captured. In other words, in some areas of the state, you cannot pump stored water without impacting surface water and springflow.[19]

The Legislature can craft and implement policy that requires GCDs to sustainably manage aquifers so that aquifers are not mined and surface water resources are not diminished. To protect springflow and surface water flows, the Legislature can require GCDs to adopt DFCs tied to maintaining base flows and springflows for rivers and springs within their jurisdiction. Policies that allow groundwater pumping to diminish a public resource and impede surface water rights or environmental flows should be reconsidered.

### ***Failure to Protect Property Rights***

The Water Code burdens GCDs with the responsibility of protecting private property rights, declaring that GCDs are “the state's preferred method of groundwater management in order to protect property rights, balance the conservation and development of groundwater to meet the needs of this state, and use the best available science in the conservation and development of groundwater ...”[20] GCDs must walk a fine line of managing a common pool resource that is privately owned.

The presence of a GCD does not guarantee that property rights in groundwater are protected. Section 36.113(d)(2) of the Water Code states that “before granting or denying a permit a GCD must consider whether the proposed use of water unreasonably affects existing permit holders.”[21] There are many landowners across Texas who do not have wells, either because they rely exclusively on rainwater or because they intend to drill a well at some point in the future. The Texas Supreme Court has declared that these landowners own the water beneath their property in place; the court did not differentiate between use and nonuse of groundwater, but instead emphasized ownership. Yet the regulatory structure under Chapter 36 of the Water Code favors use of the resource.

Furthermore, if a GCD’s regulations are not adequately protecting wells or groundwater near a large-scale groundwater development project, the rule of capture prevents affected landowners from being able to take legal action against the groundwater developer to protect their property interest. The Texas Supreme Court has declared that groundwater is

a private property right worthy of protection, but unless a landowner is using this groundwater, the legal system and regulatory structure fail to provide adequate protections.

To protect private property, the Legislature can amend Chapter 36 of the Water Code to ensure that all affected landowners, including those who wish to conserve their groundwater in place, have the legal right to defend their property interest in groundwater regardless of whether they own a well. Additionally, while this might be far reaching and logistically complex, the Legislature could amend the definition of "beneficial use" in the Water Code to include conservation. Landowners who desire to conserve their groundwater in place could apply for a "conservation permit" that essentially removes their ownership interest from the amount of groundwater available for production.

## **Conclusion**

Now, more than ever, groundwater use in Texas is wrought with complications and conflicts, whether it is regulated by a GCD or not. Texas' growing population is placing pressure on aquifers across the state, as groundwater developers seek additional water supply sources to meet increased consumption. While groundwater provides important water supply needs, it does much more; it is connected to and sustains the ecology and economy of entire watersheds. For this reason, even though there is a tremendous amount of groundwater beneath the state of Texas, there is far less available for people to use.

Groundwater has value in place. Current policy does not adequately recognize or protect this intrinsic value. Texas groundwater policy is allowing aquifers to decline at the expense of springs, at the expense of surface water and at the expense of landowners' private property interests. To bring effective groundwater management to areas of the state where it does not exist, Texas must resolve these fundamental challenges; otherwise efforts to conquer this final frontier will be in vain.

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[1] See <https://www.twdb.texas.gov/groundwater/>

[2] TEX. CONST. art. XVI, § 59(a).

[3] See Tex. Water Code § 36.002.

[4] Edwards Aquifer Auth. v. Day, 369 S.W.3d 814, 840-841 (Tex. 2012); Tex. Water Code § 36.002 (d)(1)-(3); Tex. Water Code § 36.0015(b).

[5] See [http://www.twdb.texas.gov/groundwater/conservation\\_districts/facts.asp](http://www.twdb.texas.gov/groundwater/conservation_districts/facts.asp)

[6] Sipriano v. Great Spring Water of Am. Inc., 1.S.W.3d 75 at 81, 83. (Tex. 1999) (Hecht, J., concurring).

[7] Tex. Water Code §36.1071(a).

[8] John Thomas Dupnik, P.G. A Policy Proposal for Regional Aquifer-Scale Management of Groundwater in Texas 27 at 85 (2012) (unpublished Masters Thesis, The University of Texas) available at [https://repositories.lib.utexas.edu/bitstream/handle/2152/19658/dupnik\\_thesis\\_20129.pdf?sequence=1](https://repositories.lib.utexas.edu/bitstream/handle/2152/19658/dupnik_thesis_20129.pdf?sequence=1)Dupnik, (referencing SENATE COMMITTEE ON NATURAL RESOURCES, Implementation of House Bill 1763 and Groundwater Management in Texas, INTERIM REPORT TO THE 81ST LEGISLATURE, at 5 (2009)).

[9] Charles R. Porter, Sharing the Common Pool, Water Rights in the Everyday Lives of Texans 8 (2014), (surface water, diffused surface water and groundwater are, have been or will be ultimately in union with one another; water exists in a conjunctive relationship in all three geological containers all the time).

[10] U.S. [Fish and Wildlife Service Recovery Plan](#) for the Comanche Springs Pupfish, 2-4 (1981), available at [https://ecos.fws.gov/docs/recovery\\_plan/051221a.pdf](https://ecos.fws.gov/docs/recovery_plan/051221a.pdf) (viewed on Nov. 11, 2014).

[11] Day, 369 S.W.3d 814, 833, 817 (Tex. 2012).

[12] Day at 838-40 (citing Sheffield Development Co. v. City of Glenn Heights, 140 S.W.3d 660 (Tex. 2004); Lingle v. [Chevron U.S.A., Inc.](#), 544 U.S. 528 (2005))(other citations omitted). A landowner would have to allege that a regulatory taking has occurred under the facts articulated in Sheffield Development Co. v. City of Glenn Heights, 140 S.W.3d 660 (Tex. 2004). As stated in the U.S. and Texas Supreme Court cases cited in Day and Sheffield, there are three inquiries in a takings claim under the federal decisions in Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419(1982), Lucas v. South Carolina Coastal Council, 505 U.S. 1003 (1992), and Penn Central Transp. Co. v. New York City, 438 U.S. 104 (1978).

[13] Dupnik, supra note 9 at 41.

[14] Dupnik supra note 9 at 43.

[15] See Ronald Kaiser and Frank F. Skiller, *The Threat of Aquifer Depletion In Texas*, 32 *Tex. Tech. L. Rev.* (2001).

[16] *Tex. Water Code* §36.113(d)(2), emphasis added.

[17] Wayne Beckermann, et. al., *The Bush School of Government and Public Service Report, An Assessment of Groundwater Regulation in Texas* at 17 (January 2016).

[18] Bill Hutchison, Ph.D., P.E., P.G., *Groundwater–Surface Water Interaction: Implications for Groundwater Planning and Management*, Presentation at the Texas Water Law Institute (October 2015).

[19] *Tex. Water Code* §36.0015(b).

[20] *Tex. Water Code* §36.113(d)(2).