

**Preventing a Bone-Dry Future:**  
**Texas’s Need for a Statewide Groundwater Conservation Authority**

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As Texas’s population and water-intensive economic activity continues to grow, the quote attributable to Mark Twain that “whiskey is for drinking, water is for fighting” holds true.

Local groundwater conservation districts (“GCD”) currently regulate groundwater in Texas. But, as the rate of groundwater depletion continues to increase, local GCD enforcement of groundwater regulations at the local level may not be a sufficient long-term solution to groundwater conservation in Texas, and the need for an effective regulatory structure and statewide groundwater conservation authority capable of balancing local needs with the state’s immediate and long-term needs for usable groundwater is increasingly apparent. The Texas Railroad Commission (“RRC”), the agency created by the Texas Legislature to regulate the production of oil and gas, offers a model that the Legislature can use to create a regulatory and conservation authority to manage groundwater.<sup>1</sup>

## **I. Texas’s Regulatory Evolution**

GCDs became Texas’ “preferred method of management” of groundwater pursuant to the Groundwater Conservation Act of 1949, which authorized the creation of GCDs 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 through rules developed, adopted, and promulgated by a district.”<sup>2</sup> In 1951, the High Plains Underground Water Conservation District No. 1 was established as Texas’ first GCD. Now approximately 70% of Texas’s groundwater is managed by one of the 101 existing GCDs.<sup>3</sup>

GCDs have three primary, legislatively-mandated management duties: 1) permitting non-exempt water wells, 2) developing a comprehensive management plan for the district, and 3) adopting necessary rules to implement the management plan.<sup>4</sup> In the last 25 years, the Texas Legislature has attempted to clarify and expand the authority of GCDs and their operations, but this has only led GCDs deeper into a complex administrative maze.<sup>5</sup> In 1997, the Texas Water Development Board was created and the state was divided into 16 regional water planning areas

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<sup>1</sup> *Creation of the Railroad Commission of Texas*, Railroad Commission of Texas, (July 20, 2015), <https://www.rrc.state.tx.us/about-us/history/informal-history-toc/creation-of-the-rrc/>.

<sup>2</sup> Tex. Water Code § 36.0015.

<sup>3</sup> *Groundwater Conservation District Facts*, Tex. Water Dev. Bd., [https://www.twdb.texas.gov/groundwater/conservation\\_districts/facts.asp#:~:text=1%2C%20covers%20an%20area%20of,the%20area%20of%20the%20state](https://www.twdb.texas.gov/groundwater/conservation_districts/facts.asp#:~:text=1%2C%20covers%20an%20area%20of,the%20area%20of%20the%20state) (last visited 9/25/2020); *Texas Groundwater Conservation Districts (October 2020)*, Texas Commission on Environmental Quality, <https://www.tceq.texas.gov/assets/public/permitting/watersupply/groundwater/maps/gcdmap.pdf> (last visited 12/14/2020).

<sup>4</sup> *What is a Groundwater Conservation District (GCD)?*, Texas Commission on Environmental Quality, [https://www.tceq.texas.gov/assets/public/permitting/watersupply/groundwater/maps/gcd\\_text.pdf](https://www.tceq.texas.gov/assets/public/permitting/watersupply/groundwater/maps/gcd_text.pdf) *see also* Tex. Water Code § 36.116(2)(A)-(F).

<sup>5</sup> Lehman, *supra* note 45; *see also* Act of June 2, 1997, 75th Leg., R.S., ch. 1010, 1997 Tex. Gen. Laws 3610; SB 2, 77th Regular Session; Act of May 27, 2001, 77th Leg., R.S., ch. 966, 2001 Tex. Gen. Laws 1991.

based on hydrological boundaries within the state and intended to facilitate regional water use planning and attempt to increase the powers of GCDs.<sup>6</sup> And in 2002, the Legislature passed a bill granting GCDs authority over well spacing and to limit ownership rights in groundwater.

Currently, GCDs operate from a local perspective in a complex administrative system governed by a panoply of statutes and input from multiple, other agencies.<sup>7</sup> This can predictably lead to significant confusion among regulatory authorities and agencies. Former TCEQ Commissioner Larry Soward summed up Texas' water management scheme by stating:

We have river authorities and aquifer authorities, underground water districts, municipal utility districts, irrigation districts, subsidence districts, cities, counties and state agencies. All of these entities bring a necessary, valuable and unique perspective to water resource management. The local and regional authorities have just as much at stake as the state, but there remain at times significant confusion as to who's doing what, when or how.<sup>8</sup>

GCDs also face a myriad of other challenges to effectively regulate groundwater, including the physical nature of aquifers, local motivations, legislative exceptions and exemptions, and private property rights.

Because aquifers cross county lines, aquifers may be managed by more than one GCD or only managed in part while the rest is unregulated and thus subject to the rule of capture.<sup>9</sup> In central Texas for example, both Bell County and its southern neighbor near Austin, Williamson County, draw from the Trinity Aquifer. Bell County is covered by a GCD, while Williamson County is not.<sup>10</sup> As Austin's population has grown, available groundwater from the Trinity Aquifer is being quickly depleted, undermining the efforts of the Bell County GCD.<sup>11</sup>

GCDs are managed by boards that are either elected or appointed by locally elected officials.<sup>12</sup> As a result, GCD boards may be hesitant to exercise the GCD's authority to infringe on the vested property rights of voters to conserve groundwater and instead avoid stringent regulation, allowing landowners and industries to continue to overdraw an aquifer within the district.<sup>13</sup> Landowners can challenge a GCD decision affecting their private property rights by bringing suit against the GCD. For example, in *Edwards Aquifer Authority v. Bragg*, a San Antonio appeals court upheld a takings claim in favor of local pecan farmers who were denied a withdrawal

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<sup>6</sup> Amy Hardberger, *World's Worst Game of Telephone: Attempting to Understand the Conversation between Texas's Legislature and Courts on Groundwater*, 43 TEX. ENVTL. L.J. 257, 268 (2013).

<sup>7</sup> See Tex. Water Code Chapter 36; see also Bruce E. Toppin III, *The Path of Least Resistance: The Effects of Groundwater Law's Failure to Evolve with Changing Times*, 38 St. Mary's L.J. 503, 547-8 (2007).

<sup>8</sup> Colleen Schreiber, *TCEQ Commissioner Outlines Thoughts on Water Policies*, *Livestock Wkly.* (San Angelo, Tex.), Sept. 29, 2005, at 15; see also Toppin, *supra* note 70, at n.262.

<sup>9</sup> *Id.*

<sup>10</sup> See Texas Groundwater Conservation Districts (October 2020), Texas Commission on Environmental Quality.

<sup>11</sup> *Id.*

<sup>12</sup> Tex. Water Code § 36.051.

<sup>13</sup> Christopher M. Matthews, *Neighbors Face Off Over Texas' Other Lucrative Resource: Water*, *The Wall Street Journal*, (July 16, 2019), <https://www.wsj.com/articles/neighbors-face-off-over-texas-other-lucrative-resource-water-11563286812>.

permit.<sup>14</sup> The pecan farmers were awarded damages and pre-judgment interest totaling over \$4,000,000.<sup>15</sup> Lawsuits such as this may also make GCDs reticent to implement conservation strategies limiting groundwater withdrawals for a short-term economic benefit; however, this would undercut GCDs' long-term goal of balancing "the conservation and development of groundwater to meet the needs of this state."<sup>16</sup>

GCDs' lack of authority over certain exempt water wells further compounds groundwater management difficulties.<sup>17</sup> The Texas Water Code provides an exemption to the permit requirements and withdrawal limitations for: 1) domestic or livestock water wells; 2) a water well supplying a rig actively engaged in oil and gas drilling or exploration operations; and 3) a water well authorized by the RRC under the Texas Surface Mining and Reclamation Act or required for mining activities.<sup>18</sup>

Thus, in a state where "[i]ndependence and defiance are...traditions," GCDs are left with the near insurmountable task of regulating groundwater for the long-term benefit of the entire state from a local level.<sup>19</sup> Ultimately, as Texas' water demand and the need for effective groundwater conservation come to a head, GCDs will be "undoubtedly...caught in the crossfire."<sup>20</sup>

## **II. Wanted: A Texas Sized Statewide Groundwater Conservation Agency**

A statewide groundwater conservation agency could offer a practical, capable, and effective method of regulating groundwater without sacrificing local input in groundwater management. To meet Texas' long-term groundwater needs, a statewide Groundwater Conservation Authority ("GCA") could be developed by looking to the RRC and other western states' methods of groundwater management and guided by expanded application of principles of oil and gas law.

### **A. The RRC Offers a Model to Build a Statewide Groundwater Conservation Authority**

The RRC regulates oil and gas activity production and is run by three Railroad Commissioners, each elected to six-year terms. While the Commissioners regulate oil and gas from Austin, the RRC's oil and gas division maintains twelve districts "for field oversight

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<sup>14</sup> *Bragg*, 421 S.W.3d at 124.

<sup>15</sup> Jess Krochtengel, *Texas Jury Awards Pecan Farmers \$2.5M In Water Takings Suit*, Law360 (February 23, 2016), <https://www.law360.com/articles/762833/texas-jury-awards-pecan-farmers-2-5m-in-water-takings-suit>. A statewide authority may not have changed the holding in *Bragg*, but the authority would have greater access to funds and would be better equipped to handle takings litigation. 421 S.W.3d at 152.

<sup>16</sup> Tex. Water Code § 36.0015.

<sup>17</sup> Tex. Water Code § 36.117(c).

<sup>18</sup> *Id.* at § 36.117(b)(1).

<sup>19</sup> Ken Paxton, *Cities Should end their Assault on Liberty and rule of law*, Statesman, (July 5, 2018), <https://www.statesman.com/news/20180705/commentary-cities-should-end-their-assault-on-liberty-and-rule-of-law>; *See Lehman*, supra note 123, at 105.

<sup>20</sup> *Id.* at 119

purposes.”<sup>21</sup> The districts’ boundaries reflect different production regions, each with individual offices to facilitate interaction between the RRC and industry participants.<sup>22</sup>

The structure of the RRC allows it to carry out statutory duties related to oil and gas production. The RRC’s duties include: 1) preventing “waste of the state’s natural resources,” 2) protecting “the correlative rights of different interest owners,”<sup>23</sup> and 3) preventing pollution.<sup>24</sup> The RRC’s authority has been challenged many times, but its regulations have been consistently affirmed as the RRC is the single “agency through which the oil and gas industry should be regulated for the prevention of waste.”<sup>25</sup>

Groundwater, like oil, is a fugacious underground resource found in different formations around the state and could be regulated under a similar structure to the RRC’s regulation of oil and gas.<sup>26</sup> A statewide GCA could consist of three Groundwater Commissioners elected by the citizens of the entire state of Texas. The State Water Plan’s 16 regional water planning areas could be used by a GCA as a basis for dividing the state into areas reflecting the underlying aquifers to be conserved. These regional water planning areas could continue to develop water management plans allowing regulations to be set to accommodate the unique characteristics of each aquifer similar to how the RRC regulates individual oil fields.<sup>27</sup> Ultimately, the GCA could maintain the central authority to implement regional plans for the benefit of the entire state of Texas instead of placing the burden on GCDs.

A key advantage of this proposed structure is eliminating the local influences on GCDs.<sup>28</sup> For example, without the pressure of local economic incentives, considerations of long-term sustainability would be less likely to be jeopardized by the public pressure often felt by locally elected GCD boards.<sup>29</sup> And landowner challenges would be brought against the state agency rather than a local GCD.<sup>30</sup>

Further, a statewide regulatory structure similar to the RRC would eliminate the issue of GCDs attempting to regulate groundwater in *part* of an aquifer. The 16 regional water planning areas encompass the entire state and unregulated areas within them would benefit from long-term,

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<sup>21</sup> *District Offices*, Railroad Commission of Texas, (last visited 10/20/2020), <https://www.rrc.state.tx.us/oil-gas/districtoffices/#:~:text=The%20Railroad%20Commission%20of%20Texas,Commission%20staff%20and%20industry%20representatives>.

<sup>22</sup> *Oil and Gas Division District Boundaries January 2020*, Railroad Commission of Texas, (last visited 10/20/2020), [https://www.rrc.texas.gov/media/21430/districts\\_color\\_8x11.pdf](https://www.rrc.texas.gov/media/21430/districts_color_8x11.pdf).

<sup>23</sup> Correlative rights can be described as the “reciprocal rights and duties of the owners in a common source of supply” to ensure that each owner receives their fair share of the common resource. Sidney Strong, *Application of the Doctrine of Correlative Rights by the State Conservation Agency in the Absence of Express Statutory Authorization*, 28 Montana L. Rev. 205, 206 (quoting Summers, *Legal Rights Against Drainage of Oil and Gas*, 18 Tex. L. Rev. 27, 32 (1939); see also *Elliff v. Texon Drilling Co.*, 210 S.W.2d 558, 582 (Tex. 1948).

<sup>24</sup> *Regulation Under the Oil and Gas Division*, Railroad Commission of Texas, <https://www.rrc.state.tx.us/about-us/organization-activities/divisions-of-the-rrc/oil-gas-division/>.

<sup>25</sup> *Railroad Commission v. Shell Oil Co.*, 206 S.W.2d 235, 241 (Tex. 1947).

<sup>26</sup> See Alex W. Horton, *Where’d All the (Ground) Water Go? Three Approaches to Balancing Resource Efficiency with Rural Sustainability in Texas*, 49 S. Tex. L. Rev. 691, 711 (2008).

<sup>27</sup> See *Shell Oil Co.*, 206 S.W.2d at 242.

<sup>28</sup> See Horton, *supra* note 159.

<sup>29</sup> Matthews, *supra* note 93.

<sup>30</sup> See *Stratta*, 961 F.3d at 356.

sustainable groundwater availability.<sup>31</sup> Situations similar to that of Bell and Williamson County discussed above would be avoided by implantation of a regional water plan under the authority of the GCA.<sup>32</sup>

The structure of the RRC as applied to a statewide GCA would allow Texas to address the current lack of effective groundwater regulation within the state and enable the GCA to address the long-term management needs of the entire state while maintaining local input and management.

## **B. Texas Courts' Application of Oil and Gas Precedent to Water Law**

Perhaps the most significant application of Texas oil and gas law to groundwater water law is the *Edwards Aquifer Authority v. Day* case, in which the court applied the 'ownership-in-place' theory of ownership to groundwater.<sup>33</sup> The ownership-in-place theory has long been applied to oil and gas providing that "a landowner's 'right to the oil and gas beneath his land is an exclusive and private property right...inhering in virtue of his proprietorship of the land, and of which he may not be deprived without a taking of private property.'"<sup>34</sup> In other words, a "landowner is regarded as having absolute title in severalty to the oil and gas in place beneath his land."<sup>35</sup>

In *Day*, a landowners filed suit against the Edwards Aquifer Authority after drilling a water well and being denied a withdrawal permit to grow oats, peanuts, and graze cattle.<sup>36</sup> This required the court to decide the nature of landowners' interest in groundwater, and whether the denial of a landowner's permit could constitute a compensable taking.<sup>37</sup> In comparing water and oil the court stated "[t]o differentiate between groundwater and oil and gas in terms of importance to modern life would be difficult."<sup>38</sup> Accordingly, the Court concluded that "oil and gas are owned in place, and we find no reason to treat groundwater differently."<sup>39</sup> Moreover, the Court held the permit-denied landowner had brought a legitimate takings claim, and the "requirement of compensation may make the regulatory scheme more expensive, but it does not affect the regulations...or their goals for groundwater production."<sup>40</sup>

The Texas Supreme Court has also applied the accommodation doctrine of oil and gas law to groundwater in *Coyote Lake Ranch, LLC v. City of Lubbock*.<sup>41</sup> The accommodation doctrine provides that "[a]bsent an agreement to the contrary, an oil-and-gas lessee has an implied right to use the land as reasonably necessary to produce and remove the minerals but must exercise that

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<sup>31</sup> Tex. Water Dev. Bd., *supra* note 160.

<sup>32</sup> Hargrove, *supra* note 82.

<sup>33</sup> *Day*, 369 S.W.3d at 832.

<sup>34</sup> *Day*, 369 S.W.3d at 829 (Tex. 2012) (quoting *Texas Co. v. Daughtery*, 107 Tex. 226, 176 S.W. 717 (1915)); *see also Brown v. Humble Oil & Ref. Co.*, 126 Tex. 296, 83 S.W.2d 935, 940 (1935) (ownership in place gives a landowner "the right to produce all of the oil and gas that will flow out of the well on one's land...it is limited only by the physical possibility of the adjoining landowner diminishing the oil and gas under one's land by the exercise of the same right").

<sup>35</sup> *Eliff*, 210 S.W.2d 558, 561.

<sup>36</sup> *Day*, 369 S.W.3d at 818.

<sup>37</sup> *Id.*

<sup>38</sup> *Id.* at 831.

<sup>39</sup> *Id.* at 824.

<sup>40</sup> *Id.* at 843.

<sup>41</sup> 489 S.W.3d 53.

right with due regard for the landowner's rights.”<sup>42</sup> The question of the accommodation doctrine’s applicability came to the Court decades after the City of Lubbock purchased the Coyote Lake Ranch’s groundwater supplies in 1953.<sup>43</sup> The dispute arose in 2012 when the City of Lubbock planned to exercise the broad provisions of the 1953 groundwater conveyance by drilling 20 test wells in the center of the ranch followed by another 60 across the property.<sup>44</sup> As it started drilling, the City of Lubbock began making significant destructive use of the surface estate under the theory that “the law imposes no duty on groundwater owners, as it does mineral owners, to accommodate the surface owner.”<sup>45</sup> Disagreeing with the City of Lubbock and deciding to apply the accommodation doctrine, the Court noted that “[g]roundwater and minerals both exist in subterranean reservoirs in which they are fugacious,” and both estates may be severed from the land.<sup>46</sup> Additionally, in reference to *Day* the court provided that “[a]nalogizing groundwater to minerals in determining the applicability of the accommodation doctrine is no less valid than it is in determining ownership.”<sup>47</sup>

The judiciary’s intertwinement of oil and gas and groundwater law is a more than promising sign that Texas is ready to regulate groundwater in the same statewide manner that it does oil and gas.

### **C. Similarly Situated States Successfully use Statewide Groundwater Conservation Agencies**

Texas is not the only drought prone western state with a hearty thirst for groundwater and can take guidance from other states’ management structures. The groundwater management structures of Kansas, Colorado, New Mexico, and Wyoming are particularly helpful.

Similar to Texas, the western half of Kansas relies heavily on groundwater for commodity production while the eastern half is rich in surface water.<sup>48</sup> Kansas regulates groundwater from a state level, but maintains five groundwater management districts, four of which overly the Ogallala aquifer.<sup>49</sup> These groundwater management districts provide advisory input along with local groundwater management and research.<sup>50</sup> Ultimately though, major groundwater regulatory decisions are submitted to the statewide groundwater authority.<sup>51</sup>

Colorado splits groundwater into three classes: 1) tributary groundwater; 2) non-tributary groundwater (bearing the closest resemblance to many of Texas’ aquifers); and 3) non-designated,

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<sup>42</sup> *Id.* at 55. In plain language, the accommodation doctrine requires the owner of the sub-surface estate to accommodate a surface owners existing use of the land if the sub-surface estate owner has an available reasonable alternative to access the sub-surface estate that does not interfere with the surface owners existing use. *See Id.* at 62.

<sup>43</sup> *Id.* at 56

<sup>44</sup> *Id.* at 57

<sup>45</sup> *Id.*

<sup>46</sup> *Id.* at 63.

<sup>47</sup> *Id.* at 64.

<sup>48</sup> *Ground-Water Management, Kansas Ground Water*, [http://www.kgs.ku.edu/Publications/Bulletins/ED10/07\\_manage.html](http://www.kgs.ku.edu/Publications/Bulletins/ED10/07_manage.html) (last visited 10/23/2020).

<sup>49</sup> *Id.* *See also* Kans. Stat. Ann. § 82a-702.

<sup>50</sup> Kaiser & Skillern, *supra* note 197, at 287.

<sup>51</sup> *Id.*

non-tributary groundwater.<sup>52</sup> With respect to non-tributary groundwater, Colorado regulates groundwater basins via a statewide Groundwater Commission.<sup>53</sup> The Groundwater Commission designates groundwater basins applying different conservation regulations to each basin and establish local groundwater districts.<sup>54</sup>

New Mexico Regulates both surface and groundwater statewide through the State Engineer's Office.<sup>55</sup> The State Engineer's Office has gradually established different underground basins subject to the Office's authority.<sup>56</sup> Unlike many states, New Mexico's water law recognizes the interconnection of surface and groundwater.<sup>57</sup> This system allows the State Engineer's Office to take into account the adverse effects that over-consumption of groundwater can have on existing surface water supplies.<sup>58</sup>

Wyoming also regulates groundwater statewide through the Ground Water Division of the State Engineer's Office.<sup>59</sup> The Wyoming Legislature enacted a more comprehensive water code requiring the appointment of a "Division Advisory Committee" as well as aquifer districts to provide for local input and regulatory assistance to the State Engineer's Office.<sup>60</sup>

As evinced by Kansas, Wyoming, and Colorado's management structures, local input and control does not have to be sacrificed in a transition to a statewide groundwater management platform.

### III. Conclusion

Texas faces immediate and increasingly severe groundwater depletion, and it is time for the lone star state to transition to a comprehensive statewide groundwater regulatory structure. Establishing a statewide GCA modeled on the RRC could address the current shortcomings of the current GCDs. The resources and backing of such a statewide agency could lead to more effective local input and management in groundwater conservation. It is time that groundwater conservation, a statewide problem, received a statewide solution.

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<sup>52</sup> *Id.* at 282; see also *Water in the West*, Colorado, Stanford University <https://groundwater.stanford.edu/dashboard/colorado.html> (last visited 10/23/2020).

<sup>53</sup> See Colo. Rev. Stat. § 37-90-104(1).

<sup>54</sup> Kaiser & Skillern, *supra* note 201.

<sup>55</sup> *Water in the West, New Mexico*, Stanford University <https://groundwater.stanford.edu/dashboard/new-mexico.html>

<sup>56</sup> *Id.*

<sup>57</sup> *Id.*

<sup>58</sup> *Id.*

<sup>59</sup> *About the Ground Water Division*, Wyoming State Engineer's Office, <http://seo.wyo.gov/ground-water>

<sup>60</sup> *Id.* See also *Groundwater Control Areas and Advisory Boards*, Wyoming State Engineer's Office, <http://seo.wyo.gov/ground-water/groundwater-control-areas-advisory-boards>.