

# TEXAS GROUNDWATER: BALANCING INDIVIDUAL PROPERTY RIGHTS WITH A DEPLETING NATURAL RESOURCE

*Kathryn Linnartz\**

|   |     |
|---|-----|
| I. INTRODUCTION .....   | 773 |
| II. AN OVERVIEW OF GROUNDWATER LAW IN TEXAS .....   | 775 |
| A. <i>The History of Texas Groundwater Law</i> .....  | 776 |
| 1. <i>State Involvement in Groundwater Regulation</i> .....   | 780 |
| 2. <i>Constitutional Protection of Groundwater</i> .....  | 781 |
| B. <i>Oil and Gas: Legislative History to Modern Regulation</i> .....                                 | 783 |
| C. <i>Groundwater Conservation Districts in Texas and Beyond</i> .....                                | 788 |
| 1. <i>Groundwater Regulation Outside of Texas</i> .....   | 793 |
| III. THE TEXAS LEGISLATURE SHOULD REGULATE GROUNDWATER<br>CENTRALLY .....                             | 795 |
| A. <i>The Texas Water Development Board Should Centrally<br/>Regulate Groundwater Resources</i> ..... | 796 |
| 1. <i>Nonuniformity</i> .....   | 798 |
| 2. <i>Fragmented Regulation</i> .....   | 799 |
| 3. <i>The Hearings Section of the Texas Water Development<br/>Board</i> .....                         | 800 |
| B. <i>Utilize State Funding to Encourage Voluntary Conservation<br/>Efforts</i> .....                 | 803 |
| 1. <i>Property Tax Exemptions</i> .....   | 804 |
| 2. <i>Sales Tax Exemption</i> .....   | 805 |
| 3. <i>Progressive Tax Deduction</i> .....   | 806 |
| IV. CONCLUSION .....  | 807 |

## I. INTRODUCTION

“Water, not oil, is the lifeblood of Texas . . . .”<sup>1</sup> Water is one of the most important natural resources on the planet—industrial, agricultural, ecological, and residential life depend on it.<sup>2</sup> The challenging part of this

---

\* J.D. Candidate, Texas Tech University School of Law 2022. The Author wishes to thank Associate Dean Jamie Baker, John David Kirby, Bo Linnartz, Mallory Hancock, and Tyler McMahon for their editorial contributions and feedback throughout the writing process of this Comment.

1. *Coastal Oil & Gas Corp. v. Garza Energy Tr.*, 268 S.W.3d 1, 26 (Tex. 2008) (Willett, J., concurring) (quoting JAMES A. MICHENER, TEXAS (1985)).

2. *High and Dry: Climate Change, Water, and the Economy*, THE WORLD BANK, <https://www.worldbank.org/en/topic/water/publication/high-and-dry-climate-change-water-and-the-economy> (last visited Apr. 12, 2021).

dependency is that the amount of water available for consumption depends on a variety of factors, such as climate, population density, annual rainfall, and drought conditions.<sup>3</sup> The majority of water that people need for everyday survival comes from groundwater, but this resource is becoming increasingly scarce.<sup>4</sup> In 2016, Texas had a population of 27.4 million, and the state came dangerously close to using its *entire* annual water supply.<sup>5</sup> Currently, the Texas Water Development Board (TWDB) is projecting that Texas will reach a population of 51 million by 2070—a 73% increase from the population projection for 2020.<sup>6</sup> With this projection comes the expectation that the Texas water supply and demand will continuously diverge over the upcoming decades, resulting in a shortage of nearly nine million acre-feet per year of water by 2060.<sup>7</sup> To put it in perspective, that is enough water “to cover all of Dallas County with [fifteen] feet of water.”<sup>8</sup>

Water, like oil, holds an important place in Texas property law. The landmark case *Edwards Aquifer Authority v. Day* reaffirmed that groundwater, like oil and gas, is a property right that is vested in place and subject to the rule of capture.<sup>9</sup> Although Texas courts have largely based groundwater law off of oil and gas law, the state chose to regulate these resources differently.<sup>10</sup> Groundwater is regulated at the local level by small districts with limited authority, whereas oil and gas are regulated centrally by the Texas Railroad Commission.<sup>11</sup> While the Texas Railroad Commission has had great success in regulating oil and gas, the reliance on regional management to regulate groundwater has caused a fragmented system that is ineffective at managing Texas’s groundwater supply.<sup>12</sup>

---

3. *Id.*

4. OFF. OF WATER, U.S. ENV’T PROT. AGENCY, FACTOIDS: DRINKING WATER & GROUNDWATER STAT. FOR 2009, 4 (2009). The exact number is 40,025, and those systems serve just over 88 million people. *Id.*

5. *Texas Population 2021*, WORLD POPULATION REV., <https://worldpopulationreview.com/states/texas-population> (last visited Apr. 20, 2021); Spencer Grubbs et al., *Texas Water: Planning for More*, COMPTROLLER.TEXAS.GOV (Apr. 2019), <https://comptroller.texas.gov/economy/fiscal-notes/2019/apr/tx-water-planning.php>.

6. *Water for Texas: 2017 State Water Plan*, TEX. WATER DEV. BD. 5–6 (2017), <http://www.twdb.texas.gov/waterplanning/swp/2017/doc/SWP17-Water-for-Texas.pdf?d=10483> (last visited Apr. 20, 2021).

7. *Water for Texas: 2012 State Water Plan*, TEX. WATER DEV. BD. 5 (Jan. 2012), [https://www.twdb.texas.gov/publications/state\\_water\\_plan/2012/00.pdf](https://www.twdb.texas.gov/publications/state_water_plan/2012/00.pdf).

8. Grubbs et al., *supra* note 5.

9. *Edwards Aquifer Auth. v. Day*, 369 S.W.3d 814, 828–29 (Tex. 2012).

10. *Compare Groundwater Conservation Districts*, TEX. COMM’N OF ENV’T QUALITY, <https://www.tceq.texas.gov/groundwater/groundwater-planning-assessment/districts.html> (last visited Apr. 20, 2021) (regulating groundwater through locally-governed districts), *with About Us*, R.R. COMM’N OF TEX., <https://www.rrc.state.tx.us/about-us/> (last visited Apr. 12, 2021) (regulating the oil and natural gas industry through the Railroad Commission of Texas).

11. TEX. WATER CODE ANN. § 6.012; TEX. NAT. RES. CODE ANN. §§ 85.041–.042.

12. *See infra* Part III.A (highlighting the problems created by Texas’s current groundwater regulation system).

Texas must acknowledge that its water supply is finite and adapt management practices to reflect this reality. To accomplish this, the Texas Legislature should authorize the TWDB with the authority to manage groundwater resources centrally, following the successful model of the Texas Railroad Commission. This framework would give the TWDB the power to issue and enforce water regulations. In addition, Texas should use its existing authority and agency presence to provide state funding to encourage conservation. This would push conservation practices further than mandatory regulation would allow and would encourage those who are wary of government intervention and regulation to implement these practices on their own. With a rapidly increasing populace and a decreasing supply of available water, the centralization of water regulation has never been more important to the survival of our state.

In accordance with this proposal, this Comment examines the current structure of groundwater regulation in Texas and recommends a move towards centralized regulation. Part II.A examines the history of Texas groundwater law and shows how the state has adapted through the years to address changing circumstances.<sup>13</sup> Part II.B moves into an explanation of Texas oil and gas law and shows the similarities between the legal structures governing both groundwater law and oil and gas law.<sup>14</sup> Part II.C expands on Texas's current system of groundwater regulation and explores the different models that other places in the country use to handle similar problems.<sup>15</sup> Part III.A proposes that the Texas Legislature should empower the TWDB to regulate groundwater centrally—modeled after the power given to the Texas Railroad Commission.<sup>16</sup> After explaining the possibilities and implications of regulating centrally, Part III.B proposes state-funding solutions that encourage Texas citizens to take matters into their own hands and practice water conservation voluntarily.<sup>17</sup>

## II. AN OVERVIEW OF GROUNDWATER LAW IN TEXAS

Texas groundwater law is one of the oldest bodies of property law in the state.<sup>18</sup> Because Texas is an arid and largely agricultural state, water management has been an issue for decades.<sup>19</sup> The formation of groundwater law was pulled from other important natural resource laws, such as oil and

---

13. See *infra* Part II.A (discussing the evolution of groundwater law in Texas).

14. See *infra* Part II.B (comparing and contrasting Texas groundwater law and Texas oil and gas law).

15. See *infra* Part II.C (exploring other states' groundwater regulation models).

16. See *infra* Part III.A (providing justifications for modifying Texas's groundwater regulation system).

17. See *infra* Part III.B (encouraging state funding solutions).

18. See generally Dylan O. Drummond, *Texas Groundwater Law from Its Origins in Antiquity to Its Adoption in Modernity*, 7 TEX. SUP. CT. HIST. SOC'Y 32 (2017).

19. TEX. WATER DEV. BD., *supra* note 6, at 4.

gas law, but was adapted to meet the specific challenges that have arisen as the years have passed.<sup>20</sup> Part II.A describes the history of Texas groundwater law and its evolution through the years; Part II.B describes the formation and current structure of oil and gas law and analyzes the similarities between groundwater law and oil and gas law; and Part II.C explores the current system of groundwater regulation in Texas and how it differs from regulation in other parts of the country.

### A. *The History of Texas Groundwater Law*

Groundwater law is nearly as old as Texas itself. Over the years, it has changed with the population and the times. To this day, it is one of the State's most "hot button" issues.<sup>21</sup> Texas is an outlier among the states in that it still regulates its groundwater resources through the rule of capture.<sup>22</sup> The rule of capture gives landowners the right to all water underneath their land and functions so that landowners do not need permits or permission to drill wells and pump groundwater.<sup>23</sup> A landowner can pump as much water as they will beneficially use—even if that results in a neighbor's well going dry.<sup>24</sup> Originally rooted in oil and gas law, the doctrine of the rule of capture was applied to groundwater in 1904 by the Texas Supreme Court in *Houston & Texas Central Railway Co. v. East*.<sup>25</sup> *East* was the first case where the Texas Supreme Court applied the rule of capture to groundwater and held that a landowner can "capture and use as much water as . . . [he or she can] beneficially" use as long as the water is "not wasted, negligently withdrawn, or maliciously removed."<sup>26</sup> Although Texas is still governed by the rule of

---

20. See *Edwards Aquifer Auth. v. Day*, 369 S.W.3d 814, 823 (Tex. 2012) ("But we held long ago that oil and gas are owned in place, and we find no reason to treat groundwater differently."); see also *Coyote Lake Ranch, LLC v. City of Lubbock*, 498 S.W.3d 53, 60–61 (Tex. 2016) (applying the accommodation doctrine to a groundwater dispute).

21. See, e.g., *Stratta v. Roe*, 961 F.3d 340, 350–53 (5th Cir. 2020); *Naches & Trinity Valleys Groundwater Conservation Dist. v. Mountain Pure TX, LLC*, No. 12-19-00172-CV, 2019 WL 4462677, at \*3–5 (Tex. App.—Tyler Sept. 18, 2019, pet. filed).

22. *Sipriano v. Great Spring Waters of Am., Inc.*, 1 S.W.3d 75, 81–82 (Tex. 1999) (Hecht, J., concurring); Dana M. Saeger, *The Great Lakes-St. Lawrence River Basin Water Resources Compact: Groundwater, Fifth Amendment Takings, and the Public Trust Doctrine*, 12 GREAT PLAINS NAT. RES. J. 114, 128 (2007).

23. *Hous. & Tex. Cent. Ry. Co. v. East*, 81 S.W. 279, 280 (Tex. 1904) ("[T]he person who owns the surface may dig therein and apply all that is there found to his own purposes, at his free will and pleasure . . .").

24. *Sipriano*, 1 S.W.3d at 76; *City of Corpus Christi v. City of Pleasanton*, 276 S.W.2d 798, 802 (Tex. 1955).

25. *East*, 81 S.W. at 280.

26. STATE BAR OF TEX., *ESSENTIALS OF TEXAS WATER RES.*, 4-4-4-5 (Mary K. Sahs & Russell S. Johnson eds., 5th ed. 2018); see also *East*, 81 S.W. at 280–81; *Friendswood Dev. Co. v. Smith-Sw. Indus., Inc.*, 576 S.W.2d 21, 30 (Tex. 1978) (emphasizing that there is no use of private property that is immune from liability under negligence law).

capture, changes over the last century have caused the Texas Legislature and Judiciary to implement limitations to this doctrine of absolute ownership.<sup>27</sup>

Texas groundwater is shaped through both the state legislature and the judiciary.<sup>28</sup> Historically, the Texas Supreme Court has stated what the law is regarding groundwater rights and has left the Texas Legislature with the task of deciding how to regulate within that framework.<sup>29</sup> *East* was the first of many decisions the Texas Supreme Court would issue affecting the groundwater sector.<sup>30</sup> In 1955, the Court decided the extent of groundwater ownership under the rule of capture in *City of Corpus Christi v. City of Pleasanton*.<sup>31</sup> This case reexamined a previous decision regarding the right to transport water and concluded that landowners had total dominion to use groundwater in whatever way they deemed fit—including the right to withdraw groundwater and sell it to others.<sup>32</sup>

As Texas's population grew and droughts became more severe, citizens began to think about preserving the state's natural resources.<sup>33</sup> In 1916, the Texas Legislature amended the Texas Constitution to include a Conservation Amendment, which gave the legislature authority to pass all laws related to the "conservation and development of all the natural resources of this State."<sup>34</sup> In 1949, the legislature created the first water conservation district, charged with managing and conserving groundwater at the local level.<sup>35</sup> Although conservation districts were authorized, only thirty-four existed across the entire state by 1996.<sup>36</sup> In response to this, the legislature passed S.B.1 in 1997.<sup>37</sup> This bill was the first step the legislature took toward water resource planning on a state level.<sup>38</sup> S.B.1 tried to create an efficient process where local entities worked together to reach state-wide water management goals.<sup>39</sup> To make that goal a reality, the bill created Chapter 36 of the Texas

---

27. Russell S. Johnson, *Water Law and Rights 101*, EST. PLAN. COUNCIL OF CENT. TEX. (Apr. 24, 2012), <https://www.epcct.org/assets/Councils/CentralTexas-TX/library/Water%20Law%20and%20Rights%20101.pdf>; see also *City of Corpus Christi*, 276 S.W.2d at 801; *Friendswood*, 576 S.W.2d at 30.

28. Jack Wilson, *Judicial and Legislative Approaches to Groundwater Management in Texas*, TEX. J. OF OIL, GAS, & ENERGY L. (Nov. 16, 2017), <http://tjogel.org/judicial-legislative-approaches-groundwater-management-texas/>.

29. See, e.g., *Friendswood*, 576 S.W.2d at 30 ("Providing policy and regulatory procedures in this field is a legislative function.").

30. *East*, 81 S.W. at 280.

31. *City of Corpus Christi*, 276 S.W.2d at 800.

32. *Id.*

33. See *Sipriano v. Great Spring Waters of Am., Inc.*, 1 S.W.3d 75, 77 (Tex. 1999).

34. TEX. CONST. art. XVI, § 59(a).

35. *Who We Are*, HIGH PLAINS WATER DIST., <http://www.hpwd.org/about?> (last visited Apr. 20, 2021) (explaining that the High Plains Water District was the first water district in the state of Texas in 1951).

36. Amy Hardberger, *World's Worst Game of Telephone: Attempting to Understand the Conversation Between Texas's Legislature and the Courts on Groundwater*, 43 TEX. ENVTL. L.J. 257, 269–70 (2013).

37. *Id.*

38. *Id.*

39. *Id.*

Water Code, which formed what we now know as groundwater conservation districts (GCD).<sup>40</sup>

Since previous judicial decisions had reiterated Texas's commitment to recognizing groundwater as a vested right, the creation of local regulatory bodies began a stream of litigation challenging the districts' decisions.<sup>41</sup> In *Barshop v. Medina County Underground Water Conservation District*, the Medina County conservation district sued the Edwards Aquifer Authority District, a GCD that governs Uvalde, Medina, Atascosa, Bexar, Comal, Guadalupe, Hays, and Caldwell counties.<sup>42</sup> The plaintiffs claimed the enforcement of the Edwards Aquifer Act, among other things, violated their constitutional rights—primarily, denying landowners the vested property rights they had in their groundwater required compensation under the Fifth Amendment of the United States Constitution.<sup>43</sup> The Court upheld the regulations as a valid exercise of the legislature's police powers because it acted in furtherance of the goals of the Conservation Amendment to the Texas Constitution.<sup>44</sup>

In *Guitar Holding Co. v. Hudspeth County Underground Water Conservation District*, the Court considered the constitutionality of a district's permitting decisions.<sup>45</sup> Section 36.116 of the Texas Water Code gave GCDs the authority to “preserve historic or existing use”—meaning older irrigators could pump more than Guitar Holding, who was the largest irrigator based on land size.<sup>46</sup> The Court held that restrictions placed on newer irrigators, who did not have the protection of historic use, was invalid.<sup>47</sup> This ruling created more confusion surrounding what regulations were allowed under the Texas Water Code and the rule of capture.<sup>48</sup> In *Sipriano v. Great Springs Waters of America, Inc.*, the Texas Supreme Court reconsidered the rule of capture for the first time since *East*.<sup>49</sup> In this case, landowners sued the Great Springs Waters of America, Inc., a water bottling company, for draining groundwater around their land and drying up their wells.<sup>50</sup> The majority decided that, regardless of inefficiencies they saw in the rule of capture, adopting a new system was ultimately a legislative decision.<sup>51</sup>

---

40. See TEX. WATER CODE ANN. §§ 36.001–.457.

41. See *infra* note 178 and accompanying text (explaining the Texas Administrative Code).

42. *Edwards Aquifer Maps and GIS*, EDWARDS AQUIFER AUTH., [www.edwardsaquifer.org/science-maps/maps/](http://www.edwardsaquifer.org/science-maps/maps/) (last visited Apr. 20, 2021).

43. *Barshop v. Medina Cnty. Underground Water Conservation Dist.*, 925 S.W.2d 618, 623–33 (Tex. 1996).

44. *Id.* at 633.

45. *Guitar Holding Co. v. Hudspeth Cnty. Underground Water Conservation Dist.*, 263 S.W.3d 910, 914–15 (Tex. 2008).

46. *Id.*

47. *Id.*

48. See *id.*

49. *Sipriano v. Great Spring Waters of Am., Inc.*, 1 S.W.3d 75, 75 (Tex. 1999).

50. *Id.*

51. *Id.*

Justice Hecht, in the concurrence, agreed with the judiciary not deciding the rule either way but noted that the rule of capture might not be effective for regulating Texas groundwater, stating:

The extensive regulation of oil and gas production proves that effective regulation of migrant substances far below the surface is not only possible but necessary and effective. In the past several decades it has become clear, if it was not before, that it is not regulation that threatens progress, but the lack of it.<sup>52</sup>

The Court stated that the judiciary does “reserve the right” to change the rule in the future if they deem it necessary, but for the time being, left it in the hands of the legislature.<sup>53</sup>

In 2012, after the famous concurrence by Justice Hecht in *Sipriano*, the Texas Supreme Court decided *Edwards Aquifer Authority v. Day*, which reaffirmed Texas’s loyalty to the rule of capture.<sup>54</sup> Two farmers, Day and McDaniel, whose land was subject to the authority of the Edwards Aquifer Authority, sought authorization from the GCD to either continue using their nonoperational well or replace it with a new one.<sup>55</sup> While the landowners received authorization to pump, the amount they were allotted was far less than what they applied for.<sup>56</sup> They were new to the area, and the Authority’s permitting system favored historic users.<sup>57</sup> Day and McDaniel sued the Authority, claiming a taking.<sup>58</sup> The Court held, relying heavily on oil and gas law precedent, that ownership in place applied to groundwater rights.<sup>59</sup> It decided that landowners had a vested right in the water beneath their land, even prior to pumping, and any regulation that limited their use of that water could constitute a taking of private property.<sup>60</sup> While most landowners celebrated this decision, *Day* had far-reaching implications that make regulating groundwater far more complex.<sup>61</sup>

---

52. *Id.* at 82.

53. *Id.* at 80.

54. *Edwards Aquifer Auth. v. Day*, 369 S.W.3d 814, 817–18 (Tex. 2012).

55. *Id.* at 818, 820.

56. *Id.* at 820.

57. *Id.* at 818–21 (“With few exceptions, water may not be withdrawn from the aquifer through wells drilled after June 1, 1993.”).

58. *Id.* at 821.

59. *See generally id.* at 820–22.

60. *Id.* at 843 (“[A] landowner cannot be deprived of all beneficial use of the groundwater below his property merely because he did not use it during an historical period and supply is limited.”).

61. Nathan Weinert, *Solutions for Interstate Groundwater Allocation and the Implications of Day*, 44 TEX. ENV’T L.J. 105, 133 (2014).

### 1. State Involvement in Groundwater Regulation

Texas's current system focuses on regulating groundwater locally, but certain state agencies do play a role in parts of groundwater regulation.<sup>62</sup> This role, however, typically only covers the portion of groundwater regulation that intersects with those agencies' primary purpose—there is no agency in place that governs all aspects of Texas groundwater law.<sup>63</sup> To fully grasp the way the state oversees groundwater, it is imperative to understand all the moving pieces. Of all the state agencies, three have the most significant role in groundwater regulation—the Texas Commission on Environmental Quality (TCEQ), the Texas Railroad Commission, and the TWDB.<sup>64</sup>

The TCEQ is charged primarily with regulating state surface water and water quality.<sup>65</sup> To properly regulate the quality of Texas water, the TCEQ's authority extends beyond surface water to include certain authority over groundwater.<sup>66</sup> This authority over groundwater is given to the TCEQ by Chapters 26 and 27 of the Texas Water Code.<sup>67</sup> Chapter 26 focuses on water quality and the issuance of pollution discharge permits pursuant to requirements given by the United States Environmental Protection Agency.<sup>68</sup> Chapter 27 focuses on Texas's underground injection control program, which regulates the discharge of non-native substances into aquifers to ensure that native water quality and its many uses are protected.<sup>69</sup> The majority of the TCEQ's authority over groundwater is limited to its assurance of *quality*—it does not have the authority to regulate quantity.<sup>70</sup>

The Texas Railroad Commission is best known as the agency responsible for regulating oil and gas in Texas, but it also shares some jurisdiction with the TCEQ over groundwater quality.<sup>71</sup> Chapter 27 of the Texas Water Code lays out how the Railroad Commission handles the disposal of waste products through underground injection wells associated

---

62. See generally Edmond McCarthy, *Mixing Oil and Gas with Texas Water Law*, 44 TEX. TECH. L. REV. 883 (2012).

63. *Id.*

64. See Mark McPherson, *Water Use and Water Law in Texas from an Oil and Gas Perspective*, 44 TEX. TECH. L. REV. 939, 944–47 (2012).

65. TEX. WATER CODE ANN. §§ 5.012–.013, 26.003.

66. See *id.* § 26.001(5) (defining “water in the state” to mean “groundwater, percolating or otherwise, lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, wetlands, marshes, inlets, canals, the Gulf of Mexico, inside the territorial limits of the state, and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, navigable or nonnavigable, and including the beds and banks of all watercourses and bodies of surface water, that are wholly or partially inside or bordering the state or inside the jurisdiction of the state”).

67. See generally *id.* §§ 26.001–.562, 27.001–.207.

68. See *id.* §§ 26.001–.562.

69. See *id.* §§ 27.001–.207.

70. See generally 30 TEX. ADMIN. CODE §§ 1.1–351.104 (2020) (Tex. Comm'n of Env't Quality, Env't Quality).

71. 16 TEX. ADMIN. CODE § 3.30(a)(3) (2020) (Tex. Comm'n of Env't Quality, Memorandum of Understanding between the R.R. Comm'n of Tex. (RRC) and the Tex. Env't Quality (TCEQ)).



with oil and gas production.<sup>72</sup> The Railroad Commission is also responsible for regulating groundwater resources associated with oil and gas operations—things like hydraulic fracturing and disposal of oil and gas waste in deep aquifer injection wells.<sup>73</sup> The authority that the Railroad Commission has over groundwater is given by Chapter 27 of the Water Code, Chapters 81 and 85 of the Natural Resources Code, and Chapter 3 of the Administrative Code.<sup>74</sup> Still, its authority exists only to the degree that groundwater affects their primary purpose—regulating oil and gas operations.<sup>75</sup>

The TWDB has the most involvement of the state agencies in groundwater *quantity* specifically.<sup>76</sup> While the TWDB does not have specific regulatory authority, it functions as the state’s source of funding for water projects, and it is very involved in the groundwater conservation district’s planning process.<sup>77</sup> Its planning responsibilities include supporting regional water plan development and incorporating regional plans into a central state plan for the “orderly and responsible development, management, and conservation of the state’s water resources.”<sup>78</sup> While the TWDB takes a central role in the planning process, it functions more as an administrative agency to ensure that regional plans are feasible and complete.<sup>79</sup> The TWDB does not have regulatory authority to actually regulate compliance with these plans.<sup>80</sup>

## 2. Constitutional Protection of Groundwater

Groundwater is a resource that people everywhere depend on for survival and, per Texas law, it is also private property.<sup>81</sup> It is for both of these reasons that certain constitutional protections apply—to ensure its proper usage and regulation.<sup>82</sup> The two constitutional protections that apply to

---

72. *Id.*

73. *Id.*

74. *See generally* TEX. NAT. RES. CODE ANN. §§ 81.001–.156, 85.001–.389; TEX. WATER CODE ANN. §§ 27.001–.207; 16 TEX. ADMIN. CODE § 3.30(b)(2)(A)(i) (2020) (Tex. Comm’n of Env’t Quality, Memorandum of Understanding between the R.R. Comm’n of Tex. (RRC) and the Tex. Env’t Quality (TCEQ)).

75. *See generally* TEX. WATER CODE ANN. §§ 27.001–.207; TEX. NAT. RES. CODE ANN. §§ 81.001–.156, 85.001–.389; 30 TEX. ADMIN. CODE §§ 1.1–351.104 (2020) (Tex. Comm’n on Env’t Quality, Env’t Quality).

76. TEX. WATER DEV. BD., *supra* note 6, at 4.

77. *See* TEX. WATER CODE ANN. §§ 36.001, 36.015, 36.1071–.1084, 36.120, 36.160–.161, 36.302, 36.374–.705.

78. *About the Texas Water Development Board*, TEX. WATER DEV. BD., <https://www.twdb.texas.gov/about/#:~:text=%20About%20the%20Texas%20Water%20Development%20Board%20,water%20sup%20projects%3B%20water%20quality%20projects%2C...%20More%20> (last visited Apr. 25, 2021).

79. *Id.*

80. *Id.*

81. *See* Grubbs et al., *supra* note 5; *Edwards Aquifer Auth. v. Day*, 369 S.W.3d 814, 828–29 (Tex. 2012).

82. *See* U.S. CONST. amend. V, X.

groundwater are the Takings Clause of the Fifth Amendment and the police powers granted to the states by the Tenth Amendment.<sup>83</sup>

The Fifth Amendment of the United States Constitution includes a provision, known as the Takings Clause, which states that “private property [shall not] be taken for public use, without just compensation.”<sup>84</sup> Texas also placed restrictions on the taking of private property for public use.<sup>85</sup> The United States Supreme Court decided in *Lucas v. South Carolina Coastal Council* that only a one hundred percent deprivation of economic use of a landowner’s property would constitute a regulatory taking.<sup>86</sup> Applying the Takings Clause to Texas groundwater has not been as clear-cut as the rule laid out in *Lucas*.<sup>87</sup> Although the application has been a bit muddled, the general rule is that the courts will apply a categorical takings test to physical invasions of property and regulations that deprive the landowner of the economic value of the property to determine if “just compensation” is required.<sup>88</sup> This categorical test will usually say a regulatory “taking” arises when a state law or regulation places restraints on a property so burdensome that the landowner is deprived of the use of that property—although the property does not always have to be deprived of one hundred percent of its economically viable use.<sup>89</sup> Courts have struggled with how to balance the regulatory interests of the public with the property interests of the individual for years.<sup>90</sup> A more thorough analysis of regulatory takings, as they apply to groundwater, is done in Part II.C.<sup>91</sup>

The Tenth Amendment to the United States Constitution gives the state police powers—that is, the power to regulate in the name of public health, safety, and welfare.<sup>92</sup> The Texas Legislature amended the state constitution in 1916 to include the Conservation Amendment, which provided that the conservation, preservation, and development of the state’s natural resources are public rights and duties.<sup>93</sup> This language effectively made groundwater rights subject to the police powers of the state.<sup>94</sup> In *Lombardo v. City of*

---

83. *See id.*

84. *Id.* amend. V.

85. TEX. CONST. art. I, § 17.

86. *See Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, 1015–27 (1992).

87. *See id.*

88. Robert Meltz, *Takings Law Today: A Primer for the Perplexed*, 34 *ECOLOGY L.Q.* 307, 310 (2007).

89. *See Lucas*, 505 U.S. at 1014–16 (discussing the elements for a regulatory taking).

90. *See id.*

91. *See infra* Part II.C (applying the law of regulatory takings to groundwater).

92. U.S. CONST. amend. X.

93. TEX. CONST. art. XVI, § 59.

94. *See* ERNST FREUND, *THE POLICE POWER: PUBLIC POLICY AND CONSTITUTIONAL RIGHTS*, at iii (Chi., Callaghan & Co., eds., 1904) (describing the police power as “the power of promoting the public welfare by restraining and regulating the use of liberty and property”); Joseph L. Sax, *The Constitution, Property Rights and the Future of Water Law*, 61 *U. COLO. L. REV.* 257, 261 (1990) (“[N]o property right can be exempted from the full exercise of the police power.”); *see, e.g.*, *Hudson City Water Co. v.*

*Dallas*, Lombardo challenged the validity of zoning statutes and zoning ordinances made by the city of Dallas, arguing that a regulation on private property rights constituted a taking.<sup>95</sup> The court held that “[a]ll property is held subject to the valid exercise of the police power; nor are regulations unconstitutional merely because they operate as a restraint upon private rights of person or property or will result in loss to individuals.”<sup>96</sup> The court went further, addressing the relationship between a state’s police powers and a constitutional protection against a property taking, stating that:

[P]olice regulations do not constitute a taking of property under the right of eminent domain; and compensation is not required to be made for such loss as is occasioned by the proper exercise of the police power. . . . It may be invoked to abridge the right of the citizen to use his private property when such use will endanger public health, safety, comfort or welfare,—and only when this situation arises.<sup>97</sup>

Similarly, in *Barshop*, the Texas Supreme Court upheld the creation of the Edwards Aquifer Act—created by the Edwards Aquifer Authority to regulate groundwater—as a valid exercise of the police power of the state as it was “rationally related to [the] legitimate state purpose[ ] . . . [of] managing and regulating [groundwater].”<sup>98</sup> Regulating water for the purposes of public welfare is well established in Texas and throughout the country.<sup>99</sup> While the state can regulate private property pursuant to police powers, those powers only extend so far as is reasonably necessary to accomplish the objective of that regulation.<sup>100</sup> If a police power extends further than necessary to provide for the general welfare, then those regulations can be subject to a takings claim under the Fifth Amendment or can be deemed a violation of the due process requirements of both the state and federal constitutions.<sup>101</sup>

### *B. Oil and Gas: Legislative History to Modern Regulation*

Many of the protections and limitations that apply to groundwater also apply to oil and gas; yet, Texas allows oil and gas to be regulated centrally while still honoring the constitutional protections that apply.<sup>102</sup> Groundwater

---

McCarter, 209 U.S. 349, 356 (1908) (holding that preventing water rights holders from taking water out of the state was a permissible use of the state’s police power to prevent harm to the state’s waterways).

95. See *Lombardo v. City of Dallas*, 73 S.W.2d 475, 478 (Tex. 1934).

96. *Id.* at 478.

97. *Id.* at 478–79.

98. *Barshop v. Medina Cnty. Underground Water Conservation Dist.*, 925 S.W.2d 618, 633 (Tex. 1996)

99. See *infra* notes 136–38 and accompanying text (describing the established regulations of water).

100. *Lombardo*, 73 S.W.2d at 478.

101. See *Falfurrias Creamery Co. v. City of Laredo*, 276 S.W.2d 351, 353 (Tex. App.—San Antonio 1955, writ ref’d n.r.e.).

102. R.R. COMM’N OF TEX., *supra* note 10.

shares many similarities with oil and gas—primarily that Texas governs both by the rule of capture.<sup>103</sup> Although both are thought of similarly in Texas law, one key difference is that groundwater has no central governing authority, whereas oil and gas is centrally regulated by the Texas Railroad Commission.<sup>104</sup> Still, both governing structures were derived from the same body of law and share a similar judicial and legislative history.<sup>105</sup> This Section will discuss the history of oil and gas law, how its regulatory authority has changed over the years, and the divisions utilized by the Texas Railroad Commission to execute the duties given to it by the state of Texas.

The Texas Railroad Commission was created in 1891 as a way to regulate the rail industry.<sup>106</sup> In 1901, massive quantities of oil were discovered in Spindletop, Texas, and the production from the well was so prolific that the price of oil dropped to thirty-four cents a barrel—the lowest in recorded history at the time.<sup>107</sup> With the massive influx of people coming to Texas to take advantage of these newfound resources, the Texas Legislature recognized the need to control this massive up-and-coming industry.<sup>108</sup> In response to that need, when the Texas Legislature passed the Conservation Amendment in 1916, they also deemed the Railroad Commission as the central agency in charge of governing this industry by declaring that the Railroad Commission was vested with the power to make rules and regulations to carry out the legislature’s purpose of preventing the wasting of the state’s oil and gas resources.<sup>109</sup> While the Conservation Amendment originally granted regulatory authority over oil and gas to the Texas Railroad Commission, the legislature has since amended the Natural Resources Code to authorize the Railroad Commission to draft laws that pertain to oil and gas regulation and to resolve disagreements that occur as a result of those laws.<sup>110</sup> The Railroad Commission is capable of retaining regulatory authority over oil and gas because the Texas Legislature gave executive, legislative, and judicial powers within the scope of the agency’s

---

103. *The Basics of Groundwater Law in Texas*, TEX. LIVING WATERS PROJECT, <https://texaslivingwaters.org/groundwater/the-basics-of-groundwater-law-in-texas/> (last visited on Apr. 25, 2021).

104. R.R. COMM’N OF TEX., *supra* note 10.

105. *See id.*

106. *Id.*

107. *Id.*

108. R.R. Comm’n of Tex., *Railroad Commission of Texas: An Inventory of a Railroad Commission Docket Book at the Texas State Archives, 1891-1898*, TEX. STATE LIBR. & ARCHIVES COMM’N, <https://legacy.lib.utexas.edu/taro/tslac/10221/tsl-10221.html> (last visited on Apr. 25, 2021).

109. *See* R.R. Comm’n v. Shell Oil Co., 206 S.W.2d 235, 241 (Tex. 1947) (recognizing that Article 6023 appointed the Texas Railroad Commission as the administrative agency charged with regulating the oil and gas industry); Nathan Block & Robin Smith Houston, *All Powers Necessary and Convenient: The Scope of Implied Powers for Texas’s Administrative Agencies*, 1 TEX. TECH J. TEX. ADMIN. L. 1, 10 (2000).

110. TEX. NAT. RES. CODE ANN. §§ 85.041–.042, 85.201–.202, 86.001, 86.011, 86.041–.042, 86.082–.083; *see, e.g.*, R.R. Comm’n of Tex. v. Lone Star Gas Co., 844 S.W.2d 679, 688 (Tex. 1992) (declaring that “the legislature created a ‘dual’ system of oil and natural gas regulation in which the Commission possesses both rulemaking and adjudicatory powers.”).

delegated authority when it created the Railroad Commission.<sup>111</sup> Over the years, the Railroad Commission's regulatory authority has come into question,<sup>112</sup> but the Texas Supreme Court reaffirmed that authority when it said:

It is utterly impossible for the [l]egislature to meet the demands of every detail in the enactment of laws relating to the production of oil and gas. The duty to carry out the just and reasonable public policy as is provided for under Article XVI, Section 59a, of the Constitution, has been placed with the Railroad Commission. The [l]egislature . . . has authorized the Railroad Commission to handle the details relating to the preservation and conservation of the natural resources of the [s]tate. It has been repeatedly held that the Railroad Commission is authorized to act under the many articles of the statutes enacted for the purpose of conserving and preventing waste of oil and gas.<sup>113</sup>

The Texas Railroad Commission has added to its regulatory authority of oil and gas over the years, and it now regulates the “exploration, production, and transportation of oil and natural gas” in the State.<sup>114</sup> Despite the many similarities between the two sectors, this same level of regulation is not afforded to groundwater in Texas.<sup>115</sup>

The Texas Railroad Commission has created several divisions to carry out its responsibility to regulate the “exploration, production, and transportation of oil and natural gas in Texas.”<sup>116</sup> The agency achieves this through assigning production allowances on oil and gas wells, auditing that production to ensure it does not exceed the permitted allowance, and conducting hearings on contested cases concerning oil and gas.<sup>117</sup> The two divisions of interest for the purposes of this Comment are the state permitting structure and the hearings section.

One of the main reasons the Texas Railroad Commission regulates oil and gas is to prevent the waste of natural resources and protect the rights of owners that share common oil and gas reservoirs.<sup>118</sup> To accomplish this goal, the Commission enforces various types of oil-well regulation involving well

---

111. See JOHN S. LOWE ET AL., CASES AND MATERIALS ON OIL AND GAS LAW 126 (5th ed. 2008).

112. See *Corzelius v. Harrell*, 186 S.W.2d 961, 964 (Tex. 1945) (questioning the Commission's power to limit the production of natural gas in Harris County); see also *R.R. Comm'n v. Shell Oil Co.*, 161 S.W.2d 1022, 1025–30 (Tex. 1942) (questioning the Commission's power to regulate well spacing).

113. *Corzelius*, 186 S.W.2d at 964.

114. *Oil and Gas*, R.R. COMM'N OF TEX., <https://www.rrc.texas.gov/oil-and-gas/> (last visited Apr. 25, 2021).

115. See TEX. WATER CODE ANN. §§ 36.001–457.

116. *Oil and Gas*, *supra* note 114.

117. *Id.*

118. R.R. Comm'n of Tex., *supra* note 108.

spacing, density and proration, and monthly permitted allowances.<sup>119</sup> In an effort to protect individual well owners, per Statewide Rule 37, no oil or gas well is drilled closer than 467 feet from any property, lease, or subdivision line, nor can it be drilled closer than 1,200 feet away from any well “completed in or drilling to the same horizon on the same tract or farm.”<sup>120</sup> This rule applies to every oil and gas well in the state of Texas.<sup>121</sup>

To prevent the overproduction of the common reservoir, the Railroad Commission controls well locations using density and proration rules.<sup>122</sup> “Density” refers to the minimum amount of acreage assigned to a well for a drilling permit, and “proration” regulates the volume of oil and gas that may be produced from a well.<sup>123</sup> The specific requirements for density and proration are subject to special field rules that depend on the wells location.<sup>124</sup> Finally, the Railroad Commission can regulate a permitting allowance of production for each well.<sup>125</sup> Determining the permitted allowance is done through a formula given in Rule 45, an explanation of which is beyond the scope of this Comment.<sup>126</sup> What is important is that the Railroad Commission can determine allowable production based on market demand for the sake of price stability, or by an applicant proving at a hearing that allowing more production would not cause waste.<sup>127</sup> The broad authority that the commission uses to regulate all of these parts of oil and gas production is by issuing drilling permits to ensure that wells are drilled at locations in compliance with commission rules.<sup>128</sup> These commission rules state that “[o]perations of drilling, deepening, plugging back, or reentering shall not be commenced until the permit has been granted.”<sup>129</sup>

The permitting process is straight forward—the applicant submits a drilling permit application and a well location plat to the commission’s online system.<sup>130</sup> The system will then ask for additional information, such as survey and acreage information, distances from adjacent property to nearby wells, and will let you know of any relevant field rules that might apply.<sup>131</sup> Once

---

119. BRANDON E. DURRETT, A PRIMER ON OIL AND GAS REGULATION IN TEXAS: SPACING, DENSITY, PERMITS, EXCEPTIONS 35–39 (Winter 2013–14), [https://www.dykema.com/media/site\\_files/120\\_NO\\_ADS\\_Durrett\\_Pub-NA.pdf](https://www.dykema.com/media/site_files/120_NO_ADS_Durrett_Pub-NA.pdf).

120. 16 TEX. ADMIN. CODE § 3.37(a)(1) (2020) (R.R. Comm’n of Tex., Statewide Spacing Rule).

121. *Id.*

122. Durrett, *supra* note 119.

123. 16 TEX. ADMIN. CODE § 3.38(a)(3) (2020) (R.R. Comm’n of Tex., Well Densities).

124. *Id.* § 3.38(b)(2)(A).

125. *Id.* § 3.5(c) (R.R. Comm’n of Tex., Application to Drill, Deepen, Reenter, or Plug Back).

126. *Id.* § 3.45 (2020) (R.R. Comm’n of Tex., Oil Allowables).

127. 2 ERNEST E. SMITH & JACQUELINE LANG WEAVER, TEXAS LAW OF OIL AND GAS §§ 9.3(A), 10.1(B), 10.3(C) (2d ed. 2000).

128. 16 TEX. ADMIN. CODE § 3.5(c) (2020) (R.R. Comm’n of Tex., Application to Drill, Deepen, Reenter, or Plug Back).

129. *Id.*

130. Durrett, *supra* note 119 at 38.

131. *Drilling Permits Online Filing User’s Guide*, R.R. COMM’N OF TEX. 1–5 (May 2020), <https://>

the new well is completed, the Railroad Commission requires the submission of a completed report form to collect data on the production of that well.<sup>132</sup> This data is used for the commission to make determinations about the safety and environmental soundness of that well's production, as well as determine the allowable production for that well.<sup>133</sup>

In addition to their permitting responsibilities, the Railroad Commission hears contested cases involving "oil and gas, gas utilities, pipeline safety, alternative fuels safety, and surface mining matters" through its Hearings Section.<sup>134</sup> The Hearings Section is made up of a director, eight administrative law judges, and eight technical examiners.<sup>135</sup> These examiners are designated with the authority to conduct hearings and achieve all functions necessary in a hearing, such as receiving evidence and examining witnesses.<sup>136</sup> The Railroad Commission established the Hearings Division to "manage[] administrative law dockets and hearings on issues under RRC's jurisdiction including oil and gas, natural gas utilities, pipeline safety, alternative fuels safety and surface mining[,] [and] reclamation dockets."<sup>137</sup> The presiding examiner is authorized with the authority to submit recommendations based on fact findings and conclusions of law.<sup>138</sup>

The majority of contested cases revolve around a familiar scenario: a producer applies for a permit to drill, and for whatever reason, the Railroad Commission denied that permit.<sup>139</sup> In that case, the Railroad Commission will schedule a hearing where the applicant must show that allowing the permit to go through "is necessary to either: (a) prevent waste of oil and gas or (b) prevent confiscation of oil and gas."<sup>140</sup> The hearings procedures are very similar to those of a civil trial in that both parties are permitted to offer evidence, and a presiding examiner issues a recommendation or order.<sup>141</sup> Once the commission submits the recommendation or order, it holds the ultimate authority to accept or decline the recommendation, in whole or in

---

portalvhdskszlf8q9lqr9.blob.core.windows.net/media/20067/dpmanual.pdf; *Oil & Gas Field Information Query*, R.R. COMM'N OF TEX., <http://webapps.rrc.state.tx.us/DP/initializeFieldSearchAction.do> (last visited Apr. 25, 2021).

132. Durrett, *supra* note 119.

133. *Id.* at 38–39.

134. *Hearings Division*, R.R. COMM'N OF TEX., <https://www.rrc.state.tx.us/hearings/> (last visited on Apr. 25, 2021).

135. *Id.*

136. 16 TEX. ADMIN. CODE §§ 1.101(a)(4)–(5) (2020) (R.R. Comm'n of Tex., Examiner's Powers and Duties).

137. *Hearings Division*, *supra* note 134.

138. 16 TEX. ADMIN. CODE § 1.101(a)(12) (2020) (R.R. Comm'n of Tex., Examiner's Powers and Duties).

139. See Durrett, *supra* note 119, at 40.

140. *Id.*

141. See *id.* at 40–41.

part, and also may reverse or remand the case to a different examiner for further consideration.<sup>142</sup>

What makes the Railroad Commission particularly effective at regulating oil and gas is that it is authorized to impose weighty penalties for failure to comply with the rules.<sup>143</sup> Noncompliance in the eyes of the Railroad Commission can be anything from serious violations, such as drilling without a permit, to seemingly smaller violations like reporting inaccurate information or not filing reports in a timely manner.<sup>144</sup> Drilling without an approved permit can cost more than \$10,000 in fines and can put a well at risk of being “plugged”—meaning the commission puts the well out of use by setting a mechanical or cement plug in the well to prevent fluid flow.<sup>145</sup> The commission also reserves the right to plug a well that violates a spacing or density rule.<sup>146</sup> It constantly ensures that wells are acting in compliance with their permits through the power to enter onto an operator’s lease premises to test the wells and inspect the facilities—at any time, for any reason.<sup>147</sup> Overall, the commission has the power of the state behind them, and their enforcement is not subject to any statute of limitations—meaning that compliance with the Railroad Commission is something that operators must take very seriously.<sup>148</sup>

### C. Groundwater Conservation Districts in Texas and Beyond

Although groundwater law pulls heavily from oil and gas law, the legislature has decided to regulate groundwater locally, as opposed to centrally.<sup>149</sup> GCDs are Texas’s preferred method of groundwater management.<sup>150</sup> These localized, political bodies are created under the authority of Chapter 36 of the Texas Water Code and are charged with “conserv[ing], preserv[ing], protect[ing], recharg[ing], and prevent[ing] waste of groundwater resources within their boundaries.”<sup>151</sup> GCDs are required by law to: (1) develop and adopt management plans; (2) adopt the rules to implement the plan; (3) keep detailed records of water well drilling and production; and (4) establish administrative and financial procedures.<sup>152</sup>

---

142. See 16 TEX. ADMIN. CODE §§ 1.123–.126 (2020) (R.R. Comm’n of Tex., Initiation of Contested Case Proceeding).

143. See *id.* § 3.107(e)(1) (R.R. Comm’n of Tex., Penalty Guidelines for Oil and Gas Violations).

144. *Id.* at § 3.37(e) (R.R. Comm’n of Tex., Statewide Spacing Rule).

145. See *id.*

146. See *id.*

147. *Id.* § 3.2(a)–(b) (R.R. Comm’n of Tex., Identification of Props., Wells, and Tanks).

148. Durrett, *supra* note 119, at 44.

149. TEX. WATER DEV. BD., *supra* note 6, at 120.

150. TEX. WATER CODE ANN. § 36.0015.

151. *Management of Groundwater*, TEX. GROUNDWATER PROT. COMM., <https://tgpc.texas.gov/groundwater-information/management-of-groundwater/> (last visited Apr. 25, 2021).

152. See TEX. WATER CODE ANN. § 36.101(a).



It is authorized to make all rules necessary to achieve their conservation and preservation goals.<sup>153</sup>

GCDs are the state's way of subjecting groundwater ownership rights to regulation, while balancing the private property interests of local landowners.<sup>154</sup> These districts are formed along political boundaries, not aquifer boundaries, and most contrive their own plans towards "preventing waste, collecting data, educating people about water conservation and preventing irreparable harm to the aquifer."<sup>155</sup> Upon creation, GCDs create a "GCD management plan" and file it with the TWDB and other GCDs that serve in a common groundwater management area.<sup>156</sup> The TWDB certifies the plan has met administrative requirements, but is not permitted to approve or reject management techniques.<sup>157</sup> The Texas Legislature has also left GCD creation largely up to local landowners, and has not made GCDs mandatory in all areas of Texas, in an effort to not infringe on property rights.<sup>158</sup> This decision has led to nearly one-third of Texas not being subject to any regulation, abiding only within the confines of the rule of capture.<sup>159</sup> This has caused tension between regulated and unregulated counties that reside over the same aquifer, like in the very public dispute between Williamson County and Bell County, which are discussed further in Section V.<sup>160</sup>

Texas has four procedures through which it can create a GCD: (1) through the Texas Legislature; (2) a petition by local property owners; (3) by initiation of the TCEQ and (4) through annexing an unregulated area into an existing district.<sup>161</sup> The Texas Legislature can create a GCD through special legislation introduced by local representatives.<sup>162</sup> This method includes a proposal that addresses financing methods and procedures for the new GCDs, as well as appoints temporary directors responsible for holding local elections to place board members as the new GCD's authority.<sup>163</sup> If the legislature does not form a GCD, but local landowners see the need for one in their community, they may petition the TCEQ to create a district.<sup>164</sup> In order for the petition to be successful, a majority of the landowners in the

---

153. TEX. GROUNDWATER PROT. COMM., *supra* note 151.

154. *Id.*

155. Bruce Lesikar et al., *Questions About Groundwater Conservation Districts in Texas*, TEX. A&M AGRILIFE EXTENSION, <https://agrilifeextension.tamu.edu/library/water/questions-about-groundwater-conservation-districts-in-texas/> (last visited Apr. 20, 2021).

156. *Id.*

157. *Id.*

158. *Water for Texas: 2017 State Water Plan*, *supra* note 6, at 120; TEX. WATER CODE ANN. § 36.0015.

159. Vanessa Puig-Williams, *Regulating Unregulated Groundwater in Texas: How the State Could Conquer This Final Frontier*, 7 TEX. WATER J. 85, 87 (2016).

160. See *infra* Part III.A (discussing the recent dispute between Williamson County and Bell County).

161. See *Groundwater Conservation Districts*, TEX. A&M UNIV., <https://texaswater.tamu.edu/groundwater-conservation-district.html> (last visited Apr. 20, 2021).

162. *Id.*

163. *Id.*

164. *Id.*

proposed district must sign it or at a minimum, get fifty signatures in communities with more than fifty landowners.<sup>165</sup> The TCEQ reviews these petitions, holds a public meeting in the proposed district, assures the proposed district can be adequately funded, and assures the proposed GCD is within boundaries that would provide effective management.<sup>166</sup> If this criteria is not met, the TCEQ can deny the petition.<sup>167</sup>

The TCEQ can also initiate the formation of a GCD if local landowners are located within a priority groundwater management area but have not started the process themselves.<sup>168</sup> Finally, property owners can petition a nearby, existing GCD to allow their property to be annexed into the existing GCD.<sup>169</sup> If a single landowner is making the request, only board approval is required; if a group of landowners are making the request, the proposed annexation requires board approval and confirmation by voters after a public hearing.<sup>170</sup>

GCDs are the primary governing bodies that have the most direct authority and influence over a community; however, there are larger structures that GCDs belong to and varying responsibilities they must perform in order to govern groundwater resources more effectively.<sup>171</sup> The Texas Legislature has categorized certain portions of Texas as “groundwater management area[s]” or “priority groundwater management areas [(GMAs)].”<sup>172</sup> Where a GCD is a governing board based on a political boundary, a GMA refers to a geographic area that is “suitable for the management of groundwater resources.”<sup>173</sup> This geographic area usually coincides with aquifer boundaries.<sup>174</sup> Because groundwater management areas are larger geographically based areas, it is common for several GCDs to exist within one management area.<sup>175</sup> In an effort to consolidate management efforts, the Texas Legislature requires members of GMAs to engage in “joint planning.”<sup>176</sup> This process of joint planning is where GCD’s within a particular management area must get together and develop management plans, called “desired future conditions,” for the aquifers that the GMA governs.<sup>177</sup> These desired future conditions are defined as “[t]he

---

165. *Id.*

166. *Id.*

167. *Id.*

168. *Id.*

169. *Id.*

170. *Id.*

171. *Id.*

172. *Id.*

173. Lesikar et al., *supra* note 155.

174. *Water for Texas: 2017 State Water Plan*, *supra* note 6, at 120.

175. Lesikar et al., *supra* note 155.

176. TEX. WATER CODE ANN. § 36.108.

177. *GMA Joint Planning*, MARY K. SAHS, P.C., <https://www.sahslaw.com/wp-content/uploads/2013/11/GMA-JOINT-PLANNING-FINAL-PAPER.pdf#:~:text=1%22Groundwater%20Management%20>

desired, quantified condition of groundwater resources (such as water levels, spring flows, or volumes) within a management area at one or more specified future times.”<sup>178</sup> This planning process serves to promote similar regulation practices and goals among GCDs that govern the same aquifer.<sup>179</sup>

A priority groundwater management area is a region particularly vulnerable to groundwater scarcity, contamination, or land subsidence—either because it is currently experiencing or expected to experience critical issues within the next twenty-five years.<sup>180</sup> When data reveals this information in a particular area, the TCEQ designates it as a priority GMA.<sup>181</sup> These areas differ from groundwater management areas in that all citizens within a priority management area must either create a GCD or be annexed into an existing GCD within two years of its designated status.<sup>182</sup> Land that is located within a priority management area is considered vital to the management of groundwater resources and experiences the largest level of state oversight in that GCDs are mandated and regulations in these areas are supposed to be more restrictive.<sup>183</sup> Due to a lack of enforcement power, even these areas that are mandated by the state to create GCDs do not always do so.<sup>184</sup> A dispute involving this very issue recently took place in Briscoe County, where landowners refused to implement a GCD in their area, and the state had no real enforcement power to compel its implementation.<sup>185</sup> This dispute will be discussed further in Section IV.

The Texas Water Code § 36.105(a) authorizes a GCD to “exercise the power of eminent domain on property located inside the district if the property interest is necessary for conservation purposes.”<sup>186</sup> Groundwater is a common-pool resource and as a result, is subject to competing demands that create legal challenges.<sup>187</sup> When the Texas Supreme Court held in *Day* that groundwater is owned in place, and the regulation of it could amount to a regulatory taking, the regulation of groundwater resources became significantly more challenging—and expensive—for local GCDs to

---

Area%20Joint%20Planning%22%20is%20a%20widely,management%20area%20%28GMA%29.%20See%20also%20C%2%A7%2036.1081%20-%2036.1086 (last visited Apr. 20, 2021).

178. 31 TEX. ADMIN. CODE § 356.10(6) (2020) (Tex. Water Dev. Bd., Definitions).

179. *GMA Joint Planning*, *supra* note 177.

180. Lesikar et al., *supra* note 155.

181. *Id.*

182. *Id.*

183. *Id.*

184. See Josie Musico, *High Plains Water District Rejects TCEQ Recommendation to Annex Portion of Briscoe County*, LUBBOCK AVALANCHE-J. (Mar. 13, 2015 10:26 AM), <https://www.lubbockonline.com/article/20150313/NEWS/303139688>.

185. *Id.*

186. Claudia Russell, *Texas Water Issues: Groundwater Conservation Districts’ Rules and Regulations and Other Legal Obstacles Awaiting Unsuspecting Landowners*, BICKERSTAFF 1, 2 (Feb. 27–28, 2014), [http://www.bickerstaff.com/wp-content/uploads/2014/08/Claudia\\_Changing\\_Face\\_of\\_Water\\_Rights\\_Conference\\_paper\\_\\_00741089x7A30F\\_.pdf](http://www.bickerstaff.com/wp-content/uploads/2014/08/Claudia_Changing_Face_of_Water_Rights_Conference_paper__00741089x7A30F_.pdf) (citing TEX. WATER CODE ANN. § 36.105(a)).

187. See *supra* notes 22–27 and accompanying text (discussing the competing interests of landowners’ rights to groundwater in Texas).

enforce.<sup>188</sup> For landowners, the decision in *Day* was celebrated as a victory—more freedom to use their groundwater however they deemed fit.<sup>189</sup> To environmentalists and conservationists, the ruling in *Day* surfaced concerns about how it would affect Texas’s ability to enforce conservation regulations.<sup>190</sup> Although the ruling in *Day* established that any limitation on the right to use the groundwater beneath an owner’s land could constitute a taking of private property, actual payment of compensation was not enforced until *Edwards Aquifer Authority v. Bragg*.<sup>191</sup>

*Bragg*, similar to *Day*, involved a farmer who sued the authority for a regulatory decision that limited his ability to irrigate his pecan orchards.<sup>192</sup> While *Day* simply stated that this action *could* constitute a private property taking, *Bragg* was the first case that actually enforced compensation against the regulatory agency.<sup>193</sup> The court used the *Penn Central* test, which weighs “several factors that have particular significance” in evaluating regulatory takings.<sup>194</sup> The three primary factors the court considered were: (1) “[t]he economic impact of the regulation on the claimant,” (2) “the extent to which the regulation has interfered with distinct investment-backed expectations,” and (3) “the ‘character of the governmental action.’”<sup>195</sup> The court went on to say that these three factors were not determinative, but instead functioned as “guideposts that lead to the ultimate determination whether just compensation is required.”<sup>196</sup> After weighing the factors, the court awarded approximately \$700,000 in damages to Bragg to be paid by the Edwards Aquifer Authority.<sup>197</sup> Even though the Texas Legislature has authorized GCDs with the power to exercise eminent domain when “necessary for conservation purposes,” it is very popular when legislatively creating a GCD to prohibit the district from using that power.<sup>198</sup> This results in situations like *Bragg*, where regulation is not enforceable and GCDs, while given statutory authority, do not have any actual authority to implement restrictions or regulations in the name of conservation.<sup>199</sup>

---

188. *Edwards Aquifer Auth. v. Day*, 369 S.W.3d 814, 833 (Tex. 2012); see Grubbs et al., *supra* note 5.

189. *Day*, 369 S.W.3d at 833.

190. *Id.*; see Kate Galbraith, *Texas Supreme Court Hands Victory to Landowners in Landmark Water Case*, TEX. TRIB. (Feb. 24, 2012 11 AM), <https://www.texastribune.org/2012/02/24/texas-supreme-court-rules-landowners-water-case/>.

191. *Edwards Aquifer Auth. v. Bragg*, 421 S.W.3d 118, 138 (Tex. App.—San Antonio 2013, pet. denied).

192. *Id.* at 124.

193. *Id.* at 138 (emphasis added).

194. *Id.* (quoting *Penn. Cent. Transp. Co. v. City of New York*, 438 U.S. 104, 131 (1978)).

195. *Id.* (alteration in original).

196. *Id.* at 139 (quoting *Palazzoio v. Rhode Island*, 533 U.S. 606, 634 (2001) (O’Connor, J., concurring)).

197. Justin Horne, *Ruling Stands in Case against EAA*, KSAT 12 NEWS (May 13, 2015 6:05 PM), <https://www.ksat.com/news/2015/05/13/ruling-stands-in-case-against-eea-2/>.

198. Russell, *supra* note 186, at 2 (citing TEX. WATER CODE ANN. §36.105(a)).

199. See *Bragg*, 421 S.W.3d at 138.

*I. Groundwater Regulation Outside of Texas*

Groundwater aquifers do not take state boundaries into consideration; therefore, the regulations and conservation efforts of one state can have a substantial impact on the aquifer levels of other states.<sup>200</sup> As a result of depleting aquifer levels, many states have adapted their groundwater law from something similar to the rule of capture to a form of stricter regulation that reflects the hydrological reality of the country.<sup>201</sup> States, like Arizona and Kansas, have adapted from hands-off regulatory structures to systems that implement more central regulation while still recognizing landowner rights.<sup>202</sup> This adaptation by many of these arid states is based on the reality that if groundwater is not managed more effectively at the state level, the federal government might have to get involved.<sup>203</sup>

Of the thirty aquifers that Texas manages, twenty of them are shared with other states.<sup>204</sup> Chief among those shared aquifers is the Ogallala Aquifer, the largest aquifer in the United States.<sup>205</sup> The Ogallala Aquifer underlies West Texas and is shared with New Mexico, Oklahoma, Colorado, Kansas, Wyoming, Nebraska, and South Dakota.<sup>206</sup> Most of these states have adapted to some degree and govern their groundwater using varying forms of the appropriative rights doctrine.<sup>207</sup> Texas is the last among those states to hold fast to the rule of capture.<sup>208</sup> Texans are fiercely protective of their private property rights; therefore, they have historically shown no interest in compromising their property rights to find a way to regulate interstate aquifers with other states.<sup>209</sup> While the federal government has historically not involved itself in the development of groundwater law, they have become increasingly involved in groundwater data-collecting and development projects.<sup>210</sup> If the “ticking time bomb” that is the Ogallala Aquifer gets to a point where other states decide to take action against Texas’s regulation methods, the federal government would be forced to step in, as Article III of

---

200. Lesikar et al., *supra* note 155.

201. Lana Shannon Shadwick, *Obsolescence, Environmental Endangerment and Possible Federal Intervention Compel Reformation of Texas Groundwater Law*, 32 S. TEX. L. REV. 641, 665–66 (1991).

202. See generally Robert Emmet Clark, *Ground Water Legislation in Light of Experience in the Western States*, 22 MONT. L. REV. 42, 49–51 (1960).

203. Shadwick, *supra* note 201, at 666.

204. Clark, *supra* note 202, at 56.

205. *Id.*

206. *Id.*

207. COLO. REV. STAT. ANN. § 37-82-101 (West 2013); KAN. STAT. ANN. § 82a-703 (2017); WYO. STAT. ANN. § 41-3-906 (West 2013); S.D. CODIFIED LAWS § 46-6-3 (2013); NEB. REV. STAT. § 46-635-42 (2013).

208. Joseph W. Dellapenna, *A Primer on Groundwater Law*, 49 IDAHO L. REV. 265, 274 (2013).

209. *Id.* at 274–75.

210. John D. Leshy, *Interstate Groundwater Resources: The Federal Role*, 14 HASTINGS W.-NW. J. ENV'T L. & POL'Y 1475, 1485 (2008).

the Constitution gives the Supreme Court the exclusive jurisdiction over conflicts between multiple states.<sup>211</sup>

Texas is not the only state who faces the challenges that come with being an arid, agricultural state; Kansas faces similar challenges but addresses those challenges differently when it comes to groundwater regulation. Kansas has adopted a system of regulation that is a hybrid between public and private rights.<sup>212</sup> The Kansas Water Appropriation Act states that a water right is “a real property right,” but also states that “all water within the state . . . is hereby dedicated to the use of the people of the state, subject to the control and regulation of the state.”<sup>213</sup> The contradictory statements in the Act have resulted in a governing system that incorporates both local planning and state-enforced permitting and restriction decisions.<sup>214</sup> Kansas, similar to Texas, utilizes local districts to help protect groundwater in smaller, localized areas.<sup>215</sup> They do this through five Groundwater Management Districts (GMDs), which, like the GCDs in Texas, are made up of an elected board that has the power to establish management plans and create standards and policies for those in their jurisdiction.<sup>216</sup> Kansas also classifies areas that are particularly vulnerable to groundwater depletion as “[i]ntensive [g]roundwater [u]se [c]ontrol [a]reas” (IGUCAs), similar in structure to Texas priority management areas.<sup>217</sup>

Despite these similarities, Kansas differs from Texas in that the groundwater of the entire state is subject to the authority of the Chief Engineer—the head of the state’s Division of Water Resources.<sup>218</sup> The Chief Engineer is authorized to impose reductions in groundwater use, particularly IGUCAs, where the Chief Engineer has “extraordinary powers and remedies” to restrict groundwater use.<sup>219</sup> All water rights, other than for domestic use, requires the permission of the Chief Engineer, and the Office holds the power to impose penalties on those who use water without a permit or in violation

211. U.S. CONST. art. I, § 8, cl. 3; *id.* art. I, § 10, cl. 3.

212. John C. Peck, *Legal Challenges in Government Imposition of Water Conservation: The Kansas Example*, KU SCHOLARWORKS 1, 6 (Feb. 27, 2015), <https://kuscholarworks.ku.edu/bitstream/handle/1808/17281/Peck%20Kansas%20Example.pdf?sequence=1>.

213. KAN. STAT. ANN. §§ 82.A-701[G], 702, 707[A] (2017).

214. Peck, *supra* note 212, at 5–6.

215. *Id.*

216. *Id.*

217. Wargia M. Bowman, *Dustbowl Waters: Doctrinal and Legislative Solutions to Save the Ogallala Aquifer before both Time and Water Runs Out*, 91 U. COLO. L. REV. 1081, 1129 (2020).

218. See *Directory: Office of Water*, TEX. COMM’N ON ENV’T QUALITY, [https://www.tceq.texas.gov/agency/directory/water\\_directory.html](https://www.tceq.texas.gov/agency/directory/water_directory.html) (last visited Apr. 20, 2021) (showing that Texas has no Chief Engineer working in the Office of Water); see also *Chief Engineer/Director Water Resources Division*, KAN. DEP’T OF ADMIN., <https://www.admin.ks.gov/docs/default-source/ops/class-specifications/natural-sciences-and-engineering/chief-engineer-director-water-resources-div.pdf?sfvrsn=2> (last visited Apr. 20, 2021) (showing that the Chief Engineer is the head of the Kansas Division of Water Resources); KAN. STAT. ANN. § 82a-1022 (2017) (showing the Chief Engineer has substantial regulatory power over the states groundwater).

219. Peck, *supra* note 212, at 5.

of the terms of the permit.<sup>220</sup> These penalties can include civil fines, criminal sanctions, and reductions in allowable usage.<sup>221</sup> Kansas has cracked down particularly hard on those engaging in over-pumping.<sup>222</sup> They have established different categories of over-pumping that have corresponding levels of penalties.<sup>223</sup> For example, over-pumping for more than three days can result in fines of \$1,000 per day and a reduction of permitted water use.<sup>224</sup> Although this strict governing has been met with some resistance, there is data to show that agriculturalists understand the problem and have been taking measures to comply.<sup>225</sup> Kansas farmers specifically have gotten on board by “voluntarily agreeing to cut usage by 20 percent over a five-year period.”<sup>226</sup> While it was a voluntary decision, the failure to accomplish this will result in sanctions by the state.<sup>227</sup>

While courts have affirmed the rule of capture several times, Texas may not hold onto it forever. Justice Hecht’s concurrence in *Sipriano*, coupled with the legislature approving increased groundwater regulation over the years, provides some basis to show that if groundwater management gets increasingly worse, the judiciary would not be opposed to overruling the rule of capture in the future.<sup>228</sup> This ruling would open the door to many different regulation proposals that have been completely “off the table” so far. It is important for the state to come up with a plan that will address the needs of the state while staying within the regulations designed to protect the property rights given to Texas citizens.

### III. THE TEXAS LEGISLATURE SHOULD REGULATE GROUNDWATER CENTRALLY

The Texas Legislature should amend Chapter 36 of the Texas Water Code to give the TWDB the necessary authority to regulate groundwater centrally. Texas should regulate groundwater through a centralized state agency in order to address the inefficiencies and enforcement issues in the current system. Texas’s current system for groundwater regulation, which consists of a fragmented, localized regulation structure, is inefficient and ineffective at ensuring adequate groundwater resources for the future.<sup>229</sup> The Texas Legislature amended the Texas Constitution to impose a duty on the

---

220. KAN. STAT. ANN. § 82a-728 (2017).

221. *Id.*; see also *id.* §§ 82-737, 82a-732 (providing information on penalties for violations of the statute).

222. Bowman, *supra* note 217, at 1121–22.

223. *Id.* at 1121.

224. *Id.*

225. See *id.*

226. *Id.*

227. *Id.* at 1129.

228. *Sipriano v. Great Spring Waters of Am., Inc.*, 1 S.W.3d 75, 76 (Tex. 1999).

229. See *supra* Part II.C (providing information regarding GCDs in Texas).

state to conserve and preserve its natural resources.<sup>230</sup> While Texas has adapted its groundwater law since the original ruling in *East*, most of those provisions have been to protect the landowner at the expense of conservation and aquifer sustainability.<sup>231</sup> Now, groundwater resources are diminishing, population is booming, but the State has held fast to the decision to govern by the rule of capture. When *Day* held that groundwater, like oil and gas, is owned in place,<sup>232</sup> the court opened the door for comparable regulation to exist between the two sectors. This Comment promotes the position that groundwater regulation should closely resemble oil and gas regulation in that it should be regulated through a central state agency. Without a centralized system of regulation and enforcement, there is no way to guarantee a sustainable water source for Texas's future.

*A. The Texas Water Development Board Should Centrally Regulate  
Groundwater Resources*

Constitutional authority exists for taking some regulatory control out of the hands of self-interested landowners and self-voted GCDs and vesting that authority in the TWDB. The Conservation Amendment to the Texas Constitution provides the necessary authority to vest the regulatory control of Texas groundwater in a centralized state agency.<sup>233</sup> When the Texas Legislature adopted the Conservation Amendment, it placed the duty on the state to "provide for the conservation and development of the state's . . . [water] resources."<sup>234</sup> This language made it so that ownership of groundwater is subject to the police power of the state.<sup>235</sup>

Water regulation aimed at protecting the public welfare is well established. The Texas Supreme Court stated in the case, *In re Adjudication of Upper Guadalupe Segment of the Guadalupe River Basin*, that:

Water rights, like all other rights, are subject to such reasonable regulations, as are essential to the general welfare, peace, and good order of the citizens of the state, to the end that the use of water by one, however absolute and unqualified his right thereto, shall not be injurious to the equal enjoyment of others entitled to the equal privilege of using water from the same source, nor injurious to the rights of the public.<sup>236</sup>

---

230. See TEX. WATER CODE ANN. §§ 36.001, 36.015, 36.1071, 36.1083, 36.1084, 36.120, 36.160, 36.161, 36.302, 36.374, 36.705.

231. See *supra* Part II.C (discussing how local GCDs protect property rights).

232. *Edwards Aquifer Auth. v. Day*, S.W.3d 814, 829 (Tex. 2012).

233. TEX. WATER CODE ANN. § 1.003.

234. *Id.*

235. Marvin W. Jones & Andrew Little, *The Ownership of Groundwater in Texas: A Contrived Battle for State Control of Groundwater*, 61 BAYLOR L. REV. 578, 598–99 (2009).

236. *In re Adjudication of the Water Rts. of the Upper Guadalupe Segment of Guadalupe River Basin*, 642 S.W.2d 438, 445 (Tex. 1982) (citing *In re Willow Creek*, 144 P. 505, 514 (Or. 1914)).



Again, in *Beckendorff v. Harris-Galveston Coastal Subsidence District*, the Texas Supreme Court upheld groundwater legislation designed to prevent subsidence and flooding as necessary to protect the public and therefore, within the authority of the state police power.<sup>237</sup> The Supreme Court of the United States even spoke on the issue in *Chicago, Burlington & Quincy Railway Co. v. Illinois ex rel Drainage Commissioners*, when the Court stated that “the police power of a State embraces regulations designed to promote the public convenience or the general prosperity, as well as regulations designed to promote the public health, the public morals, [and] the public safety.”<sup>238</sup> Regulating groundwater resources for the purpose of ensuring a sustainable water resource for Texas citizens is clearly in furtherance of public health and safety; therefore, groundwater regulation is a permissible exercise of Texas’s police powers.<sup>239</sup>

Currently, that police power is exercised through Chapter 36 of the Texas Water Code—the chapter that creates groundwater conservation districts.<sup>240</sup> The same authority that allows for the regulation of water rights by local, political bodies also extends to authorize a far more efficient, centralized system of groundwater regulation that would address the current system’s deficiencies.<sup>241</sup> The Texas Legislature shows this by authorizing the Texas Railroad Commission with the authority to regulate oil and gas when oil and gas are subject to essentially every legal characterization and constitutional protection that governs groundwater.<sup>242</sup> Further, regulating centrally in a manner shaped after the Texas Railroad Commission is both logical and consistent with the development of groundwater law to date, which was formed from and has continuously relied on oil and gas law.<sup>243</sup>

Regulating groundwater centrally, as opposed to locally, would solve many of the current regulatory system’s problems. Nonuniformity, resulting from the application of conflicting rules, would be reduced.<sup>244</sup> Ineffective conservation due to partial regulation would be reduced. Court-litigated conflicts would be reduced. Taxes could also be reduced. In order for these changes to take place, the legislature would need to authorize the TWDB with the regulatory and quasi-judicial authority necessary to regulate in the ways laid out in following sections.

---

237. *Beckendorff v. Harris-Galveston Coastal Subsidence Dist.*, 563 S.W.2d 239, 240 (Tex. 1978).

238. *Chi., Burlington & Quincy Ry. Co. v. Ill. ex rel Drainage Comm’r*, 200 U.S. 561, 592 (1906).

239. *See, e.g., id.* at 561.

240. TEX. WATER CODE ANN. § 36.00.

241. *Id.*

242. *See id.*

243. *See Friendswood Dev. Co. v. Smith-Sw. Indus.*, 576 S.W.2d 21, 26 (Tex. 1978); *Brown v. Humble Oil & Ref. Co.*, 83 S.W.2d 935, 935–45 (Tex. 1935); Joe R. Greenhill & Thomas Gibbs Gee, *Ownership of Ground Water in Texas: The East Case Reconsidered*, 33 TEX. L. REV. 620, 621 (1955); *see also Pecos County Water Control & Imp. Dist. No. 1 v. Williams*, 271 S.W.2d 503, 505–06 (Tex. App.—El Paso 1954, writ ref’d n.r.e.) (discussing that oil and gas is statutorily regulated, but groundwater is only regulated under the district system).

244. Shadwick, *supra* note 201, at 681–92.

### *I. Nonuniformity*

To address the nonuniformity resulting from differing rules and regulations governing the same aquifer, the Texas Legislature needs to confer on the TWDB the authority to enforce GCD compliance with aquifer-wide conservation goals, or “desired future conditions,” and make permitting decisions by a GCD subject to TWDB approval. The legislature should look to the enforcement capabilities given to the Railroad Commission for structure and authorizing language. Section 81.0531 and 91.101 of the Texas Natural Resources Code authorizes the Railroad Commission to adopt and enforce rules and issue permits relating to the prevention of pollution.<sup>245</sup> Specifically, § 91.101(a)(2) specifies that “[t]o prevent pollution of surface water or subsurface water in the state, the commission shall adopt and enforce rules and orders and may issue permits relating to . . . the production of oil and gas.”<sup>246</sup> In fact, § 91.101 has authorized the Railroad Commission to adopt rules to establish protections for groundwater for operations that are within their jurisdiction.<sup>247</sup> Looking to the language that granted authority to the Railroad Commission, the legislature should amend Chapter 36 of the Texas Water Code to grant the TWDB the authority to adopt rules and regulations to prevent waste of the state’s groundwater resources, including the authority to review permitting decisions by GCDs and impose penalties for failure to comply with TWDB rules and regulations.

Conferring this enforcement power on the TWDB will create positive effects on conservation and therefore, on the welfare of Texas citizens. Currently, GCDs only required action is to submit an administratively “complete” management plan to the TWDB—a plan that the TWDB must approve as long as the goals are physically possible, individually and collectively.<sup>248</sup> With this authority, the TWDB could review permitting decisions made by GCDs to ensure they are in compliance with the approved “plan.” If, for instance, a GCD granted a permit for a large commercial operation to pump so many gallons of water that it was deemed wasteful—that is, that the amount withdrawn could cause or threaten the quality or quantity of the aquifer—the TWDB could veto the GCD’s decision to grant that permit. If the applicant decided to pump regardless, or in anyway went against the decision of the TWDB, they would be subject to weighty penalties for their failure to comply—just the same as the Railroad Commission’s

---

245. TEX. NAT. RES. CODE ANN., §§ 81.0531, 91.101.

246. *Id.* § 91.101(a)(2).

247. *Id.* § 91.101.

248. *Desired Future Conditions*, TEX. WATER DEV. BD., <https://www.twdb.texas.gov/groundwater/dfc/index.asp> (last visited Apr. 18, 2021).

ability to impose penalties for noncompliance with Commission regulations.<sup>249</sup>

## 2. *Fragmented Regulation*

The Texas Legislature should amend Chapter 36 of the Texas Water Code to require that *all* parts of the state are subject to regulation in an effort to protect groundwater resources. The only areas currently mandated to create a GCD are “priority groundwater management areas,” which are the areas in Texas most vulnerable to aquifer depletion.<sup>250</sup> The problem with not requiring uniform regulation across the state is that, often, regulated districts share the same aquifer with unregulated counties, making conservation efforts futile. The Texas Railroad Commission has the broad authority to regulate the “drilling of exploratory wells and oil and gas wells [for] any purpose in connection with them,” as well as “the production of oil and gas,” for the purpose of preventing pollution.<sup>251</sup> This authority extends to oil and gas wells across *all* regions of Texas, not just those where production is most popular or harm is mostly likely to result.<sup>252</sup>

To illustrate the problems with inconsistent regulation, consider a recent dispute between Williamson County and Bell County.<sup>253</sup> Williamson County is not governed by a GCD, Bell County is, and both depend on Edwards Aquifer for their livelihoods.<sup>254</sup> Unregulated groundwater pumping out of Williamson County has caused localized drawdown of the aquifer in Bell County, which is governed by the Clearwater Underground Conservation District.<sup>255</sup> The TCEQ became aware of the situation, but has no authority to remedy it, and instead noted that there was no entity in Williamson County that has “authority to control large-scale groundwater pumpage for private purposes that could potentially impact a shared groundwater supply.”<sup>256</sup> This lack of regulation is “perhaps the most egregious example of insufficient representation” and is entirely a consequence of a lack of groundwater regulation.<sup>257</sup>

---

249. See *supra* note 104 and accompanying text (discussing what the Railroad Commission of Texas does).

250. TEX. WATER CODE ANN. § 36.014.

251. TEXAS NAT. RES. CODE § 91.101(a)(1)-(2).

252. Brantley Hargrove, *Could a Tug-of-War Between Two Central Texas Counties Leave Residents Without Drinking Water?*, TEX. MONTHLY, <https://www.texasmonthly.com/articles/central-texas-drinking-water-crisis/> (last visited Apr. 18, 2021).

253. *Id.*

254. *Id.*

255. *Id.*

256. Puig-Williams, *supra* note 159, at 89.

257. John Thomas Dupnik, *A Policy Proposal for Regional Aquifer-Scale Management of Groundwater in Texas*, THE UNIV. OF TEX. AT AUSTIN 1, 86 (Dec. 2012), [https://repositories.lib.utexas.edu/bitstream/handle/2152/19658/dupnik\\_thesis\\_20129.pdf?sequence=1&isAllowed=y](https://repositories.lib.utexas.edu/bitstream/handle/2152/19658/dupnik_thesis_20129.pdf?sequence=1&isAllowed=y).

Mandating that all areas in Texas be subject to a GCD is a logical extension of existing mandates within the Texas Water Code. Section 35.004 requires the TWDB to designate groundwater management areas to cover all major and minor aquifers in the state by September 1, 2003.<sup>258</sup> Section 36.108 of the Texas Water Code requires that districts located within the same groundwater management area must work together to form a comprehensive management plan.<sup>259</sup> Both of these code sections show a clear intention on behalf of the legislature to ensure that all Texas aquifers are subject to conservation management practices.<sup>260</sup> These code sections were likely drafted with the assumption that the mandate would ensure regulation of all portions of the aquifers within the state, but nearly one-third of the state remains unregulated.<sup>261</sup> Instead, this mandate simply encourages existing GCDs within a groundwater management area to work together to manage the aquifer as cohesively as possible. Cohesive regulation is not possible, however, when the management area has large gaps where no GCD is operating. It is only rational that the Texas Legislature amend Chapter 36 of the Texas Water Code to require that all unregulated areas of Texas either create a GCD for their region or petition an existing GCD to be annexed into their jurisdiction. Doing so would hardly be considered a new provision; instead, it is more a legislative action to fill in previously unseen regulatory gaps to accomplish their existing intentions.

### 3. *The Hearings Section of the Texas Water Development Board*

Problems arising out of groundwater law are very specialized. It becomes problematic when groundwater cases are taken to the state court, and judges who are familiar with the law, but not with water data, are asked to make decisions. As stated earlier in this Comment, the judiciary comes up with the law, but it defers all else to the legislature.<sup>262</sup> To ensure that groundwater claims are heard and decided in light of the current state of our water supply, they should be heard by those with specialized knowledge of the groundwater situation in Texas. To do this, the Texas Legislature should authorize the TWDB to implement a Hearings Section, modeled after the Hearings Section of the Texas Railroad Commission.<sup>263</sup> This division should

---

258. TEX. WATER CODE ANN. § 35.004.

259. *Id.* § 36.108(b).

260. *Id.* §§ 35.004, 36.108(b).

261. *Groundwater Conservation Districts*, *supra* note 10; *Groundwater Conservation District Facts*, TEX. WATER DEV. BD., [https://www.twdb.texas.gov/groundwater/conservation\\_districts/facts.asp#:~:text=GCDs%20cover%20nearly%2070%20percent,districts%20overlie%20a%20minor%20aquifer](https://www.twdb.texas.gov/groundwater/conservation_districts/facts.asp#:~:text=GCDs%20cover%20nearly%2070%20percent,districts%20overlie%20a%20minor%20aquifer) (last visited Apr. 18, 2021).

262. *See Sipriano v. Great Spring Waters of Am., Inc.*, 1 S.W.3d 75, 76 (Tex. 1999); *Edwards Aquifer Auth. v. Day*, 369 S.W.3d 814, 831–32 (Tex. 2012) (showing how the Texas Supreme Court gives deference to the legislature regarding groundwater regulation).

263. *Hearings Division*, *supra* note 134.

provide a much-needed place to bring contested groundwater decisions so that a board—informed with the data, not just the case law—can prepare recommendations that balance landowners’ interests with conservation interests. Creating a quasi-judicial committee of this sort would help contested cases to be heard in light of the reality of our finite water resources and could provide a place for non-pumping landowners to seek help protecting their groundwater rights. The structure of the section should be modeled after the Hearings Section of the Texas Railroad Commission, with an appointed board consisting of a director, attorney-examiners to ensure compliance with the law, and technical examiners to ensure the recommendations are in line with the data available.<sup>264</sup> A resounding problem with the current process for water conservationists is that the only real solution to combat the irresponsible pumping practices of a neighbor, or a harmful permitting decision by a GCD, is to out-pump the surrounding wells.<sup>265</sup> Groundwater, like oil and gas, is focused on pumping and production, and those who are not engaged in pumping have limited options to protect the groundwater beneath their land. A recent case, *End Op, L.P. v. Meyer*, illustrates this problem well.<sup>266</sup>

In *Meyer*, landowners residing over, but not yet drilling into the Simsboro Aquifer, requested party status in a case hearing before the Lost Pines Conservation District, challenging the district’s decision to grant an operating and transporting permit request for 56,000 acre-feet of groundwater per year to a commercial operation.<sup>267</sup> The case was referred from the district to the State Office of Administrative Hearings to determine if the landowners challenging the permit approval had standing because they were not pumping themselves and, according to the district, that would mean they did not have the requisite “injury” needed to obtain standing.<sup>268</sup> The landowners’ argument was that if groundwater is a vested right and he owns his land, he also owns the water under his land and should be able to challenge someone engaging in practices that will deplete the water beneath his land.<sup>269</sup> The district court ruled in favor of the landowners and reversed the GCD’s decision to deny them party status, but the Austin Court of Appeals reversed that order on a technicality, stating that because the plaintiffs did not file their appeal on time, the district court never had jurisdiction to make the decision they did.<sup>270</sup>

---

264. *Id.*

265. *See* *End Op, L.P. v. Meyer*, No. 03-18-00049-CV, 2018 WL 4102013, at \*3 (Tex. App.—Austin Aug. 29, 2018, no pet.).

266. *Id.*

267. Response Brief of Appellees Andrew Meyer, Bette Brown, Darwyn Hanna, & Env’t Stewardship at 2–3, *End Op L.P., v. Meyer*, No. 03-18-00049-CV, 2018 WL 4102013 (Tex. App.—Austin Aug. 29, 2018, no pet.) [hereinafter Response Brief].

268. *Id.*

269. *Id.* at 16–17.

270. *See Meyer*, 2018 WL 4102013, at \*2–3.

The question of how landowners who do not want to pump can protect their ownership right in groundwater is still undecided. To have standing in court, a plaintiff must show injury, causation, and redressability.<sup>271</sup> This requirement can be complicated in a system whose policies and practices are not tailored to address the problems of an owner of a resource who is choosing to not engage in “use.” If the TWDB had the quasi-judicial authority to hear all contested cases having to do with groundwater rights in Texas, the landowners in this case would have a place to bring their claim without fighting to prove that they are eligible to be heard in the first place. That way, those who choose to conserve have a right to stand up and challenge an action or decision that could be harmful to their land and their community.

When the oil and gas industry went through changes in legislation and case law that made administrative practices more complex, the legislature responded by granting adjudicatory authority to the Texas Railroad Commission—authorizing it to hear contested cases relating to oil and gas and leaving the courts as the last resort for dispute resolution.<sup>272</sup> The Texas Legislature should grant the TWDB similar “adjudicatory, enforcement, and general counsel functions.”<sup>273</sup> The TWDB already has experts who conduct scientific studies on the levels of aquifers and make projections based on that data.<sup>274</sup> They have both the knowledge and authority to review groundwater management plans and desired future conditions submitted to them by local GCDs.<sup>275</sup> They are in a far better position to adjudicate conflicts involving local regulatory bodies and landowners disputing over groundwater resources than a court. If the TWDB was granted the same authority as the Railroad Commission, spelled out in Chapter 2001 of the Administrative Procedures Act (APA), they could determine the “legal rights, duties, or privileges of a party.”<sup>276</sup> Meaning that, in situations similar to *End Op, L.P. v. Meyer*, the TWDB could determine that owners not engaged in “use” still have the right to contest a permit awarded by a GCD, as opposed to a Texas court that is constrained by judicial precedent and does not have the same knowledge or expertise in current groundwater conditions.<sup>277</sup>

A majority of states have already accepted centralized regulation, particularly western states where depleting aquifers pose the largest threat.<sup>278</sup>

---

271. Response Brief, *supra* note 267, at 18.

272. R.R. Comm’n of Tex., *Sunset Advisory Commission: Staff Report with Final Results*, SUNSET.TEX.GOV 3 (2016–2017), [https://www.sunset.texas.gov/public/uploads/files/reports/Railroad%20Commissio%20of%20Texas%20Staff%20Report%20with%20Final%20Results\\_6-21-17.pdf](https://www.sunset.texas.gov/public/uploads/files/reports/Railroad%20Commissio%20of%20Texas%20Staff%20Report%20with%20Final%20Results_6-21-17.pdf).

273. *Id.* at 21.

274. *About the Texas Water Development Board*, *supra* note 78.

275. *Id.*

276. TEX. GOV’T CODE ANN. § 2001.003(1).

277. See *End Op, L.P. v. Meyer*, No. 03-18-00049-CV, 2018 WL 4102013, at \*3 (Tex. App.—Austin Aug. 29, 2018, no pet.).

278. See Robert Emmet Clark, *Ground Water Legislation in the Light of Experience in the Western*

Even Kansas, a state that most closely resembles Texas's localized groundwater regulation system, has adapted to subject groundwater rights to centralized authority—the Chief Engineer.<sup>279</sup> Kansas has authorized the Chief Engineer to enforce reductions in groundwater use and permit or deny water use permits for all water not used for domestic purposes.<sup>280</sup> If these orders are violated, the office of the Chief Engineer can impose penalties such as fines, reduction in use, and in some cases even criminal sanctions.<sup>281</sup> Kansas has managed to do all of this without taking all of the power away from the locals.<sup>282</sup> They still have localized political bodies, similar to a Texas GCD—the difference is that the state has authorized the Chief Engineer to enforce those localized bodies into compliance with aquifer-conservation goals for the welfare of the people of Kansas.<sup>283</sup> While the transition from local to central regulation no doubt had some growing pains, it is helping the state manage their groundwater more effectively, and landowners have even gotten onboard to voluntarily cut their water usage.<sup>284</sup>

While mandating and enforcing statewide regulation might bring out constitutional takings suits initially, it is important to remember that constitutional takings involve a balancing test that requires looking at the economic impact on the landowner along with the reason for the regulation by the government.<sup>285</sup> Additionally, statewide regulation will open up more doors for funding to compensate landowners for any restriction on their use that has a significant economic impact. The proposed changes are hardly a new system of government or an intense overhaul; instead, centralization is a way to address holes in an already existing, already constitutional form of regulation. Centralizing groundwater regulation in Texas will allow the state to accomplish its duty set out in the Conservation Amendment: to protect resources before the federal government tries to step in and set up a far more restrictive regime.

#### *B. Utilize State Funding to Encourage Voluntary Conservation Efforts*

Texas has the authority to centralize groundwater regulation under its police powers; however, Texas is a state where individualism and anti-government sentiment run deep. Initially, state-enforced regulation of groundwater rights will likely not sit well with landowners, and the state will face some backlash and litigation. In an effort to minimize the litigation and

---

*States*, 22 MONT. L. REV. 42, 56 (1960).

279. *Id.*

280. KAN. STAT. ANN. § 82a-728 (1981).

281. *Id.*

282. Peck, *supra* note 212, at 5.

283. *See id.*

284. *See id.* at 6.

285. *See supra* notes 194–97 and accompanying text (applying the *Penn Central* balancing test).

the tension that will inevitably rise between landowners and the state government, the Texas Legislature should offer financial incentives to promote voluntary conservation throughout Texas. An incentive system will both encourage voluntary conservation, while also providing extra accountability to GCDs to ensure their compliance with management plans. This section will lay out three incentives in particular that will aid in these efforts: a property tax exemption, tax benefits and grant funding opportunities to members of GCDs, and a progressive tax exemption to encourage continued vigilance with water conservation.

### *1. Property Tax Exemptions*

The first and most powerful incentive the legislature should implement is a property tax exemption for property owners that implement water conservation practices, using its authority under Article VIII § 1-m of the Texas Constitution.<sup>286</sup> This amendment states that “[t]he legislature by general law may authorize a taxing unit to grant an exemption or other relief from ad valorem taxes on property on which a water conservation initiative has been implemented.”<sup>287</sup> The legislature should further define a “water conservation initiative” to be an act of conservation or a program that is approved through a groundwater conservation district. This “approval” would require membership and participation in a local GCD, which would work to ensure that all of the unregulated areas of Texas would create or join a GCD. GCD-approved conservation activities should be determined by each groundwater management area during the joint planning process with other GCDs in the management area, in an effort to encourage behaviors specifically beneficial to the area. These conservation activities should include things like well-metering, utilizing energy-efficient agricultural equipment, and voluntary water-use reduction in addition to any other conservation practices that groundwater management areas decide are beneficial to the aquifer that they govern.

Creating a property tax deduction for landowners who voluntarily place meters on their wells would be enormously beneficial for groundwater planning and regulation implementation. A water meter device can not only aid regulatory agencies in monitoring water use but can also “be used to enforce pumping limits, to better estimate groundwater availability, and improve overall effectiveness of groundwater management in the state.”<sup>288</sup> Certain states, such as Kansas and Georgia, have started the process to make meters mandatory throughout the state.<sup>289</sup> Several Texas GCDs are interested

---

286. TEX. CONST. art. VIII, § 1-m.

287. *Id.*

288. See Mary Sanger, *Water Metering in Texas*, TEX. LIVING WATERS 1 [http://texaslivingwaters.org/wp-content/uploads/2013/04/water\\_metering\\_in\\_texas.pdf](http://texaslivingwaters.org/wp-content/uploads/2013/04/water_metering_in_texas.pdf) (last visited Apr. 18, 2021).

289. *Id.* at 2.



in requiring all wells capable of producing more than 25,000 gallons of water per day to have a meter.<sup>290</sup> However, requiring well metering will not be as easy as writing the requirement in a rule book. Government-enforced metering is often met with indignation from landowners, even in states with far more progressive conservation policies.<sup>291</sup> In the wake of *Day*, when Texas groundwater was deemed a vested right, landowners have fiercely defended groundwater as private property that the government should not get to regulate.<sup>292</sup> Mandating a well meter would likely result in backlash and non-compliance from landowners. If, however, a landowner received a property tax deduction for installing a meter on a well, more landowners would participate voluntarily, and regulatory agencies would have more information to make effective management decisions.<sup>293</sup>

## 2. Sales Tax Exemption

Another tax incentive that the Texas Legislature should provide to members of GCDs is a sales tax exemption and grant funding for energy-efficient irrigation systems. Agricultural irrigation makes up 80% of the nation's water use and over 90% in several of the western states' water use.<sup>294</sup> While agricultural activities such as farming and ranching do require a substantial amount of water, the enormous demand that this sector has for groundwater could be reduced substantially by addressing the outdated systems and technology that are being used.<sup>295</sup> According to the USDA, "[m]ore than half of irrigated cropland acres in the West continue to be irrigated with more traditional, less-efficient application systems."<sup>296</sup> These older systems of irrigation waste countless gallons of water and can cost irrigators nearly \$100 per acre.<sup>297</sup>

There have been several innovations in agricultural systems that would use water more efficiently and save the landowner money in the process.

---

290. *Id.* at 5.

291. Heesun Wee, *Well Water Metering? Not on My Land, Say California Land Owners*, NBC NEWS (May 13, 2015), <https://www.nbcnews.com/storyline/california-drought/well-water-metering-not-my-land-say-california-landowners-n358296> (talking about California farmers resisting well metering on their properties).

292. See Mose Buchele, *Taking a Deeper Look at the Texas Supreme Court's Ruling on Water*, STATE IMPACT (Mar. 1, 2012, 2:49 PM), <https://stateimpact.npr.org/texas/2012/03/01/taking-a-deeper-look-at-the-texas-supreme-courts-ruling-on-water/>.

293. See *id.*

294. *Irrigation & Water Use*, USDA, <https://www.ers.usda.gov/topics/farm-practices-management/irrigation-water-use/background/> (last visited Apr. 18, 2021); Danny Reible, *Texas Must Limit Agricultural Water Use*, CHRON. (May 29, 2012 7:44 p.m.) <https://www.chron.com/opinion/outlook/article/Texas-must-limit-agricultural-water-use-3593672.php>.

295. *Inefficient Irrigation Systems May Cost Producers as Much as \$100 per Acre*, TEX. A&M (Aug. 11, 2014), <https://research.tamu.edu/2014/08/11/inefficient-irrigation-systems-may-cost-producers-as-much-as-100-per-acre/>.

296. USDA, *supra* note 294.

297. TEX. A&M, *supra* note 295.

Utilizing computer-aided farm management practices, such as moisture sensing devices and computer simulation models that show irrigation requirements, have shown to reduce water usage from 10–15% per crop per season.<sup>298</sup> Technology exists that uses infrared sensors on a center pivot irrigation system that senses leaf temperatures and evaporation rates and irrigates the plant with a specific amount of water when a threshold temperature is reached.<sup>299</sup> As useful as this technology would be for both water conservation and crop health, “[f]ewer than 2 percent [of irrigators] make use of computer-based simulation models.”<sup>300</sup> A primary reason for this is that the technology needed to implement this into an already functioning farm is very expensive, and few local farmers have the capital needed to make this kind of investment.<sup>301</sup> In 2013, only 16% irrigated acres that upgraded their irrigation systems to be more energy efficient received publicly funded assistance—every other irrigator had to find private funding, usually in the form of loans.<sup>302</sup> If Texas could make this technology more affordable through state-authorized tax exemptions and grants, more irrigators would implement these innovative systems and save a substantial amount of groundwater.

### 3. Progressive Tax Deduction

To further encourage all GCD-approved conservation practices, the Texas Legislature should authorize a progressive property tax deduction based on a groundwater usage classification system. For example, a property tax deduction could be given for those who decrease their groundwater usage by a specified percentage every year—the larger the percentage saved, the larger the deduction. The specific deduction and percentages would be determined by GMAs in their joint planning process as a way to address the specific water-use issues in their jurisdiction. This would further encourage landowners to voluntarily place a meter on their well and to take advantage of the tax exemptions and grant programs available to help them upgrade their farming systems to include water-efficient technology. Depending on the needs of the specific management area, other financial incentives could be applied to conservation programs, such as property tax-deductions for those implementing soil degradation management practices, and grant programs and subsidies to assist in the cost of planting water-efficient crops in lieu of crops that require harmful practices such as flood irrigation.

In 2019, the Environmental Defense Fund did a study of state-led conservation incentive programs throughout the United States, and while

---

298. USDA, *supra* note 294.

299. *Id.*

300. *Id.*

301. *See id.*

302. *Id.*

different parts of the country incentivize in different ways, the overarching conclusion is: it works and it benefits everyone.<sup>303</sup> The study found that:

State-led efforts to innovate in the financing of agricultural conservation offer multiple benefits to farmers, state residents and taxpayers, and society at large. First, these programs provide substantial, direct environmental benefits to residents of the state in the form of improved water quality, reduced agricultural water consumption, increased habitat for wildlife and a more resilient food system. Second, they benefit farmers by supporting them in adopting conservation measures, which is particularly important in the current depressed farm economy. Third, they benefit taxpayers by allowing states to tailor programming to the state's specific needs and increase the cost-effectiveness of conservation dollars. Finally, they benefit society at large by serving as incubators for ideas that can be implemented in other states or at the federal level.<sup>304</sup>

State-led conservation incentives would be a simple way for the Texas Legislature to further protect the state's groundwater resources. This "team effort" between the state and landowners would produce water-saving results without direct state regulations and would ease the tension between landowners and the government.

#### IV. CONCLUSION

The current regulatory system for groundwater resources in Texas is fragmented, ineffective, and is contributing to the depletion of vital water resources throughout the state. Texas needs to afford groundwater the same protections that it affords oil and gas by authorizing centralized groundwater regulation through the TWDB. Additionally, Texas needs to encourage landowners to conserve on their own through state-led financial incentives. Doing so would address the regulatory gaps in the current system and ensure the effective regulation of groundwater throughout the state. We are on the cusp of a major environmental crisis; if Texas does not act now, we will not have the resources necessary to support our ever-growing population and the livelihoods of Texas citizens will be at stake.

---

303. John Feldmann et al., *Innovative State-Led Efforts to Finance Agricultural Conservation*, ENV'T DEF. FUND 1, 31 (Sept. 2019), <https://www.edf.org/sites/default/files/documents/innovative-state-led-efforts-finance-agricultural-conservation.pdf>.

304. *Id.*