

REGIONAL MANAGEMENT OF GROUNDWATER

Marvin W. Jones

Marvin W. Jones
Sprouse Shrader Smith P.C.
701 S. Taylor, Suite 500
Amarillo, Texas 79101

marty.jones@sprouselaw.com
(806) 468-3344

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I. INTRODUCTION

The first big deadline for groundwater conservation districts (“GCDs”) to establish “desired future conditions” (or “DFCs”) under Tex. Water Code Sec. 36.108 has come and gone, and GCDs are now engaged in the process of adopting new management plans incorporating those DFCs, and new rules to achieve them. Enormous amounts of time, effort, energy and money have gone into the process. In 2015, the process will begin anew. At the midpoint between the first big round of the DFC process and the second, it is appropriate to step back and ask whether the process is succeeding, and if not, what can be done to fix it.

Arguably, the process has failed to achieve its goal of “joint planning” among GCDs that overlie the same major aquifer. The failure of the DFC process arises from and is the result of the same factors that drove its creation in the first place: the Legislature failed to ensure that every groundwater conservation district fully encompassed the aquifer or subdivision of an aquifer it would manage. In turn, this failure led to a proliferation of districts that manage only part of a given aquifer. When the Legislature realized its mistake and mandated joint planning, it failed to “close the loop” by requiring that such joint planning had to be hydrologically, rather than politically, driven. The solution is to return to the original concept: groundwater districts should be created in such a manner that they encompass the entire aquifer to be managed. This regional approach to groundwater management is important for many reasons, not the least of which is respect for private property rights.

II. HISTORY OF GROUNDWATER REGULATION

Understanding why the DFC process has failed and will fail requires an understanding of the history of groundwater regulation in Texas and a grasp of the property law principles that are increasingly lost in the regulatory process.

The Early Regulation of Groundwater. The people of Texas amended its constitution in 1916 to include the “conservation amendment,” which directed the state to take appropriate steps to conserve the natural resources of the state, including both oil and gas and groundwater. In 1925, the Legislature passed Chapter 25, which provided for the creation of water control and improvement districts by landowner petition.¹ In 1949, the Legislature authorized the creation of Underground Water Conservation Districts.² This Act defined “reservoir” as follows:

(4) “Underground Water Reservoir” is a specific subsurface water bearing reservoir having ascertainable

¹ Acts 1925, 39th Leg., ch. 25, s 1.

² Acts 1949, 51st Leg., ch. 306, s 1.

boundaries and containing underground water capable of being produced from a well at the rate of not less than one hundred fifty thousand (150,000) gallons per day.

The term “subdivision of an underground water reservoir” was defined as:

(5) “Subdivision of an underground water reservoir” is that definable part of an underground water reservoir from which withdrawal of waters cannot measurably affect the underground water of any other part of such reservoir, based upon existing conditions and reasonably foreseeable conditions, at the time of the designation or alteration of such subdivision.

Importantly, Subsection C of Chapter 306 placed limitations on the creation of underground water conservation districts:

C. No petition for the creation of a District to exercise the powers and functions set forth in Subsection B of this Section 3c shall be considered by a Commissioners Court or the Board, as the case may be, unless the area to be included therein is coterminus with an underground water reservoir or subdivision thereof which theretofore has been defined and designated by the Board as an underground water reservoir or subdivision thereof. Such district, in conforming to a defined reservoir or subdivision, may include all or parts of a county or counties, municipal corporations or other political subdivisions, including but not limited to Water Control and Improvement Districts.

Thus, the early legislation recognized the imperative that regulation must be based on hydrological units. Central to the thesis was the idea that a proper management unit should be defined by the impact that withdrawal of water within the unit would produce elsewhere; if withdrawal within a management area could impact water outside the management area, the management area was too narrowly drawn. This makes sense because of the constitutionally protected rights of owners in the same aquifer—as noted below, any regulatory unit that encompasses less than the full aquifer under management will inherently tread on those rights.

Chapter 306 was later codified into Texas Water Code Chapter 52.³ As of 1971, Section 52.001 defined “underground water reservoir” and “subdivision of an underground water reservoir” as follows:

(4) “Underground water reservoir” means a specific subsurface water-bearing reservoir having ascertainable boundaries and containing underground water that can be produced from a well at a rate of 150,000 gallons or more a day.

(5) “Subdivision of an underground water reservoir” means a reasonably definable part of an underground water reservoir in which the underground water supply will not be unreasonably affected by withdrawing water from any part of the reservoir, as indicated by known geological and hydrological conditions and relationships and on foreseeable economic development at the time the subdivision is designated or altered.

Section 52.023 remained steadfast as to the hydrological basis for creating groundwater conservation districts, but note the subtle change in wording with respect to “subdivisions.” Definitionally, the concept of hydrological units began to give way to other factors such as “foreseeable economic development.”

The First Groundwater Conservation Districts. Starting in 1955, three groundwater districts were formed over the massive Ogallala Aquifer in West Texas and the Panhandle. These initial districts, while over the same aquifer, were actually in hydrologically distinct subdivisions of that reservoir: the High Plains Underground Water Conservation District was located south of a neck of the aquifer near Amarillo; the Panhandle Groundwater Conservation District was located in a subdivision of the aquifer north of Amarillo and south of the Canadian River, and the North Plains Groundwater Conservation District was located in the hydrologically distinct subdivision north of the Canadian River. None of these districts encompassed the entire subdivision of their respective areas, yet each encompassed areas such that withdrawal of groundwater would not affect other subdivisions, and each was based on existing conditions or reasonably foreseeable conditions of the era. Unfortunately, however, the Legislature did not demand that these early districts fully encompass the subdivisions over which they were created, leaving room for later mischief.

The Later Mischief.

³ See Op. Tex. Att’y Gen. No. JM-1024 (1989).

In 1985, the Legislature altered groundwater statutes to allow further “slippage” in the definition and, accordingly, in the creation of groundwater conservation districts. In particular, Section 52.023 was amended to read:

- (c) The boundaries of a district created under this subchapter must be coterminous with or inside the boundaries of a management area designated by the commission pursuant to this subchapter or the boundaries of a critical area designated by the commission pursuant to Subchapter C of this chapter.

Section 52.024 was amended to read:

- (a) On its own motion from time to time, or on receiving a petition, the commission may designate underground water management areas. Each management area shall be designated with the objective of providing the most suitable area for the management of the underground water resources of the part of the state in which the district is to be located. To the extent feasible, the management area shall coincide with the boundaries of an underground water reservoir or a subdivision of an underground water reservoir. However, the commission also may consider other factors, including the boundaries of political subdivisions....

More recently, creation of districts is governed by Chapter 36 of the Water Code. In Section 36.012, we find that a new district may not include territory located in more than one county except on a majority vote of the voters residing within the territory of each county sought to be included. Thus, new districts will by necessity be formed along county lines rather than on hydrological principles. That same section provides that districts may include territories that do not connect physically as long as the land in between is in the district.

Thus, groundwater conservation district boundaries no longer have to conform to hydrological boundaries. Political boundaries now trump aquifer boundaries in most instances. This has opened the door to the creation of multiple groundwater conservation districts overlying a single aquifer, and has lead directly to the recent unpleasantness with desired future conditions.

III. DESIRED FUTURE CONDITIONS

Against this backdrop of historical development, the Legislature apparently realized that the creation and proliferation of groundwater conservation districts had gone amuck. In 1995, Section 35.004 was added to the Water Code, requiring the TWDB to designate “groundwater management areas covering all major and minor aquifers in the state,” with the requirement that:

[e]ach groundwater management area shall be designated with the objective of providing the most suitable area for the management of the groundwater resources. To the extent feasible, the groundwater management area shall coincide with the boundaries of a groundwater reservoir or a subdivision of a groundwater reservoir.

While the legislation strained to get back to hydrologically based management, the Legislature apparently could not cross that goal line completely, adding a final sentence to Section 35.004, to wit: "The Texas Water Development Board also may consider other factors, including the boundaries of political subdivisions." Nevertheless, the groundwater management areas created under Section 35.004 adhered closely to aquifer boundaries, demonstrating an intent to drive management in the direction of science and hydrology rather than politics and chicanery.

In 2005, the Legislature still recognized that coordination between districts overlying the same aquifer or subdivision of an aquifer was nonexistent. House Bill 1763 therefore created a new approach: joint planning. Section 36.108 was added to the Water Code to provide:

Sec. 36.108. JOINT PLANNING IN MANAGEMENT AREA. (a) In this section, "development board" means the Texas Water Development Board.

...

(d) Not later than September 1, 2010, and every five years thereafter, the districts shall consider groundwater availability models and other data or information for the management area and shall establish desired future conditions for the relevant aquifers within the management area. In establishing the desired future conditions of the aquifers under this section, the districts shall consider uses or conditions of an aquifer within the management area that differ substantially from one geographic area to another.

The districts may establish different desired future conditions for:

(1) each aquifer, subdivision of an aquifer, or geologic strata located in whole or in part within the boundaries of the management area; or

(2) each geographic area overlying an aquifer in whole or in part or subdivision of an aquifer within the boundaries of the management area.

...

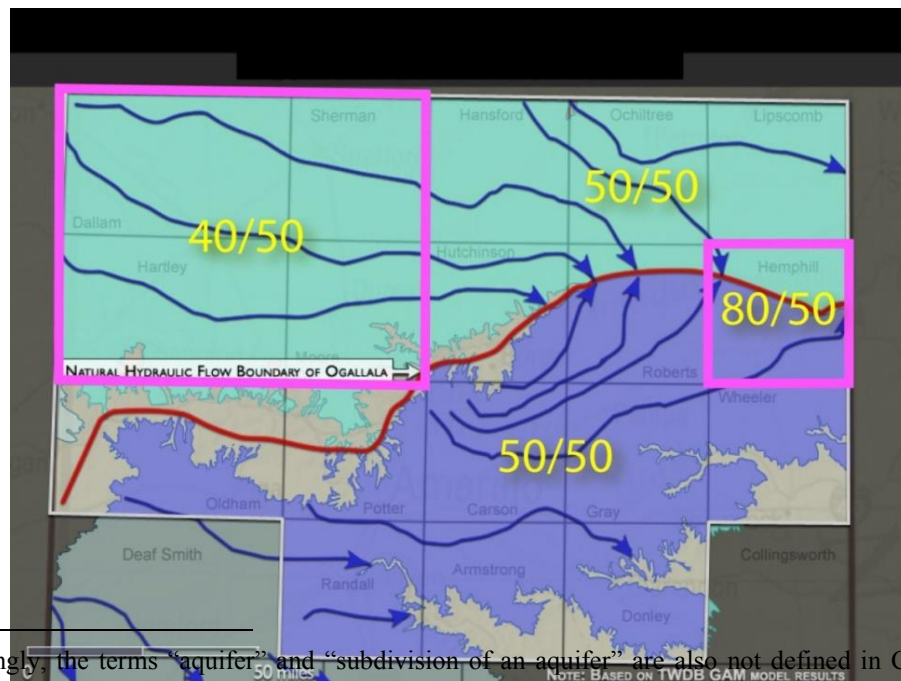
(d-2) Each district in the management area shall ensure that its management plan contains goals and objectives

consistent with achieving the desired future conditions of the relevant aquifers as adopted during the joint planning process.

Note that the mandate of 36.108(d)(1) is hydrologically based: joint planning should provide for a single desired future condition for each aquifer or subdivision of an aquifer or geological strata. Somehow, however, the Legislature again lost sight of that thought by adding Section 36.108(d)(2), introducing the notion that different desired future conditions could be articulated for “geographic areas.” While the terms “reservoir” and “subdivision of a reservoir” are defined in Section 36.001, the term “geographic areas” is not.⁴ By elimination, geographic area is not an aquifer, subdivision of an aquifer or geologic strata. Can a geographic area be a political subdivision? The term “political subdivision” is defined in both Section 35.001 and Section 36.001, but is omitted from Section 36.108(d). In terms of statutory construction, then, a political subdivision is not a proper basis for differential desired future conditions.

Given the serious lack of direction about “geographic areas” in Section 36.108, what has been the experience to date in designating desired future conditions? Not surprisingly, groundwater conservation districts have construed the term “geographic area” to mean that political subdivisions, whether districts as a whole or counties within districts, can be the basis for different DFCs. By seizing upon the “geographic area” language, the districts continue the pattern of attempting to regulate something less than the entire aquifer over which they exist.

GMA 1 is an example. Made up of three of the oldest groundwater conservation districts and one of the newest, the districts of GMA 1 endorsed three different DFCs. See Figure 1.



⁴ Interestingly, the terms “aquifer” and “subdivision of an aquifer” are also not defined in Chapter 36, even though both are used in Section 36.108(d)(1).

Figure 1

As to the area north of the Canadian River, covered almost entirely by a single groundwater conservation district, the DFC is 40% of today's level of water remaining in 50 years for the four counties in the western part of the district, while the DFC for the eastern counties of the district is 50% in 50 years. The dividing line? Strictly along county lines, as depicted in Figure 1. No hydrological differences exist on either side of these county lines. No topographic differences exist. No differences in use justify or even suggest the different DFCs along these lines.

South of the Canadian River, in a separate subdivision of the aquifer, the districts of GMA 1 established a DFC of 50% in 50 years for all of the subdivision except the area covered by the Hemphill County Underground Water Conservation District, which has a DFC of 80% remaining in 50 years. Hemphill County is surrounded on three sides by 50% DFCs (and bordered on the fourth side by Oklahoma). Again, no hydrological basis is offered to justify the difference, nor does one exist. Groundwater will flow freely between Hemphill County and all of its neighbors, meaning that drainage will occur as groundwater is produced from the adjoining counties.

And GMA 1 is not the exception. GMA 8 sets a standard for the number and extreme diversity of DFCs. Figure 2 shows the existence of the Trinity Hosston Aquifer. Figure 3 shows the Managed Available Groundwater ("MAG") established for this single aquifer, expressed in acre/feet of production per year. Without county lines, it is impossible to understand the rationale behind the DFCs that lead to such disparate MAGs. Figure 4 shows the counties overlying that aquifer, and the groundwater conservation districts that currently exist in GMA 8, which provides the only rationale for the different DFCs. Again, political subdivisions are not mentioned in Section 36.108 as a basis for different DFCs.

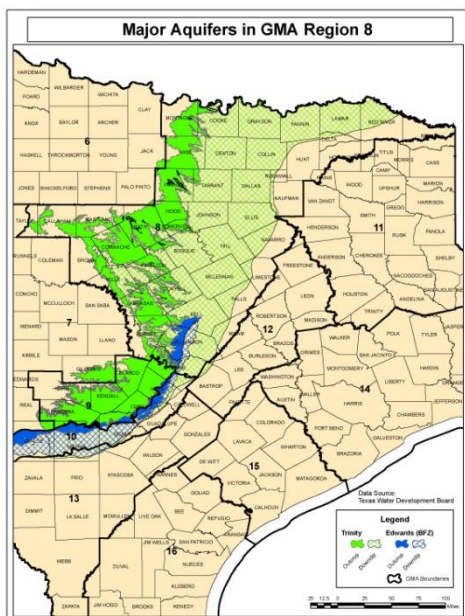


Figure 2

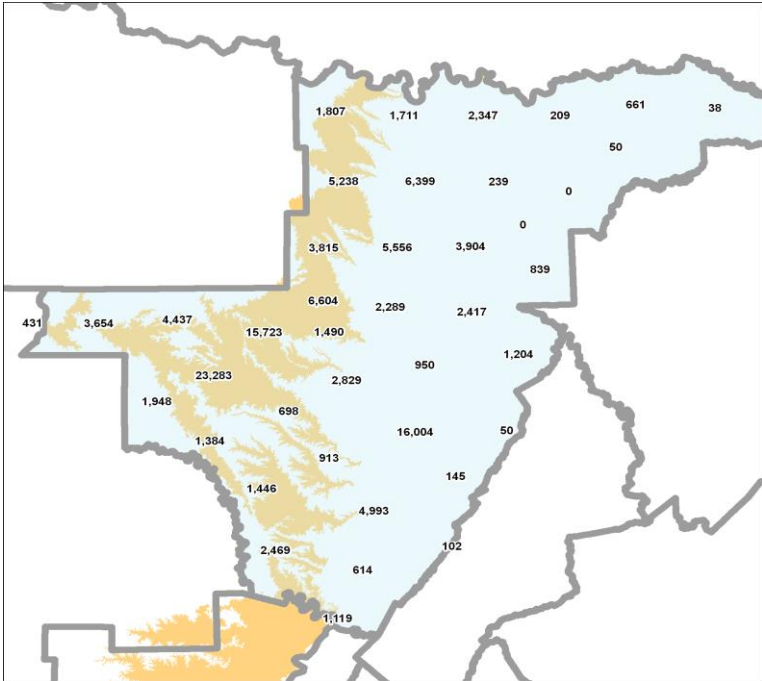


Figure 3

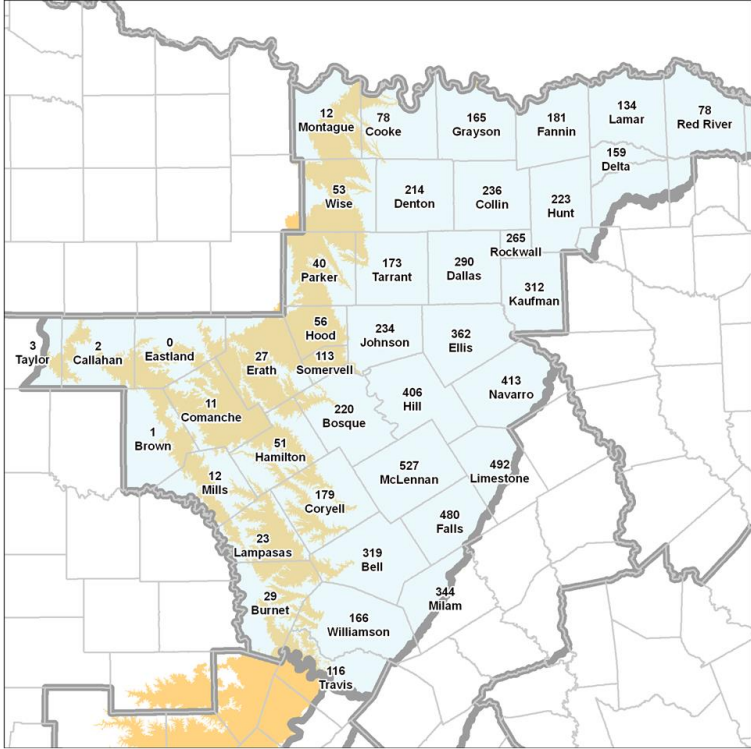


Figure 4

IV. THE PROBLEM WITH CURRENT DFCS

So what is the problem with the way groundwater conservation districts are approaching “joint planning?” Why can’t different political subdivisions decide for themselves what desired future condition they want, without regard for their more wasteful (or frugal) neighbors? Isn’t that the essence of “local control?”

A. POTENTIAL TAKINGS CLAIMS

To fully understand why the current approach to desired future conditions will fail, one must consider the issue of whether it is permissible to treat different owners in the same reservoir (aquifer) differently—or whether owners in the same aquifer must be treated equally. And to understand that issue, one needs to explore the rights of groundwater owners in general.

Ownership of Groundwater: A landowner's ownership of groundwater in place has been recognized in Texas since at least 1904, when the Texas Supreme Court handed down its decision in *Houston & T.C. Ry Co. v. East*.⁵ After analyzing holdings from around the country dealing with the right of a landowner to make use of water under his land, the *East* Court concluded:

An owner of soil may divert percolating water, consume or cut it off, with impunity. It is the same as land, and cannot be distinguished in law from land. So the owner of the land is the absolute owner of the soil and of percolating water, which is a part of, and not different from, the soil.

Id. at 150 (emphasis added).

⁵ 98 Tex. 146, 81 S.W. 279 (Tex. 1904).

In 2012, The Texas Supreme Court conclusively ended any remaining debate regarding the nature of a landowner's rights in the groundwater in place beneath that land. In *Edwards Aquifer Authority v. Day and McDaniel*, the Texas Supreme Court had before it a landowner challenge to denial of a permit to produce groundwater. The San Antonio court of appeals had handed a victory to two owners of land who sought a permit to produce irrigation water from a tract that lacked requisite historic use data. The San Antonio court held that the landowners had "some" vested property right in groundwater in place, and that the property right was entitled to constitutional protection.⁶ The subsequent appeal to the Texas Supreme Court saw a plethora of amicus briefs on both sides of the issue.⁷ Although oral argument was held on February 17, 2010, the Texas high court waited until February 24, 2012 to hand down its definitive 49 page opinion. In the interim, the Texas Legislature stepped into the fray, passing an amendment to the Texas Water Code that plainly stated that the owner of land owned the groundwater beneath the surface as real property.⁸

In its long awaited decision in the *Day* case, the Supreme Court's first two sentences spread joy among landowners and shock waves among groundwater districts: "We decide in this case whether land ownership includes an interest in groundwater in place that cannot be taken for public use without adequate compensation guaranteed by article I, section 17(a) of the Texas Constitution. We hold that it does."

In the course of its definitive opinion, the Court specifically held that the nature of groundwater ownership was such that constitutional protections attached to it: "Groundwater rights are property rights subject to constitutional protection, whatever difficulties may lie in determining adequate compensation for a taking." Outlining the nature of such constitutional protection, the Court turned to its opinion in *Sheffield Development Co. v. City of Glenn Heights*:⁹

"Government hardly could go on", wrote Justice Holmes in the first regulatory takings case in the United States Supreme Court, "if to some extent values incident to property could not be diminished [by government

⁶ *Edwards Aquifer Auth. v. Day*, 274 S.W.3d 742 (Tex. App.—San Antonio 2008); *see also Subaru of Am., Inc. v. David McDavid Nissan, Inc.*, 84 S.W.3d 212, 219 (Tex. 2002) (holding that a vested property right is entitled to constitutional protection).

⁷ For a compendium of the briefs, *see* www.texasgroundwaterlaw.com.

⁸ Texas Water Code § 36.002.

⁹ 140 S.W.3d 660 (Tex 2004).

regulation] without paying for every such change in the general law.” Yet, he continued, “a strong public desire to improve the public condition is not enough to warrant achieving the desire by a shorter cut than the constitutional way of paying for the change.” “The general rule at least”, he concluded, is “that while property may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking”, adding, “this is a question of degree — and therefore cannot be disposed of by general propositions.” “[T]he question at bottom is upon whom the loss of the changes desired *should* fall.”¹⁰

The Court concluded that a takings analysis with respect to groundwater regulation should follow the factors set forth in *Penn Central Transp. Co. v. New York City*, 438 U.S. 104 (1978). In that regard, the Court opined that the State is “unquestionably” empowered to regulate groundwater production because such regulation is essential to its conservation and use. One purpose of this regulation is “to afford each owner of water in a common, subsurface reservoir a fair share.” After carefully analyzing the *Penn Central* factors in connection with the EAA authorizing statute and the ownership provisions of the Texas Water Code, the Court concluded that a fact issue existed regarding whether the EAA regulations were too restrictive of Day’s groundwater rights and without justification in the overall regulatory scheme.

The Rule of Capture and its Implications: As noted above, some representatives of groundwater regulators advocated that groundwater is not owned in place, but only at the time it is reduced to possession at the surface, relying on a distorted argument centered on the rule of capture. But the rule of capture is a rule of non-liability for drainage, not a rule of property ownership, a distinction long recognized in Texas jurisprudence. Recently, in *City of Del Rio v. Clayton Sam Colt Hamilton Trust*,¹¹ the San Antonio Court of Appeals noted:

A corollary to this absolute ownership theory is the rule of capture. See *City of Sherman*, 643 S.W.2d at 686 (“A corollary to absolute ownership of groundwater is the right of the landowner to capture such water.”). The rule of capture, a doctrine in both oil and gas law and water law in Texas, was first adopted by the supreme court in *Houston & T.C. Ry. Co. v. East*, 98 Tex. 146, 81 S.W. 279, 281 (1904). See *Friendswood*, 576 S.W.2d at 25-27. “Under the rule of capture a person owns all of the [water or] oil and gas produced by a well bottomed on his own land, even

¹⁰ *Id.* at 670 (quoting *Pa. Coal Co. v. Mahon*, 260 U.S. 393, 413, 416 (1922)).

¹¹ 269 S.W.3d 613, 617-18 (Tex. App.—San Antonio 2008, pet. denied).

though the well may be draining the substances from beneath other property." 1 Ernest E. Smith & Jacqueline Lang Weaver, Texas Law of Oil & Gas § 1.1(A) (2d ed. 2007). Further, the rule of capture denies the landowner whose property is being drained any judicial remedy; he can neither enjoin production from the draining well, nor obtain an accounting, nor obtain other equitable relief. *Id.* This rule probably arose out of practical necessity - the inability of courts to determine the source of a well's production. *Id.* Thus, the rule as developed was "a doctrine of nonliability for drainage, not a rule of property." *Id.*; see also *Riley v. Riley*, 972 S.W.2d 149 (Tex. App.--Texarkana 1998, no pet.) ("The rule of capture is a doctrine of nonliability for drainage."). "It did not give an operator the 'right' to drain his neighbor's tract but merely refused to impose liability for doing so." 1 Ernest E. Smith & Jacqueline Lang Weaver, Texas Law of Oil & Gas § 1.1(A) (2d ed. 2007).¹²

Thus, the rule of capture merely prevents a landowner from bringing suit against his neighbor for drainage—it is literally a rule of non-liability. It does not mean that the landowner does not own groundwater until it is produced at the surface; it means that the one producing water at the surface cannot be sued for draining water from beneath the surface of his neighbor. Importantly, the result of the rule is that the only remedy a landowner has for drainage is an equal right to produce.

The Implications of Ownership: Ownership is not a mere academic issue. Because landowners have a vested property right in groundwater in place, constitutional protections attach, reigning in unbridled regulation of groundwater. As noted above, in 1916, the people of the State of Texas amended its constitution to require the Legislature to pass laws for the preservation and conservation of the natural resources of the State.¹³ Thus, while ownership of the groundwater is clearly vested in the owner of the surface, that ownership is nevertheless subject to the police power of the State. Such police power is exercised, in the instance of groundwater, through Chapter 36 of the Texas Water Code. This being true, the question becomes what limitations, if any, apply to the exercise of the police power of the State through its groundwater districts? As with any exercise of the police power of a state, a natural tension exists between lawful exercise of the police power and impermissible interference with private property.

While Texas courts are still grappling with the limits of the application of the police power through groundwater districts, considerable guidance can be gleaned from well-established case law relating to the other famous fugacious substances: oil and gas.

¹² *Id.*

¹³ TEX. CONST. art. XVI, § 59.

From the early part of the last century, Texas courts have been called upon to determine the limits of the lawful exercise of authority by the Texas Railroad Commission, the entity that exercises regulatory authority similar to (but not nearly as fractured as) groundwater districts. These cases are instructive regarding the nature of the correlative rights of adjoining owners of groundwater (the “fair chance doctrine”) and the implications for both the State and the landowner when regulations unnecessarily abridge the rights of groundwater owners.

A seminal discussion of the fundamental constitutional issues at play here is found in *Marrs v. Railroad Commission*.¹⁴ There, certain mineral rights owners challenged a ruling by the Texas Railroad Commission concerning production allowances in a field long shown to be productive of oil.¹⁵ In somewhat simplified terms, a group of mineral owners in the northern portion of the field had established early production from numerous wells, thereby establishing a “pressure sink” that would cause oil to migrate toward the area.¹⁶ Owners in the southern portion of the field had developed wells at a slower pace, but were able to demonstrate that substantial reserves of oil existed in their area, particularly as compared to the northern area which had been subject to greater depletion over the years.¹⁷ Before the regulatory action in question, the owners in this southern area had established a line of wells between the two areas that produced at maximum capacity and essentially established a “shield” protecting them from drainage from the northern area.¹⁸ The Railroad Commission then established field rules which prevented this line of “shield” wells from producing their maximum capacity.¹⁹ The effect of this was to permit oil from the southern area to once again migrate toward the pressure sink in the north area.²⁰ The suit was predicated on the theory that production in the south area was so restricted by the Commission’s proration orders that the owners there were unable to recover their oil before it drained away to more densely drilled section to the north.²¹

The questions presented were whether the Commission’s orders were subject to judicial review, and if so, whether the actions of the Railroad Commission were arbitrary, unjust and discriminatory, and deprived plaintiffs of their just property rights. Answering those questions in the affirmative, the Texas Supreme Court stated:

Under the settled law of this State oil and gas form a part and parcel of the land wherein they tarry and belong to the owner of such land or his assigns and such owner has the right to mine such minerals subject to the conservation laws

¹⁴ 177 S.W.2d 941, 948 (Tex. 1944).

¹⁵ *Id.* at 943.

¹⁶ *Id.* at 943-45.

¹⁷ *Id.*

¹⁸ *Id.* at 949.

¹⁹ *Id.* at 946.

²⁰ *Id.* at 945.

²¹ *Id.* at 946.

of this State. Every owner or lessee is entitled to a fair chance to recover the oil or gas in or under his land, or their equivalent in kind, and any denial of such fair chance amounts to confiscation.²²

As to the practical implications of this “confiscation,” the court continued:

As the oil is taken from the depleted Church-Fields area it is replaced by oil drained from petitioners' property. If petitioners were free to fend for themselves they could mine the oil under their land and thus prevent its escape to the adjoining area. But the orders of the Railroad Commission here complained of prevent petitioners from so doing. As a result, petitioners are being forever deprived of their property. It is the taking of one man's property and the giving it to another.²³

The Supreme Court then elaborated at length concerning the legal implications of this “taking.”

Our Constitution authorizes the conservation of our natural resources. The authority to execute this constitutional provision in so far as it applies to oil and gas has been vested by the Legislature in the Railroad Commission of the State. Undoubtedly, in carrying out this constitutional purpose, the Commission must, as far as possible, act in consonance with the vested property rights of the individual. While our Constitution thus provides for the conservation of our natural resources for the benefit of the public, there are other constitutional provisions for the protection of the property rights of the individual. Article I, Section 17, of our State Constitution prohibits the taking of one's property for public use without adequate compensation therefor. Article I, Section 3, provides for equal rights for all men, and Article I, Section 19, provides that no citizen shall be deprived of his property except by the due course of the law of the land. The Fourteenth Amendment to our Federal Constitution provides that no State shall deprive any citizen of his property without due process of law, nor deny to any person within its jurisdiction the equal protection of the laws. We need not here determine to what extent the State may confiscate

²² *Id.* at 948 (citations omitted) (emphasis added).

²³ *Id.*

one's property, or deprive him of the use thereof, without compensation, where this is necessary in order to conserve the natural resources of the State. See in this connection Pennsylvania Coal Co. v. Mahon, 260 U.S. 393, 43 S.Ct. 158, 67 L.Ed. 322, 28 A.L.R. 1321; Brown v. Humble Oil & Ref. Co., 126 Tex. 296, 83 S.W.2d 935, 87 S.W.2d 1069, 99 A.L.R. 1107, 101 A.L.R. 1393, and authorities there cited. It is sufficient to point out that the trial court here found that the drainage complained of was not necessary in order to avoid waste, and that finding is supported by the evidence. It was further found that the orders of the Railroad Commission were unreasonable, unjust, and discriminatory. This Court has many times said that the Railroad Commission cannot indulge in unjust, unreasonable, or arbitrary discrimination between different oil fields, or between different owners in the same field.²⁴

The “take away point” for groundwater regulation is this: because groundwater is owned by the landowner, groundwater regulators must treat all owners in the same aquifer equally. The failure to do so may amount to an unconstitutional exercise of the police power, a taking a private property. This bears repeating: groundwater regulation must treat all persons in the same aquifer equally.

Applying the above legal principles to the issue presented by disparate DFCs in the same aquifer, it is readily apparent what the problem is. In fact, it is readily apparent that the problem extends beyond the invalidity of the DFC efforts of today and into the very validity of the existence of multiple groundwater conservation districts overlying the same aquifer. It is the problem presented by the facts of Marrs v. Railroad Commission.²⁵ If regulations are crafted that fail to apply to the entire field being managed, any line drawn inside that field will be arbitrary, and will result in restricting property rights of some owners while giving an arbitrary advantage to others. Worse, different DFCs (and ensuing obligatory rules) actually amount to a state endorsed plan to take water from owners in one DFC area (district/county) and give it to owners in an adjacent area. Indeed, many of the Groundwater Availability Model runs performed by the TWDB staff as part of the DFC process actually plan for some districts to achieve their DFC goals by taking water from adjacent districts. Therefore, groundwater belonging to private individuals and entities is assigned to the managed available groundwater totals in adjacent groundwater districts, without compensation to those from whom it is taken.

Similarly, any regulation by groundwater districts (or groups of groundwater districts) that treats owners in the same field differently is suspect and likely results in

²⁴ *Id.* at 949.

²⁵ 177 S.W.2d 941, 948 (Tex. 1944).

deprivation of private property rights. For example, if a groundwater district arbitrarily draws a line across a single aquifer and allows production of 1 acre foot per acre per year on Side A, but 2 acre feet per year on Side B, the owners on Side B have been advantaged by governmental action while those on Side A have been disadvantaged—they are no longer able to protect themselves against drainage. At the GMA level, if different DFCs are established over a single aquifer based on political subdivisions, those on one side of a county line will be denied a fair chance to produce as compared to their neighbors across the line.²⁶ The Railroad Commission cannot base different production allowable on the existence of a county line, and neither can groundwater districts.

B. DISPARATE RULES

The different DFCs being established across the state in the name of “joint planning” will eventually violate constitutional rights. But the DFC scheme is not the only culprit. Arguably, the existence of more than one groundwater conservation district over a single aquifer sets up a violation of private property rights if the districts fail to provide equal treatment to every owner in the same aquifer. This is the result of the failure of the legislature to insist at the outset that all groundwater conservation districts encompass the entire aquifer or subdivision being managed. Permitting multiple districts to exercise jurisdiction over a single aquifer invites differential regulation based on local political considerations, and likewise invites the violation of private property rights.

Below is a sampling of rules from various GCDs across the State, illustrating the often disparate approaches to various groundwater regulation issues.

Structure and General Content of GCD Rules

Virtually all GCD rules follow similar patterns in terms of their structure and the topics addressed. From an organizational standpoint, most district rules start with a section describing the purpose and construction of the rules, then proceed to definitions and a discussion of the jurisdiction of the district. Most rules then discuss the type of permits that are needed in the district, including permits to drill wells and to produce water from those wells. Many districts require a separate permit for exportation of water from the district. All districts have rules pertaining to rulemaking procedures, probably because Tex. Water Code Sec. 36.101 details the requirements for rulemaking. Many districts also provide procedures for contesting the denial of various permits (or the granting of permits to other, less deserving folks). Most districts also include rules for enforcing their rules, usually by way of civil fines of up to \$10,000 per day per violation.

²⁶ Assuming, of course, that the groundwater conservation districts follow through on the statutory mandate that their management plans and rules must be designed to achieve the desired future conditions set at the GMA level. See TEX. WATER CODE §§ 36.108(d)(2), 36.108(f)(1) and 36.108(f)(2). To the extent that such rules impact neighboring areas with different DFCs, it is clear that each district in a GMA must “tune” its rules to achieve the DFC of its neighbors in the GMA.

Then there are special rules in various districts. Many have rules that allow the districts to impose special production or drilling limits in areas deemed to be of concern, calling such areas names like "strategic conservation depletion areas (SCDA)" or "extreme decline study areas (EDSA)." Hill County UWCD uses the expressions "High Historical Groundwater use Areas (HHGUA)" and "Critical Groundwater Depletion Area (CGDA)." In these districts, identification as such an area may lead to special production limitations based on isopach lines on maps. As noted below, however, restricting production of groundwater within an aquifer based on arbitrary lines amounts to a taking; these rules will inevitably lead to litigation.

Rules Relating to Production

Most districts impose some sort of limitation on the production of groundwater, usually expressed in the number of acre feet per acre per year that may be used (one acre foot = 325, 851 gallons, or the amount of water needed to put water one foot deep on one acre). Hemphill County UWCD's production limits provide a very clear illustration of the problem with disparate rules in GCDs that govern the same aquifer. In Hemphill County, production "allowances" from the Ogallala Aquifer are set according to water use. For agricultural use, the allowance is set by reference to a "water duty" table. If a farmer is raising alfalfa, the water duty is 3 acre feet per acre per annum. If the farmer is going to raise corn, the water duty is 2 acre feet. Wheat, cotton, soybeans and sorghum will get 1 acre foot. Sunflowers only get ½ acre foot.

However, in the adjacent Panhandle GCD production is limited to 1 acre foot per acre per year. This district directly borders the Hemphill district, and the two overlie the same aquifer. Accordingly, persons whose land is in the Panhandle GCD where it borders the Hemphill district will operate under totally different production limits. Depending on the crop chosen in Hemphill County, the adjacent Panhandle GCD owner may be "pitching or catching" water from his neighbor. Because this is governmentally imposed, the principles set forth in *Marrs* teach us that there is a taking.

Some districts are just more creative than others in terms of production limitations. For example, in Guadalupe GCD, production is determined by Rule 5.4:

Carrizo Well Spacing: The dip of the Carrizo beds is defined as having an orientation of 140° true. The strike, being perpendicular to the dip, is defined as having an orientation of 050° true. Around every regulated Carrizo well, existing or proposed, an ellipse (see depiction #1) whose major and minor radii are correlated to the average projected g.p.m. productive capacity of the well is defined as the well's Carrizo formation "area of influence". The major axis of the ellipse is parallel to the dip of the Carrizo beds, while the minor axis of the ellipse is parallel to the strike of the Carrizo beds (see depiction #2). The major radius of the ellipse (the radius along the major axis) is three (3) lateral feet times the average projected g.p.m.

productive capacity of the well. The minor radius of the ellipse (the radius along the minor axis) is two (2) lateral feet times the average projected g.p.m. productive capacity of the well. The "areas of influence" of adjacent Carrizo wells, unless they are both existing wells when these rules are approved, may touch, but not overlap (see depiction #2).

Perhaps even more creative is this rule, copied directly from Brazos Valley Groundwater Conservation District:

Revised Rules
October 7, 2010

(3) Production Based Acreage

A permit holder's groundwater production for a new non-exempt well drilled in the Simsboro Formation, is limited by the number of contiguous acres that are legally assigned to the well site. A majority of the contiguous acreage assigned to the well shall bear a reasonable reflection of the cone of depression impact near the pumped well, as based on the best available science. The amount of groundwater production based on the assigned contiguous acreage will be determined by the following formula:

$$\left(\frac{\text{Well Production Capacity in}}{\text{District Spacing Requirement Between Wells}} \times \right)^2 \times \pi = \frac{\text{Total number of contiguous acres required to be assigned to the well site}}{43,560}$$

Example: $\frac{(2500 \text{ gpm} \times 1 \text{ ft/gpm})^2 \times \pi}{43,560} = 451$ acres

Therefore, under this example, to be permitted for a well with a maximum capacity of 2500 gpm, the land assigned to that well must encompass 451 contiguous acres.

Under Texas Water Code Section 36.117, a district may not require a permit for "exempt wells," generally defined as wells used for domestic or livestock use, and specifically defined as wells that are designed or equipped to produce 17.5 gallons per minute or less. Some districts are reluctant to grant exemptions for just any old "livestock" use, however, and therefore become creative in defining what "livestock" is. Panola County GCD provides the example:

"Livestock" means, in the singular or plural, grass or plant-eating, single- or cloven-hooved mammals raised in an agricultural setting for subsistence, profit or for its labor, or to make produce such as food or fiber, including cattle, horses, mules, asses, sheep, goats, llamas, alpacas, and hogs, as well as species known as ungulates that are not indigenous to this state from the swine, horse, tapir, rhinoceros, elephant, deer, and antelope families, but does not mean a mammal defined as a game animal in section 63.001, Parks and Wildlife Code, or as a fur-bearing animal in section 71.001, Parks and Wildlife Code, or any other indigenous mammal regulated by the Texas Department of

Parks and Wildlife as an endangered or threatened species. The term does not include any animal that is stabled, confined, or fed at a facility that is defined by Texas Commission on Environmental Quality rules as an Animal Feeding Operation or a Concentrated Animal Feeding Operation.

As an example of how rulemaking can run amuck, note the use of the word "ungulates" in the above definition of "livestock." Literally, "ungulate" refers to any animal with hooves. However, the definition has expanded over time to include seven different Mammalian orders, some of which have no hooves. "As a result, the term is now understood to have no taxonomic significance, and its definition has returned to its original descriptive roots: a mammal with hooves." So the use of the word "ungulates" in the above definition is basically meant to convey that the drafter was pretty smart, but somewhat not. The point remaining, however, is that GCD rules for even such mundane matters as the definition of "livestock" are helter-skelter, meaning that landowners over the same aquifer may face wildly different regulation based merely on which GCD their land falls into.

Rules Relating to Historic Use Schemes

Most groundwater districts will grant a production permit based on the number of acres a landowner owns or controls, i.e., the permit will grant the right to produce a certain number of acre feet per year based on the number of acres owned or controlled. While not specifically called such, this is a de facto "correlative rights" system-it bases the right to produce on the number of acres owned, and not on other factors. On the other hand, several districts have implemented historic use schemes for allocating production rights. Under these schemes, a producer who was producing water during a designated period will get to continue production, usually at the same rate. Landowners who were not producing during that period are generally given a production permit, but their right to produce may be subordinate to "historic users" either in the amount of production granted or in terms of curtailment in periods of insufficient supply. As will be noted more fully below, historic use schemes may come under scrutiny where adjoining neighbors are granted different production limits, or where non-historic users are denied access to their water altogether.

Historic use schemes take various forms in the rules of groundwater districts. Many districts refer explicitly to "grandfathered use" in issuing permits or setting production limits. Some districts use a specific period of time during which "historic use" is established. For example, Kinney County GCD Rule 3.01 establishes the time period of January 1, 1960 through December 31, 1991 as its historic use period. Other districts, like Bluebonnet GCD, indicate that the district may impose more restrictive conditions on "new" permits.

Southern Trinity GCD has the most prolix historic use rule around. Its rule 5.103 establishes production limits based on "Maximum Historic Use (MHU)," then states:

If, after all Historic Use Production Permit applications have been finally decided by the District, the aggregate of the annual volume of groundwater authorized for production pursuant to Historic Use Production Permits (HUPPTrinity) is less than the volume calculated in Subsection (c) above (Non-ExemptTrinity), then the District may grant Non-Historic Use Production Permits (NHUPPTrinity) in an aggregate annual volume equal to or less than the difference between the volume calculated in Subsection (c) above and the aggregate of the annual volume of groundwater authorized for production pursuant to Historic Use Production Permits (NHUPPTrinity ? Non-ExemptTrinity - HUPPTrinity). No Non-Historic Use Production Permit applications shall be considered by the District until all Historic Use Production Permit applications have been finally decided by the District.

Rules Relating to Export of Water

Virtually all districts have promulgated special rules relating to the export of groundwater to any other place. It is legislatively impermissible to have more stringent rules for export than for local use of water. From a private property rights standpoint, a landowner should have the right to use his groundwater for any beneficial, non-wasteful use. The aquifers of the state are indifferent to how water is used or where; their only "interest" is in the amount being withdrawn. From an aquifer standpoint, a gallon of water drawn from a reservoir for irrigating corn for ethanol has exactly the same impact as a gallon withdrawn for a local feedlot or a water bottling plant. Exportation of groundwater is only politically significant; it is not hydrologically significant. Arguably, any rule that imposes even a slightly more stringent requirement on exportation is a violation of property rights. That said, most districts specifically address export or transportation of water outside the district, imposing additional requirements for information on those seeking to move water outside the district. Almost certainly the rules imposed by some districts amount to a taking of private property.

In an apparent attempt to justify more stringent export requirements, many districts put the following mantra in their rules regarding export permits:

In recognition of the fact that the transfer of groundwater resources from the District for use outside of the district impacts residents and property owners of the District differently than use within the District, and in order to manage and conserve groundwater resources within the District and provide reasonable protection of the public health and welfare of residents and property owners of the District, a groundwater transfer permit is required to

produce groundwater from within the District's boundaries and to transport such groundwater for use outside the District. (emphasis added).

Of course, withdrawal of groundwater resources impacts the aquifer equally whether the water is used locally or is exported. It is difficult to imagine why withdrawing a gallon of water for export impacts the residents and property owners differently than use within the district. Districts with this export language are ripe targets for equal protection litigation. Included in this suspect group are Glasscock County GCD, Lower Trinity GCD, Neches & Trinity Valley GCD, Pineywoods GCD, and Southeast Texas GCD.

So what do exportation rules look like? Generally, a district will expressly prohibit export of water without a permit. This special export permit is in addition to the permit needed to drill or produce from a well. Most districts impose additional information requirements on applicants who wish to export water. This is expressly allowed under Texas Water Code Section 36.122, relating to "Transfer of Groundwater Out of District." While that section states that a district may not impose more restrictive permit conditions on transporters than the district imposes on existing in-district users, it also mandates that a district consider additional factors in evaluating a proposed transfer out of the district. Three such factors are listed:

- the availability of water in the district and in the proposed receiving area during the period for which the water supply is requested;
- the projected effect of the proposed transfer on aquifer conditions, depletion, subsidence, or effects on existing permit holders or other groundwater users within the district; and
- the approved regional water plan and certified district management plan.

Also note that Section 36.122 only includes 3 factors for districts to consider. Most districts, on the other hand, have expanded the list of additional information well beyond the statutory specifications. Hemphill County UWCD, for example, lists a total of 17 considerations for export permits, including "the activities for which the groundwater will be beneficially used will be constructed, operated, and maintained to preserve, protect, prevent the pollution, degradation, or harmful alteration of, control and prevent the waste of, prevent the escape of, and achieve the conservation of groundwater in the aquifer." Whatever that means.

Rule 23 of the Bee GCD provides an interesting example of an unusual information request. There, the applicant for an export permit must "identify any other liquids that could be substituted for the fresh groundwater and possible sources of such liquid including quantity and quality." Live Oak Water Control District's Rule 22

imposes a similar requirement. Groundwater district proponents often recite a mantra about how water must be protected because we cannot live without water; these districts appear to be looking for the next big thing in water substitutes. Maybe beer for the boys and Gatorade for the crops?

Many districts differentiate between water that is just flat out piped out of the county and water that is removed in different forms. For example, several districts except water incorporated into manufactured goods from export regulation. Many of these districts then specifically note that water put in bottles is not water incorporated into manufactured products. Obviously, this type of rule targets water bottlers, whose total use is generally a rounding error from irrigation use. Other districts exempt water used for agricultural products from export rules, implicitly recognizing that the sale of agricultural products outside the district is a de facto export of water.

Fayette County GCD provides an interesting twist on export restrictions. Its Rule 10.1 allows the district to "restrict a Transport Permit by limiting the annual production of groundwater for transport outside of the boundaries of the District to a quantity of water based on the ability to maintain the desired future condition of the aquifer from which the groundwater will be withdrawn." No similar restrictions are placed on locally used water, even though Sec. 36.108 requires every district to pass rules that are designed to achieve the established DFC for that district. Rule 10.1, by specifically mentioning the ability to maintain the DFC, appears to be causing exporters to shoulder the burden of conservation necessary to attain the district-wide DFC goals.

Kinney County GCD Rule 6.01 requires that the applicant for an export permit be a party to a contract with the end user. This means that before the putative exporter can get an export permit, he must obtain a contract with an end user. As a practical matter, however, end users will not commit the resources to buy water and build infrastructure until the seller has a permit to export water. The requirement of a contract with an end user as a condition precedent to a permit, therefore, is tantamount to the "chicken and egg" conundrum.

Many districts require additional information from applicants for export permits as compared to in-district applications. For example, in Gonzales County GCD, an application for transport outside the district must show "the projected effect of the proposed transfer on aquifer conditions, depletion, subsidence, or effects on existing permit holders or other groundwater users within the District." No other class of user is required to provide similar information. Medina County GCD, with 108 pages of rules, requires the export applicant to prove "there is insufficient water available in the proposed receiving area to substantially meet the actual or projected demand during the proposed term of the groundwater exportation permit." This is a decision to be made by the Medina County board as to whether a city in a different area has sufficient water available, regardless apparently of whether that distant city has made a different determination about the sufficiency of its water supplies. Medina County GCD is not, however, alone in allowing its Board to second guess thirsty cities.

Post Oak Savannah GCD imposes the following information requirement on proposed transport of water, which speaks for itself:

Provide a description of the applicant's service area, metering, leak detection and repair program for its water storage, delivery and distribution system, drought or emergency water management plan, and information on each subsequent customer's water demands, including population and customer data, water use data, water supply system data, alternative water supply, water conservation measures and goals, conjunctive use, and the means for implementation and enforcement of all applicable rules, plans, and goals. (emphasis added).

Again, the point to be derived from examining the rules of different GCDs is that the rules are different. Water rights owners in different districts overlying the same aquifer should not be subject to different rules, particularly where those rules may impact the ability to produce groundwater as compared to those in neighboring districts. Fractured governance over the same aquifer will inevitably lead to disparate treatment of persons in the same aquifer.

C. COST

While not a property rights issue, one final consideration mandates moving to regional control of aquifers: GCDs cost money. Tax dollars or fee dollars are required to employ staff, lease or build office space, purchase equipment, vehicles and services. The author sent public information requests to all existing GCDs in 2011, asking for information concerning revenues and expenses in the most recent three years. For the year 2010, the average revenue of the 98 existing GCDs was \$503,067. The average of total expenses was \$411,046. From a simplistic analysis, reducing the number of GCDs to match the major aquifers would eliminate 82 districts, saving some \$40 million per year.

V. THE SOLUTION

The immediate problem lies in the DFC process, which is clearly broken. Joint planning has been hijacked by the whims of local groundwater conservation districts, each refusing to compromise with or concede to the others. Under Section 36.108, the Texas Water Development Board has the first opportunity to restore integrity to the groundwater management process by rejecting DFCs that fail to honor principles of hydrology and private ownership. If the TWDB fails in this critical arena, the Legislature must either repeal Section 36.108 altogether or change Section 36.108(d) to eliminate any reference to "geographic areas" and thus force joint planning based on aquifer-wide concepts. This would also tend to solve the problem of multiple groundwater conservation districts overlying a single aquifer because it would begin to equalize the treatment of owners across the aquifer.

On a broader scale, the legislature must mandate that if separate groundwater conservation districts exist over a single aquifer, their rules cannot differ in ways that cause substantive differences in the rights of those who own the groundwater in that aquifer. Any other result will deprive owners of constitutionally protected property rights, and will ultimately cause the failure of the locally controlled groundwater conservation district scheme. The alternative, state control of groundwater, is not desired or desirable, but seems to be the inevitable destination of today's system if the groundwater conservation districts across the state continue down their current path.

By embracing proper management areas, groundwater districts can truly joint plan and jointly regulate. A DFC applied to the aquifer, or aquifer subdivision, requires the district(s) to pass fair and impartial rules and regulations that apply to all owners of groundwater in the aquifer, or aquifer subdivision. Texas will gain the ability to manage aquifers to whatever state is jointly desired as well as conform to protection of private property rights. Real aquifer management can finally be achieved and many decades of mischief finally put to rest.