Groundwater Ownership/Regulation:
Where We’ve Been and Where We May Be Going

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I. Introduction

The character of groundwater ownership has received more attention in the last 18 months than in the previous 100 years. The ownership issue is pending before the Texas Supreme Court in *Edwards Aquifer Authority v. Day*\(^1\) and the Texas Legislature addressed ownership in amendments to Chapter 36 of the Texas Water Code. This paper reviews groundwater district permitting in the context of changes made by the 82\(^{nd}\) Legislature and what a takings claim might look like post *EAA v Day*.

II. Overview of the Permitting Process Including Changes by the 82\(^{nd}\) Legislature

A. Exempt and Non-Exempt Wells

Not all groundwater wells drilled within a groundwater conservation district (“GCD”) require a permit. A district may exempt (or grandfather) wells from permitting requirements.\(^2\) Moreover, certain types of wells are statutorily exempt, meaning that a district may *not* require a permit.\(^3\) Statutorily exempt wells include:

- certain domestic and livestock wells;\(^4\)
- a well used to supply water for the drilling or exploration of an oil and gas well; and
- a well used to supply water in mining operations.

B. Registration

A district may require even an exempt well to be registered and to be drilled in accordance with its well drilling and completion requirements.\(^5\) A registration is different than a permit and not all districts require registration of exempt wells. Often times the registration is a

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2. TEX. WATER CODE § 36.117(a).
3. TEX. WATER CODE § 36.117(b).
4. The exemption for domestic and livestock wells provides a statutory exemption for a well used solely for domestic use or for providing water for livestock or poultry on a tract of land larger than 10 acres that is either drilled, completed, or equipped so that it is incapable of producing more than 25,000 gallons per day. TEX. WATER CODE § 36.117(b)(1). The 10 acre-tract requirement was added in 2001 to require permits for wells on ranchettes – farms and ranches subdivided into tracts of less than 10 acres. The 2011 legislature clarified in an amendment to § 36.117(b) that all three factors must be present (domestic/livestock, greater than 10 acres, and not producing more than 25,000 gallons per day) to provide the statutory exemption. Act of April 19, 2011, 82\(^{nd}\) Leg., R.S., ch. 16, 2011 Tex. Sess. Law. Serv. 35 (“SB 691”).
5. TEX. WATER CODE § 36.117(h).
simple one-page form that is used to keep track of all wells, whether exempt or not, within a district.

C. Permits

Except for exempt wells, a district must require a permit for the drilling, equipping, operating or completing of wells, or for substantially altering the size of existing wells or well pumps. GCDs are authorized to determine each activity for which a permit or amendment is required and to promulgate rules regarding drilling, equipping, completion, alteration, operation or production of groundwater from wells. A GCD may also adopt rules requiring the owner or operator of a well required to be registered or permitted (except exempt domestic and livestock wells) to report groundwater withdrawals.

Some districts require a permit to drill the well (“drilling permit”) and then issue a separate permit for the operation or production (“production permit”) of the well. Before the 2011 legislative session some districts required a drilling permit for exempt wells, but the legislature amended § 36.117(b) to clarify that a district must provide an exemption from requirements to permit the drilling of a domestic/livestock well. Typically, a production permit has a defined term of years, and often also has a time limit within which the well must be drilled and completed. A GCD’s permitting system may be based upon spacing and/or groundwater production limits, and most GCDs utilize one or both of these forms of regulation. A district

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6 Tex. Water Code § 36.113(a).
7 Tex. Water Code §§ 36.113(d) and 36.114(a).
8 Tex. Water Code § 36.111(b).
9 Tex. Water Code § 36.117(b)(1) was amended to provide that a district “shall provide an exemption from the district requirement to obtain a permit for…drilling or operation…” a domestic or livestock well. Act of April 27, 2011, 82nd Leg., R.S., ch. 32, 2011 Tex. Sess. Law Serv. 62. (“SB 692”).
10 A district by rule may regulate the spacing of water wells by:

(A) requiring all water wells to be spaced a certain distance from property lines or adjoining wells;

(B) requiring wells with a certain production capacity, pump size, or other characteristic related to the construction or operation of and production from a well to be spaced a certain distance from property lines or adjoining wells;

(C) imposing spacing requirements adopted by the board. Tex. Water Code § 36.116(a)(1).

11 A district by rule may regulate the production of groundwater by:

(A) setting production limits on wells;

(B) limiting the amount of water produced based on acreage or tract size;

(C) limiting the amount of water that may be produced from a defined number of acres assigned to an authorized well site;

(D) limiting the maximum amount of water that may be produced on the basis of acre-feet per acre or gallons per minute per well site per acre;

(E) managed depletion; or

(F) any combination of the methods listed above in paragraphs (A) through (E). Tex. Water Code § 36.116(a)(2).
may preserve “historic” or “existing” use to the maximum extent practicable consistent with the
district’s management plan. Under a historic use permit system, existing users are often treated
more favorably than new permittees in terms of amount of water production permitted and fees
for water used. Such “historic” use is based not only on the amount of the groundwater used in
the relevant historic period, but also its beneficial purpose. A district may set up distinct
“zones” or geographic areas based on varying hydrogeologic conditions of the aquifers, geologic
strata, etc. within district boundaries, and may adopt different rules and permits for each such
zone.

D. Factors Considered in Permit Reviews

Most GCDs have developed forms for their permit applications, and their rules specify
the required contents and supporting documentation for a permit application or amendment. A
district may require the following in a permit application:

1. name and address of the applicant and landowner;
2. authority to operate and construct a well if the applicant is not the property owner;
3. proposed use and amount of water for each use;
4. a water conservation plan or statement that the applicant will comply with the
district’s management plan;
5. well location and withdrawal rate;
6. a water well closure plan or statement that the applicant will comply with district
well plugging guidelines; and
7. a drought contingency plan.

The GCD’s rules usually include further information or specifications for the application,
and may require other information in applications to permit multiple wells.

The statutory factors that a district must consider when granting or denying a permit (or
amendment) are listed in Texas Water Code § 36.113(d). Some of these factors deserve special
mention.

1. Use of Water

In deciding to grant a permit, a district must consider whether the “proposed use” of the
water unreasonably affects existing groundwater and surface water resources or existing permit
holders. Here “proposed use” does not mean only the purpose for which the water will be used

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12 TEX. WATER CODE §§ 36.113(e), 36.116(b).
14 TEX. WATER CODE § 36.116(d)-(e).
15 TEX. WATER CODE § 36.113(c)(1)-(7).
16 TEX. WATER CODE § 36.113(a)(2).
(e.g., municipal use or industrial use) but also the volume and rate of production.\textsuperscript{17} To satisfy this requirement, often times a district will require submission of a hydrogeological report, describing through field tests and computer modeling the drawdown effect from the proposed well on nearby wells. In addition to the effect on groundwater resources and surrounding wells, a district may evaluate whether the “proposed use” affects “surface water resources.” This provides a “hook” for districts to consider spring flow (i.e., surface water) in determining whether to grant a permit.

Another required factor used to evaluate a permit application is whether the water will be dedicated to any “beneficial use.”\textsuperscript{18} “Use for a beneficial purpose” is defined to include, among other things, any purpose that is beneficial and useful to the user.\textsuperscript{19} This definition is so broad that it is difficult for a district to deny a permit application on the basis that the water will not be used for a beneficial purpose. Because a later section of Chapter 36 provides that the “water withdrawn under the permit be put to beneficial use “at all times,” districts may use this latter provision to deny permit applications where the intended use of the water is unspecified or speculative.\textsuperscript{20} That is, the applicant cannot demonstrate that the water will be beneficially used “at all times” when the use of the water is not yet determined.

2. Special Conditions

Districts may impose special conditions on new and amended permits so long as the conditions apply to all subsequent applications, can be tied to the district’s management plan, and are necessary to protect existing uses.\textsuperscript{21} Districts may be tempted to use this “special condition” provision to add to a permit ad hoc provisions not otherwise contemplated in the GCD’s rules. However, such action may run afool of limitations on ad hoc adjudication.\textsuperscript{22}

3. Transport Permitting

GCDs have some authority to regulate the transfer of groundwater outside the district. For any such “export” projects, the district’s rules should be reviewed to determine if a transport permit is required as a separate permit, in addition to a production permit. Districts are prohibited from denying a permit based upon the fact that the applicant seeks to transfer groundwater outside the district.\textsuperscript{23} Except for a higher fee for transported water, a district may

\textsuperscript{17} See Guitar Holding Co., 263 S.W.3d at 916 (the amount of water withdrawn and its purposes are both relevant).
\textsuperscript{18} \textbf{TEX. WATER CODE} § 36.113(d).
\textsuperscript{19} \textbf{TEX. WATER CODE} § 36.001(9).
\textsuperscript{20} \textbf{TEX. WATER CODE} § 36.113(b)(5).
\textsuperscript{21} \textbf{TEX. WATER CODE} § 36.113(e).
\textsuperscript{22} See South Plains Lamesa R.R v. High Plains Underground Water Conservation Dist. No. 3, 52 S.W.3d 770, 774, 779-80 (Tex. App.–Amarillo 2001, no pet.) (emphasizing that GCDs can only act under “clear authority” expressly granted by the legislature).
\textsuperscript{23} \textbf{TEX. WATER CODE} § 36.122(g).
not impose more restrictive conditions on transporters than the district imposes on existing in-district users. Unlike in-district permits, however, a transport permit may be evaluated for:

1. the availability of water in the district and in the proposed receiving area;
2. the projected effect of the transfer on aquifer conditions, depletion, subsidence, or on existing permit holders or other groundwater users in-district; and
3. the approved regional water plan and certified district management plan.

A transport permit may be limited based upon these conditions.

4. Permitting to the “M\text{anaged}AG” replaced with “M\text{odeled}AG” and Permitting to Achieve Desired Future Conditions

Under 2005 amendments to Chapter 36 in HB 1763 (and prior to September 1, 2011), a district was required to issue permits up to the point that the total volume of permitted groundwater equals the “managed available groundwater” (“M\text{anaged}AG”). After districts completed the adoption of “desired future conditions” (“DFCs”) through joint planning in their respective groundwater management areas (“GMAs”), the Texas Water Development Board would establish the M\text{anaged}AG. The M\text{anaged}AG was the amount of groundwater the TWDB modeling predicted that District could permit for production to achieve the DFC established by the district. Section 36.1132 required groundwater districts to issue permits up to the M\text{anaged}AG. Some criticized this permitting process because it did not explicitly account for exempt water use and that it was wrong to plan based upon permitted values instead of actual amounts of groundwater produced. This latter issue allowed districts and permittees to tie up unused water “on paper” (i.e. through permitting values that may never be reached) and leave large amount of groundwater unused. This “old” M\text{anaged}AG process was barely completed before the 2011 amendments to the Chapter 36 of the Water Code changed the meaning of M\text{anaged}AG and the basis for determining amounts of groundwater to permit.

Now permits are issued up to the point that the total volume of exempt and permitted ground water production will achieve DFCs. Districts are required to manage groundwater production on a long-term basis to achieve the DFCs considering modeled available groundwater (“M\text{odeled}AG”). Districts must also consider current and projected exempt use, amount of

26 Tex. Water Code § 36.122(g).

A district, to the extent possible, shall issue permits up to the point that the total volume of groundwater permitted equals the managed available groundwater, if administratively complete permit applications are submitted to the district.

28 See generally Tex. Water Code § 36.108. The 82nd Legislature significantly changed the DFC process.
groundwater previously authorized under permits, amount of groundwater produced under permits and yearly precipitation and production patterns.  

“Achieve the DFC” as the objective in permitting takes on new meaning as the DFC process also received a major overhaul by the 82\textsuperscript{nd} Legislature. Now the DFC must provide a balance between the highest practicable level of groundwater production and the conservation, preservation, protection, recharging and prevention of waste of groundwater and control of subsidence in the management area.  

Districts in each groundwater management area must consider nine factors, including private property rights, in achieving the balance mandated by statute:

(1) aquifer uses or conditions within the management area, including conditions that differ substantially from one geographic area to another;
(2) the water supply needs and water management strategies included in the state water plan;
(3) hydrological conditions, including for each aquifer in the management area the total estimated recoverable storage as provided by the executive administrator, and the average annual recharge, inflows, and discharge;
(4) other environmental impacts, including impacts on spring flow and other interactions between groundwater and surface water;
(5) the impact on subsidence;
(6) socioeconomic impacts reasonably expected to occur;
(7) the impact on the interests and rights in private property, including ownership and the rights of management area landowners and their lessees and assigns in groundwater as recognized under Section 36.002;
(8) the feasibility of achieving the desired future condition; and
(9) any other information relevant to the specific desired future conditions.  

With these changes, expect to see districts grappling with a methodology to authorize additional groundwater production through a process that allocates groundwater volumes that are permitted in excess of what is actually produced.

III. Legislative changes to the ownership interest in groundwater and the impact on permitting

The 82\textsuperscript{nd} Legislature amended Section 36.002 of the Texas Water Code in an effort to “clarify” a landowner’s groundwater rights. Senate Bill 332 (“SB 332”) was originally intended to make it clear that a property owner has a \textit{vested} ownership in, and the right to

\textsuperscript{30} SB 737 to be codified at \textsc{tex. water code} § 36.1132 (b)(1)-(5).
\textsuperscript{31} \textsc{tex. water code} § 36.108(d-2).
\textsuperscript{32} \textsc{tex. water code} § 36.108(d).
\textsuperscript{33} Act of May 24, 2011, 82\textsuperscript{nd} Leg., R.S., ch. 1207, 2011 Tex. Sess. Law. Serv. 3223.
produce, the groundwater below the surface of the property. The word “vested” does not appear in the final version of SB 332 passed by the Legislature. Moreover, SB 332 contains a number of qualifications. A markup of § 36.002 showing language added and removed follows:

§ 36.002. OWNERSHIP OF GROUNDWATER

(a) The legislature recognizes that a landowner owns the groundwater below the surface of the landowner’s land as real property.

(b) The groundwater ownership and rights described by this section:

(1) entitle the landowner, including a landowner's lessees, heirs, or assigns, to drill for and produce the groundwater below the surface of real property, subject to Subsection (d), without causing waste or malicious drainage of other property or negligently causing subsidence, but does not entitle a landowner, including a landowner’s lessees, heirs, or assigns, to the right to capture a specific amount of groundwater below the surface of that landowner's land; and

(2) do not affect the existence of common law defenses or other defenses to liability under the rule of capture.

(c) Nothing in this code shall be construed as granting the authority to deprive or divest a landowner, including a landowner’s lessees, heirs, or assigns, of the groundwater ownership and rights described by this section, or rights, except as those rights may be limited or altered by rules promulgated by a district.

(d) This section does not:

(1) prohibit a district from limiting or prohibiting the drilling of a well by a landowner for failure or inability to comply with minimum well spacing or tract size requirements adopted by the district;

(2) affect the ability of a district to regulate groundwater production as authorized under Section 36.113, 36.116, or 36.122 or otherwise under this chapter or a special law governing a district; or

(3) require that a rule adopted by a district allocate to each landowner a proportionate share of available groundwater for production from the aquifer based on the number of acres owned by the landowner. A rule promulgated by a district may not discriminate between owners of land that is irrigated for production and owners of land or their lessees and assigns whose land that was irrigated for production is enrolled or participating in a federal conservation program.

(e) This section does not affect the ability to regulate groundwater in any manner authorized under:

(1) Chapter 626, Acts of the 73rd Legislature, Regular Session, 1993, for the Edwards Aquifer Authority;

34 Bill Analysis SB 332 as filed February 28, 2011.
(2) Chapter 8801, Special District Local Laws Code, for the Harris-Galveston Subsidence District; and
(3) Chapter 8834, Special District Local Laws Code, for the Fort Bend Subsidence District.

SB 332 was subject to much debate and groundwater districts appeared before the House and Senate Natural Resources Committees on both sides of the issue. The ultimate final product represented compromise legislation.

One compromise is the recognition of ownership in place – i.e., § 36.002 now provides and specifies that that the landowner owns the groundwater below the surface and the nature of the right is as real property. Although the landowner owns the groundwater under his property, § 36.002(b)(1) provides that this right does not extend to the right to capture a specific amount of groundwater below the surface of the land. Moreover, while the legislation makes it clear that the landowner is entitled to drill for and produce groundwater below the surface of the property, the entitlement is subject to groundwater district regulation, including the ability of a district to:

1. Limit or prohibit well drilling under spacing and tract size requirement; or
2. Regulate production as authorized under the Chapter 36 permitting, spacing and production, and transport provisions.

Clearly, SB 332 does not change and affirmatively recognizes a district’s authority to regulate, including a district’s authority to limit production under § 36.116(a)(2) or to deny a permit under § 36.113(a). Moreover, SB 332 goes further to safeguard a district’s regulatory authority by providing that districts are not required to regulate on the basis of correlative rights premised upon the amount of surface acreage owned. That is, under § 36.002(d)(3), a district is not required to allocate to each landowner a proportionate share of available groundwater based on the number of acres owned. While a district may regulate on a correlative rights basis, as pointed out above, districts are specifically authorized to also regulate on an historical basis.

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35 Districts testifying for SB 332 included the High Plains Groundwater District, Panhandle Groundwater District, and Central Texas Groundwater District. Districts testifying against SB 332 included the Refugio County Groundwater Conservation District, Pecos Valley Groundwater Conservation District, Colorado County Groundwater Conservation District, Coastal Bend Groundwater Conservation District, Fort Bend Subsidence District, Harris Galveston Subsidence District, Hemphill County Groundwater Conservation District, and Menard County Underground Water Conservation District. SB 332 Witness List, House Committee Report, Natural Resources Committee (April 5, 2011); Witness List, Senate Committee Report, Natural Resources Committee (March 1, 2011).

36 SB 332 to be codified at TEX. WATER CODE § 36.002(a).

37 Id. at § 36.002(b)(1).

38 Id. at § 36.002(b)(1).

39 Id. at § 36.002(d)(1) and (2).

40 Id. at § 36.002(d)(3).
This new § 36.002(d)(3) distances groundwater regulation from the principles of the regulation of oil and gas, which relies on the correlative rights doctrine as a rule of liability.\footnote{Ernest E. Smith & Jacqueline L. Weaver, \textit{Texas Law of Oil and Gas}, § 1.1(B) at 9-10 (1998).}

It is not convincing that SB 332 changes the nature of groundwater ownership. To many, groundwater ownership rights of landowners are well settled and required no clarification. It seems clear that SB 332 does not change groundwater district permitting. It will be interesting to see whether the Texas Supreme Court will point to SB 332 as it grapples with ownership and permitting in \textit{Edwards Aquifer Authority v. Day},\footnote{\textit{Edwards Aquifer Authority v. Day}, 274 S.W.3d 742 (Tex. App.—San Antonio 2008, pet. granted).} for such a desired effect. \textit{EAA v. Day} and its potential impact on permitting is discussed further below.

\section*{IV. \textit{EAA v. Day} could resolve extent to which regulation of groundwater affects vested property rights}

In what will likely be a landmark case in the world of Texas groundwater rights and regulation, \textit{EAA v. Day} has been briefed and argued in February 2010 before the Supreme Court and is awaiting an opinion. The case should resolve the question of whether groundwater is a vested property right, and may resolve to what extent its production by landowners may be regulated, and at what point that regulation enters into the realm of a constitutional taking.\footnote{\textit{Id.}}

Burrell Day and Joel McDaniel ("Applicants") purchased a tract containing an aquifer well. The Edwards Aquifer Authority’s ("EAA") enabling legislation ("Edwards Aquifer Authority Act" or "EAAA") creates a permit system that gives preference to existing users who can demonstrate that they withdrew and beneficially used groundwater during the "historical period" between June 1, 1972 and May 31, 1993. The Act entitles these existing users to apply for an initial regular permit ("IRP") in the amount of two acre-feet per year for each acre of land the user actually irrigated in any one calendar year during the historical period.

The Applicants sought 700 acre-feet of water from the Edwards Aquifer to irrigate crops. The Applicants did not themselves use the well during the historical period, but asserted that their predecessors-in-interest used the well during the historical use period to irrigate the same land.

Their Application was referred to a contested case hearing. There, evidence was introduced indicating that most of the irrigation of the property occurred from a 50 acre lake on the Applicants' property. The Applicants argued that the water in the lake flowed from the well to the lake via a ditch, then was put to irrigation purposes. However, the lake was also fed by a creek and by rainwater. The ALJ found that all irrigation that occurred from the lake used surface water and could not be the basis for an IRP. The ALJ recommended that an IRP of 14 acre-feet should be issued because only 7 acres of the Applicants’ land had been irrigated during the historical period by the damming and flooding of groundwater in the ditch rather than the

\footnote{This paper provides an over view of the \textit{EAA v Day} appeal without analyzing any of the arguments.}
lake. On March 11, 2003, the Authority issued a final order granting Applicants an IRP of 14 acre-feet.

The Applicants challenged the final order in district court. Both the Applicants and the EAA filed motions for summary judgment on the issue of whether water taken from the lake was state water or groundwater. The trial court found for the Applicants, holding that lakes were not watercourses and that the water placed in them from the well for irrigation was still groundwater. The court remanded the matter to the EAA to rescind the IRP that it issued, and grant an IRP in an amount based on 150 acres of historical period irrigation. The trial court also granted the EAA's motion for partial summary judgment with regard to Applicants' constitutional claims relating to the EAA’s process and permitting decision, including their takings claims.

The San Antonio Court of Appeals reversed, finding that the lake was a state watercourse, and therefore holding that water pumped from the well became state water as soon as it entered the lake. Groundwater placed into a state watercourse becomes state water, which is subject to the jurisdiction of the TCEQ.

Significantly, the Applicants also appealed the trial court's denial of their claim that the EAA's final order constituted a taking of their water rights without just compensation in violation of Texas Constitution Article I, Section 17. The Court, relying on the recently decided Del Rio case, noted that “[b]ecause Applicants have some ownership rights in the groundwater, they have a vested interest therein.” Id. at 756. This vested right is entitled to constitutional protection and the trial court improperly granted the EAA summary judgment on the grounds that the Applicant has no vested property right in groundwater. Id. The Court therefore reversed and remanded the Applicants’ takings claim.

The Supreme Court has granted EAA’s petition for review. The case presents the question of what the recognition of a landowner’s vested property right in groundwater means for groundwater conservation districts charged under Chapter 36 of the Texas Water Code with the management, protection, and preservation of groundwater, and whether regulation of that resource will result in takings claims whenever a district enacts limits on production or denies a permit application in whole or even in part.

V. Regulation and takings analysis post-Day: A possible example

If the Supreme Court upholds the ruling in EAA v. Day that groundwater is a vested property right, the natural questions will be to what extent groundwater conservation districts may still regulate or limit groundwater production, and how courts would handle a valuation analysis when landowners claim that the district’s actions have constituted a physical or regulatory taking.

Even if the nature of groundwater is a vested property right, it still is subject to reasonable regulation. The reasonable permitting activity under Chapter 36 of the Water Code

does not diminish the existence of groundwater ownership—it protects it. In the context of oil and gas regulation, the Texas Supreme Court has held that while a mineral owner has a property right to oil and gas in place under its land, that right is subject to the state’s police power to conserve and develop the state’s natural resources.\(^{46}\) A proper and reasonable exercise of police powers is not a taking requiring compensation for losses.\(^{47}\) Each case is fact specific and there is not a bright line for distinguishing between an exercise of police power which does constitute a taking and one which does not.\(^{48}\)

The ongoing litigation between the Braggs and the EAA, which recently produced a judgment in state court in favor of the landowner groundwater users on takings claims against the Authority, may be an instructive example for when a court finds the takings line has been crossed.

Plaintiffs Glenn and JoLynn Bragg own two pecan orchards in Hondo, Texas. After the Texas Legislature created the EAA to manage groundwater in the Edwards Aquifer, the Braggs filed for groundwater permits from the EAA for wells located at both of their orchards. Following a contested case hearing, the EAA denied a permit for one of the Bragg’s wells and granted a permit in an amount less than requested for the other. The Braggs filed suit asserting a variety of state and U.S. constitutional claims, and a lengthy series of litigation ensued in both federal and state court. In United States District Court, Western District of Texas, the Braggs filed suit alleging, among others, state law claims of a physical taking, a categorical or per se regulatory taking, and a regulatory taking.

A physical taking generally occurs when government directly appropriates private property for its own use.\(^{49}\) \textit{Bragg v. EAA}, 2008 WL 596862, *2 (W.D.Tex. 2008). A categorical or per se regulatory taking occurs when an owner has been deprived of all economically beneficial use of his land as no productive or economically beneficial use of the land is permitted and the landowner is left with a token interest.\(^{50}\) \textit{Id.} at *3; \textit{Sheffield Development Company, Inc. v. City of Glenn Heights}, 140 S.W.3d 660, 671 (Tex. 2004). A regulatory taking occurs when regulation “compel[s] the property owner to suffer a physical ‘invasion’ of his property. The direct, physical effect on property, though short of government possession, makes the regulation categorically a taking.”\(^{51}\) \textit{Sheffield}, 140 S.W.3d at 671. Whether regulation has gone “too far” and become too much like a physical taking for which the constitution requires compensation requires “a careful analysis of how the regulation affects the balance between the public’s interest and that of private landowners.”\(^{52}\) \textit{Id.} at 671-72. There are three factors for courts to evaluate in determining whether a regulatory taking has occurred:

\begin{enumerate}
  \item the economic impact of the regulation on the claimant;
  \item the extent to which the regulation has interfered with distinct investment-backed expectations; and
  \item the character of the governmental action.
\end{enumerate}


\(^{47}\) \textit{City of College Station v. Turtle Rock Corp.}, 680 S.W.2d 802, 804 (Tex. 1984).

\(^{48}\) \textit{Id.}
In agreeing with the EAA’s takings analysis, the Court assumed arguendo that the Braggs did not hold a vested property interest in groundwater. On a motion for partial summary judgment on these claims, the Western District court held that no physical taking of the Braggs’ property occurred because the government had in no way “taken, damaged, or destroyed” the Edwards Aquifer water flowing beneath their land. Because the EAA’s regulatory action did not “directly appropriate private property for its own use” but rather interfered with property rights as a consequence of a public program “adjusting the benefits and burdens of economic life to promote the common good,” the EAA’s actions could not constitute a physical taking. *Bragg v. EAA*, 2008 WL 596862, *2* (W.D.Tex. 2008). The Court next held that the EAA’s denial of the Braggs’ permit application did not constitute a per se or categorical per se taking because this action did not extinguish all “economically beneficial or productive use” of the property’s groundwater estate. *Id.* at *3*. This is because, while the EAA’s denial of the permit may make it difficult to use the land as a pecan orchard, the land still has value based in part on its access to non-Edwards Aquifer subsurface waters as well as Edwards water for domestic and livestock use.

Finally, the Court held that it could not determine whether a regulatory taking had occurred because this is a factually-dependant investigation, which cannot be done at the summary judgment stage. The Western District later granted the EAA’s motion for summary judgment on the remainder of the Braggs’ federal claims, and remanded the Braggs’ regulatory takings claim to state district court.

On remand to the 38th District Court of Medina County, Texas, the Braggs asserted that the EAA’s actions on their two permit applications constituted a regulatory taking under Article I, Section 17 of the Texas Constitution of their vested property rights in groundwater. And this time, the state court was receptive to their claim of both a vested property right in groundwater underneath their properties and that EAA’s denial of their applications constituted a taking.

Following trial on March 22, 2010, the District Court rendered judgment in favor of the Braggs. The Court found, like the Western District court, that while the enactment of the EAAA did not deprive the Braggs of all economically beneficial or productive use of their property, or constitute a physical taking, the implementation of the Act by the EAA – i.e., EAA’s denial of the Bragg’s first permit application and approval of their second application for an amount less than requested or needed – caused Plaintiff’s damage. This action of the EAA unreasonably impeded the Braggs’ use of their properties as a pecan orchard, causing them “severe economic impact,” and interfered with their investment-backed expectations for the properties, and thus constituted a regulatory taking by the EAA of the Braggs’ property right as set forth in the balancing test of *Penn Central* and *Sheffield*. The Court therefore determined that the Braggs were entitled compensation for their losses under the Texas and United States Constitutions.

To evaluate the measure of damages, the Court used two methods. For the orchard that did not receive a permit from the EAA at all, the Court compared the value of a dry land farm in the same county as the Braggs’ orchards to the value per acre of an irrigated farm. The Court found that that market value difference for the 42 acre tract was $134,918.40. For the orchard
that received a permit in a lesser amount than sought – an amount that the Court determined was less than the Plaintiffs needed to profitably operate their pecan farm – the Court awarded the market value per acre-foot of groundwater for the amount of water that the Braggs requested but did not receive. Using a market value of $5,500 per acre-foot, the court valued the 108.65 acre-foot discrepancy between the amount of water Plaintiffs sought and the amount EAA granted at $597,575. The total damage awarded to Plaintiffs for their loss in value of their property was $732,493.40.

EAA appealed this decision on January 10, 2011 to the Fourth Court of Appeals in San Antonio, where the case is still pending and briefing has not yet occurred. While the damages awarded by the District Court to the Braggs may be modified on appeal, the Judge’s method of calculating damages on claims of a regulatory taking of vested groundwater rights may be instructive if the Supreme Court affirms the Court of Appeals in EAA v. Day.

Conclusion

Soon the discussion will move beyond the nature of the property interest in groundwater and focus on the degree of regulation that a GCD may exercise before a takings occurs and, if there is a taking, the amount of any compensation.