

**Public Water Policies: The Ultimate
Weapons of Social Control**

By

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DISSERTATION

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Chapter One

Introduction

The question is how to manage a resource that is fleeting, crosses national boundaries, and evaporates into the air.

Professor Elli Louka¹

Water is the common denominator of all life on Earth. As such, the sustainability of the human-water interface² depends upon fair, transparent, and accepted public water policies in every society today, as well as throughout history. No matter how simple or complex, public water polices are in their basic essence human-envisioned, human-enacted, and human-enforced methods of social control. The three pillars of any society are *the environment, the economy, and human relationships*. Human relationships are multi-faceted. Water is the common foundation to all three pillars of society; without water none could exist. Human relationships create

¹ Elli Louka. *Water Law and Policy*. (New York, Oxford University Press, 2008) 23.

² The “human-water interface” is the place at which humans and water meet and affect each other.

the public water policies that determine how anyone living in community shares the most important and precious natural resource, water. Humans relate to each other, their government, their environment, and their economy. The three pillars of society relate to each other just as the geological containers of water relate to each other - **conjunctively**, or joined together, combined so that changes in one directly results in changes to the other. No public water policy of any kind will be accepted by the people until realizing and respecting the complex conjunctive relationship of the three pillars of society.

However, finding an acceptable public water policy among diverse and competing human interests is a formidable challenge. This owes largely to the natural state of water, which is an essentiality of everyday life. As such, the accomplishment of a widely accepted public water policy becomes a difficult task. In addition, setting a public water policy that has a political and regulatory life of some predictability and continuity is difficult because water is a rapidly moving "target." Water is constantly in motion moving through the one *hydrological cycle*³ seeking a way to reach sea

³ According to the United States Geological Survey, the *hydrological cycle* is defined as: "Earth's water is always in movement, and the natural water cycle, also known as the hydrologic cycle, describes the continuous movement of water on, above, and below the surface of the Earth. Water is always changing states between liquid, vapor, and ice, with these processes happening in the blink of an eye and over millions of years." The USGS offers this definition also in Spanish: "Qué es el ciclo del agua? Fácilmente puedo contestar que...soy

level at all times. Water freely moving about in nature is fugitive, quick to disappear, and is best described as fleeting. Public water policies that allow society to exist in a state of benefit and equilibrium are thus only effective if both environmentally *and* economically sustainable.

Environmentally sustainable water policies are unique in the sense that they do not manage and allocate water through methods similar to the "mining" of gold or oil. Rather, they do so by balancing use based upon availability and accessibility, which due to the unpredictability of rainfall, is always changing. Water policies must be financially sustainable as well so as to not only pay for or amortize the cost of public water projects but also to adapt to the cycles of the dynamic economy of any region.

Human beings tend to design public policy based upon politically based boundaries but water ignores political boundaries. Professor Elli Louka, author of the highlighted quote beginning this chapter, indicates concern for this by posing a question, "Can a natural resource, like water, that knows no national borders, be managed based on such borders?"⁴

"yo"! El ciclo del agua describe la presencia y el movimiento del agua en la Tierra y sobre ella. El agua de la Tierra esta siempre en movimiento y constantemente cambiando de estado, desde líquido, a vapor, a hielo, y viceversa. El ciclo del agua ha estado ocurriendo por billones de años, y la vida sobre la Tierra depende de él; la Tierra sería un sitio inhóspito si el ciclo del agua no tuviese lugar."

<http://water.usgs.gov/edu/watercycle.html> accessed many times but specifically on May 29, 2016.

⁴ Louka. 1.

The obvious answer is no. Public water policy based on man-made borders ignores the natural properties of water and overlooks typical human nature as well. All widely accepted public water policies must consider the natural characteristics of water along with the natural fickle oddities of human political will. Establishing effective management of water resources based on political boundaries requires continuous willing and consistent cooperation between *upstreamers* and *downstreamers*, a level of human collegial relationship that history proves is all but impossible to achieve.

In today's world of warming trends and drought coupled with regional population growth either through increased birth rates, longer life spans, refugees fleeing war torn regions, or people immigrating to regions that offer them more hope, the opportunity for powerful *upstreamers* to exert control over less powerful *downstreamers* is tempting. Public water policies offer the opportunity for the more powerful to control the less powerful at all levels of human relationships. Sadly for the less powerful in our world, the late Dr. David Weber's 1972 comment still applies all too well, "Water doesn't flow downhill ... it flows towards money."⁵

⁵ Dr. David Weber, a dear friend and mentor, Director of the Clements Center for Southwest Studies & Dedman Professor of History at Southern Methodist University. Money and power are inextricably linked.

Are public water policies the ultimate weapons of social control? This inquiry forms the central research question of this study. This study reveals and analyzes the ways in which public water policies were used as weapons of social control in the past and the ways in which they are being used now. An example of one extreme that has existed for many years and is likely to continue for the near future is Israeli control over the water of the Palestinians living in the "occupied territories." Another extreme is found in an examination of the United States' use of public water policies as weapons of social control in a much more subtle and indirect way. Both extremes are equally as impactful on their respective societies.

A central theme of the answers to the central research question of this study examines Texas and Spain whose relationship in colonial times⁶ was that of mother and child in the management and promulgation of water rights, property rights, and public water policies.

⁶ I define Spanish Colonial times in the United States as beginning around 1598 with Oñate's crossing of the Rio Grande and continuing until the Spain lost Mexico with the official establishment of the Republic of Mexico in 1824. Spain owned Texas, in my opinion, since the Papal Bull of Alexander the VI issued in 1493 which gave the Spanish the lands in the New World until 1824. Ownership aside, Spain's actual area of true control in the land that comprises today's Texas was limited to only two regions, the land around El Paso and along the San Antonio River from Villa San Fernando (the headwaters of the San Antonio River) to Mission Espiritu Santo and Presidio La Bahia now known as Goliad, Texas.

Spain and Texas still exist in a rarely recognized distant cousin-like relationship and have done so since the 17th century. In fact, from 1840 at the formation of the Republic of Texas prior to Texas' joining the United States continuing even today, the first and most important proof of a right to use surface water in Texas is the original Spanish Colonial appropriation. Almost 300 years after Spain's first real effort in Texas by the establishment of the short-lived east Texas missions, in 1967, the Texas legislature passed the Water Rights Adjudication Act to settle over one hundred years of dispute over surface water rights. The Act required anyone who claimed a right to use surface water for any use other than domestic and livestock use to prove that claim in Austin through the courts. For once and for all, each surface water right would be determined by the courts of Texas.⁷ This adjudication process of surface water rights took almost 30 years to complete. During the entire process, the most significant proof of an individual surface water right was the original Spanish appropriative grant from the King of Spain, the earliest grants of which in Texas dated to the five missions founded at the source of the San Antonio

⁷ An example of "due process" social control, a new term I propose that I discuss in detail later in this study.

River. The missions claimed their water right from a royal decree in 1718.

Few people know that the first official water law policy in Texas was issued on December 25, 1731 by Viceroy Juan de Acuña,⁸ Marques de Casafuerte. The policy demonstrated the fairness and justice-based doctrine that the Spanish operated under during the entire time they held Texas, a doctrine that is honored and echoes today in Texas water law.⁹

The friars in the Catholic missions held the land in Texas for the King of Spain by attempting to convert the Native Americans to Spanish Catholics who would then eventually become Spanish citizens. Like every other group of Spanish settlers, the missionary friars wanted to control as much precious water as they could to sustain their missions. A new settler group from the Canary Islands, called *Isleños*,¹⁰ came to be regarded as a threat to the missionaries' control of the water resources so precious to them. The missionaries told to the Viceroy that there was simply not enough water

⁸ Francisco A. Eissa-Barroso. *Early Bourbon Spanish America: Politics and Society in a Forgotten Era (1700-1759)*. Leiden, Netherlands, Brill, 2013. Juan de Acuña y Bejarano was born in Lima, Peru in 1658 and died in Mexico City on March 17, 1734. He had a successful military career and served governor of Messina, Sicily. He served as military commander of the kingdoms of Aragon and Mallorca before he became President of the Audiencia of New Spain and Viceroy.

⁹ Charles Porter. *Spanish Water/Anglo Water*. College Station: Texas A & M University Press, 2009. 52-53. See also Bexar Archives Translations. The Center for American History, The University of Texas at Austin, Series 1, General Manuscripts 1717-1789, Box 2C14, Vol. 2, December 25, 1731 – June 25, 1733.

¹⁰ Porter. *Spanish Water*. 52. Also see Marion A Habig,. . *The Alamo Chain of Missions*. Chicago: Franciscan Herald Press, 1968. 124.

for the expanding settlement and that the missions would suffer greatly.¹¹ On December 25, 1731, Viceroy Casafuerte responded to the missionaries. The King wanted his water (the King owned the water and held it in trust for his people) to be shared and used in common by all settlers. The basics of the King's commitment to fairly allocate water among his settlers were implemented from this first recorded dispute. Casafuerte's letter set the legal foundation upon which the fair administration of water would be built for Spanish times in San Antonio and importantly would "set a precedent for later water law and management concepts in Texas and the United States."¹²

The Viceroy wrote Fray Vergara:

I am having in mind Your Reverence's letter and the writing presented by before Don Juan Antonio Perez de Almazán, captain of the presidio of San Antonio in the province of Texas, of which relate to the resistance and the opposition introduced against the sharing of the waters of the Arroyo and the San Antonio River with the families of the Canary Islands who by order of His Majesty have gone to settle in that. The reasons for this action were set forth by Your Reverence, the principal being that the supply of water scarcely meets the needs of the five missions in making their lands productive.

In view of I must say to Your Reverence that at this time I am sending a dispatch to the said Captain in order that in conformity with its provisions, he **shall divide and distribute the water** [emphasis added], giving

¹¹ Ibid. See also Thomas F. Glick, *Southwestern Studies, Monograph No. 35, The Old World Background of The Irrigation System of San Antonio Texas*. El Paso: Texas Western Press, 1972. 32.

¹² Porter. *Spanish Water*. 52.

both the missions and the Islander families a share of it; for although it might seem that the legal provisions stated by Your Reverence should be understood and applied solely in favor of the missions, would be of no profit if the cause were lacking around which the difficulty centers, namely that of the water. Moreover, **there is a royal law more decisive than all and applicable to the case** [emphasis added]. Therefore, since the [water] **is sufficient for the use and benefit of all, it is just that its usefulness should be in common** [emphasis added], especially when prudent management of its benefits will obviate the injury which Your Reverence points out. **By rotating the apportionment of, every interested party being assigned his days** [emphasis added], the cause and the dispute shall cease without my giving consideration to the privileges of the reductions should enjoy, since they are not harmed by this measure. It would be a lamentable thing, that after His Majesty has spent a vast sum from His Royal Hacienda in bringing these families here from the Canaries, they should be abandoned and should be left without water which would be the same as having brought them to perish; *besides the King appointed them to settle that place.*

Thus, harmony and agreement can overcome any difficulty that may be regarded as serious, and when the use of the water has been arranged, as ordered in this dispatch, **there will be cooperation and conservation** [emphasis added]; and Your Reverence and your missions will not fail to experience many advantageous results from the proximity of the settlement to. I am confidently expecting all to take the most orderly steps so that may take advantage of the water at the proper time and in the proper manner, the families not being excluded. That God may guard Your Reverence, many years is my desire.¹³

This early decree followed the ancient concept in Spanish law that water is to be divided and shared among everyone fairly

¹³Porter. *Spanish Water*. 54. See also Bexar Archives Translations. The Center for American History, The University of Texas at Austin, Series 1, General Manuscripts 1717-1789, Box 2C14, Vol. 2, December 25, 1731 – June 25, 1733.

or with justice, *derecho*.¹⁴ Casafuerte decreed that the water was sufficient for the use of all, that it is *just* (*derecho* concept appears again), and that the water will be used in common by all the settlers. Diaries written by the early Franciscan visitors to the area in 1709 and 1716 had declared there was ample water for a city.¹⁵ Casafuerte in the letter carefully supported his ruling in a way in which there can be no doubt his edict was correct and undeniably just.

The key points in this first decree of customary water law in Texas were:

1. The water of the river and the springs was to be divided and distributed and shared;
2. The water was sufficient for all;
3. The water's use shall be in common;
4. The use of the water should be rotated and an assignment of days should be made to the interested parties; and
5. There would be cooperation and conservation of the water.

His ruling on rotation and assignment of days for use of the water and on cooperation with conservation survived into the 20th century in modern Anglo Texas. It delivered the justice and fairness indicative of the Spanish colonial legal system.

Today's relationship between Texas and Spain remains cousin-like because Texas continues to legally recognize

¹⁴ Later in this study the concept of *derecho* is explained in great detail.

¹⁵ Ibid. See also Jesús F De la Teja, ed. . *Preparing the Way, Preliminary Studies of the Texas Catholic Historical Society, Number 1*. Austin: Texas Catholic Historical Society, 1997. 55.

Spanish water rights and land grants as base foundational proof of claim to land title. Not only are the Spanish roots in Texas water law an example of this cousin-like relationship, but Spanish businesses today have a strong relationship with Texans as exemplified by Spanish involvement in the controversial and partially delayed “Trans Texas Corridor”¹⁶ for one. As another example, a Spanish firm, Abengoa¹⁷, has a contractual construction relationship

¹⁶ In June 2002 Texas Governor Rick Perry proposed the Trans-Texas Corridor by almost Executive Order to the Chairman of the Texas Department of Transportation. The long term idea was to create wide transportation corridors across Texas by acquiring wide swaths of right of way not only for citizen toll roads, but for commercial and rail transportation as well. A strong outcry of dissent developed across rural Texas in many ways led by author Jerome R. Corsi. According to wnd.com, the self-proclaimed largest Christian website in the world, from a report written on December 29, 2012 by Jerome R. Corsi: “On March 11, 2005, a “Comprehensive Development Agreement” was signed by TxDOT to build the “TTC-35 High Priority Corridor” parallel to Interstate 35. The contracting party was a limited partnership formed between Cintra Concesiones de Infraestructuras de Transporte, S.A., a publically-listed company headquartered in Spain, majority controlled by the Madrid-based Grupo Ferrovial, and a San Antonio-based construction company, Zachry Construction Corporation. The Cintra deal meant that once the TTC was completed, anyone who wanted to drive on it would have to pay an investment consortium in Spain for the privilege of driving in Texas. Although somewhat incomprehensible to most U.S. citizens, these public-private partnerships involve selling off key U.S. infrastructure projects to foreign entities. Granted, the “ownership” rights of projects like TTC-35 would have remained with the state of Texas, yet selling off the leasing rights amounts in the thinking of most U.S. citizens to selling off the highway to foreign interests for the term of the lease. Under the terms of the TTC agreements with TxDOT, Cintra would have had the rights to operate TTC-35 for 50 years and to collect all tolls on the road in that period of time. The Comprehensive Development Agreement called for Cintra-Zachry to provide private investment of \$6 billion “to fully design, construct and operate a four-lane, 316-mile toll road between Dallas and San Antonio for up to 50 years as the initial segment of TTC-35. For this, Cintra-Zachry paid the state of Texas \$1.2 billion for the long-term right to build and operate the initial segment as a toll facility.” See <http://www.wnd.com/2012/12/its-back-texas-in-super-highway-deal-with-spain/#x0PPFvZJ7ZutLmLC.99>. During the 82nd Regular Session of the Texas Legislature, House Bill 1201 passed “to repeal of authority for the establishment and operation of the Trans-Texas Corridor.” <http://www.capitol.state.tx.us/BillLookup/History.aspx?LegSess=82R&Bill=HB1201>. Although I heard many complaints about Spanish companies being involved in Texas projects from students in the continuing education credit courses I authored for the Texas Real Estate Commission, *Farm and Ranch for Texas Agents*, TREC course #07-00-084-24796 and *Water Rights for Texas Agents*, TREC course #004-00-064-24518, I think the real problem people had with the corridor was not Spain’s involvement per se, but the huge amounts of farm and ranch land that the state of Texas would take by condemnation.

¹⁷ Abengoa S.A. is a Spanish multinational corporation, which includes companies in the domains of energy, telecommunications, transportation, and the environment. Founded in 1941, it is headquartered in Sevilla. See http://www.abengoa.com/web/en/compania/nuestra_historia/ for the history of the company. Abengoa recently filed for bankruptcy throwing the Vista Ridge Pipeline project into disarray.

with the Vista Ridge water pipeline project. They are involved in moving groundwater leased or purchased from 3,400 landowners in Burleson and Lee counties in central Texas to San Antonio, a city that has grown over 300 years since the earliest Spanish settlers arrived to become the 7th largest city in the United States.

Not only do Texas and Spain have long term legal and water management relationships through shared water policy concepts, but their climate and geography is so very similar that my visits to Spain confirmed for me the view of the Franciscan missionaries of the 16th, 17th, and 18th centuries - Texas felt like home to them. Spain felt like home to me on my visits - Spain seemed like Texas with higher mountains and millions more olive trees but with the same wonderful people and a very similar climate.

Both Spain and Texas share similar problems in public water policy, drought prone climates, agricultural businesses dependent upon irrigation, and vibrant thirsty cities demanding water for survival. Both governments have confusing and fragmented public water policies that the bulk of their citizenry neither understand nor support. Couple this citizen attitude with the expanding and developing claims of the United States federal government and the European Union, and both Texas and Spain are struggling with

water issues that will soon, if not already, become their number one and most critical public policy challenge.

Along the lines of the problems of fragmented water policies, Professor Louka asserts an admirable idea to improve water governance in general when she offers this guideline: "The fragmentation of water governance is at the root of the mismanagement of water resources is the problem, integration must be the answer ..." ¹⁸ Both Spain and Texas have fragmented and misunderstood public water policies that must eventually be integrated to face the new challenges of climate change that will probably make both even more drought-prone lands.

Current Water Policies in Spain

Spain's leaders in the past decades have struggled to establish a variety of approaches to reform public water policy even to point of the radical decision to take groundwater ownership out of private landowner's hands and place it in the public domain. ¹⁹ The result of such a historically diametric revision ²⁰ has been received by the

¹⁸ Louka. 1.

¹⁹ Juan Maria Fornés, África de la Hera, Ramón Llinas, Pedro Martínez-Santos. "Legal Aspects of Groundwater Ownership In Spain." *Water International*. Vol. 32, No. 4, December 2007: 676.

²⁰ Groundwater was owned by the surface landowner in Spain for centuries. See Charles Porter. *Sharing the Common Pool: Water Rights in the Everyday Lives of Texans*. College Station: Texas A & M University Press, 2014. 135. See also Michael C. Meyer. *Water in the Hispanic Southwest*, 178, 179. Refer to *Siete Partidas* (Seven-Part Code) *Partida 3, Titulo 28, Ley 1* (part 3, title 28, law 1).

Spanish citizenry in what could best be described as general "civil disobedience."²¹ According to Spanish water rights experts Fornés, de la Hera, Llinas, and Martínez-Santos (hereinafter referred to simply as Fornés):

The 1985 reforms of Spain's Water Law put groundwater under public ownership. While this posed an evident change in groundwater rights, the practical implications of the law have not been so significant. The 1985 Water Law did introduce significant changes for those wells drilled from 1986 onwards. However, these were only a very small share of the total. Therefore, the 1985 Water Law left things more or less as they were with regard to pre-existing wells, which are still the overwhelming majority. This non-committed approach on the part of the legislator is sometimes interpreted as a way of escaping potential social and political unrest.²²

In response to its citizens concerns, the Spanish government appeared to me to enter into a bidding war against itself for several years.²³ After 1985, each new proposal relating to groundwater ownership resulted in a general failure of public acceptance.²⁴ Since the people of Spain seem to be generally ignoring the proposed reforms in groundwater ownership, it appears to me that Spain's groundwater policy is fragmented and inconsistent. Some Spanish legal experts recently

²¹ Fornés et al. 682.

²² Ibid. 677.

²³ Ibid. 676-684. The authors discuss the diligent efforts of legislators to respond to the disobedience with yet another offer of management ideas each rejected and virtually ignored rarely enforced due to lack of funding. The authors declare the situation as "very discouraging" and deem "hydrological insubordination" as the Spanish citizenry's continued response to groundwater management and ownership reforms.

²⁴ Ibid.

escalated the debate by making constitutional arguments against the water law "reforms."²⁵ In Texas, the water policy is similarly fragmented.

Current Water Policies in Texas

All surface water is owned by the state of Texas and is managed and regulated by one agency, the Texas Commission on Environmental Quality (TCEQ).²⁶ Groundwater on the other hand, is owned by the private surface landowner above it and is partially regulated by 100 locally organized groundwater conservation districts (GCDs), each having its own set of rules and regulations loosely framed by Chapter 36 of the Texas Water Code.²⁷ There is not any true regulatory relationship or checks and balances between surface and groundwater regulatory agencies in Texas which means Texas water policy is all but fatally fragmented. The current water law in Texas makes the integration of understandable, acceptable, and workable overall water policy all but impossible, even if any citizen-based political will existed (it does not) to develop an integrated water policy.²⁸

²⁵ Fornés et al. 680.

²⁶ Charles Porter. *Sharing the Common Pool: Water Rights in the Everyday Lives of Texans*. College Station, Texas A & M University Press, 2014. 24.

²⁷ Ibid. 40.

²⁸ Throughout my personal interviews with citizens, stakeholders, and water regulators across the entire state of Texas over the past 16 years, there is one common theme I hear consistently without reservation - the people say "Keep the state out of my/our business."

Looking at social control using public water policies through the lens of current and past experience in Texas and Spain informs this study and is applicable around the globe.

Water as the Focal Point of Public Policy

Although water is one of nature's simplest yet most important molecule, its regulation and management are the most challenging public policy issues on earth. As real property,²⁹ water's very nature makes it almost unfit for any reasonable and fair determination of the basic human rights to it such as ownership and control. Water cannot be "fenced" or "branded" like land or livestock - it is constantly moving above ground and below.³⁰ How then have humans traditionally begun to make an effort to set the laws and regulations of water as real property?

Traditionally it has been through the geological containers in which water exists. Water around the world exists in three geological containers that relate to each other **conjunctively**, or joined together, combined so that

²⁹ "Real property" is property consisting of land, buildings, crops, or other resources attached to or within the land including any improvements or fixtures permanently attached to the land or a structure on it. In Texas, water is considered a "real property" that in the case of groundwater which is owned by the surface land owner. The surface landowner's groundwater ownership interest is considered to be "vested" that requires the government to protect the private ownership against challenges.

³⁰ Charles Porter. *Unintended Consequences: The History of Groundwater Regulation in Texas*. Presentation to the Texas Alliance of Groundwater Districts Quarterly Meeting, Austin, Texas, February, 2007.

changes in one directly results in changes to the other.³¹

The conjunctive relationship of the geological containers of water is a consideration that must not be overlooked in making workable public water policies. An example of the conjunctive relationship of the geological containers most have experienced at one time or another is when we have waded in a creek and felt cooler water bubbling up around our feet; a source of groundwater is feeding the creek in which we stand. Further down the creek, we may have seen a small whirlpool. This whirlpool or drain feeds the groundwater or as is the case in many places in Texas, the entire creek or even river disappears underground only to reappear in a spring downstream somewhere. Attempting to manage water without cognizance of the conjunctive relationship between surface water and groundwater is pure folly, yet in official legal Texas water policy today, the conjunctive relationship of the containers of water is ignored.

The first and most obvious geological container is surface water or water that flows on the surface of the land in a watercourse³² such as a stream or river. Groundwater

³¹ Porter. *Sharing*. 8.

³² “Watercourse” in Texas law is not found in the statutes but in the 1925 case *Heofs v. Short*, 273 S.W. 785 (Tex. 1925). “When it is said that a stream in order to be a natural water course to which water rights attach must have bed, banks, a current of water, and a permanent source of water supply, we have only described in detail such physiographic and meteorological characteristics as make the use of the stream for irrigation practicable. When it is once shown that the waters of a stream are so confined and persistent in their course,

that exists underground in aquifers and pools is the second container, followed by the third container, diffused surface water or water that flows across land before it reaches a watercourse or enters an underground aquifer or pool. The three geological containers offer the key to understanding ownership of and rights to water in Texas, Spain, and anywhere in the world. The only hope for workable public water policies is to build these policies around the natural realm, not in opposition to nature, with a keen understanding of nature's *hydrological cycle*. The geological containers typically serve as the jurisdictional boundaries of water law, rights, and ownership along with public water policy, allocation, and management. Public water policies that ignore nature and the conjunctive relationship of these three geological containers are doomed to be confusing, ineffective, and often times unfair to the public as a whole.

and flow with such frequency and volume that it is both practicable and valuable to irrigate therefrom, it is a stream to which such water rights attach."

With reference to the phrase 'definite and permanent source of supply of water', frequently used by the courts as describing a necessary requisite of an irrigable stream, all that is meant is that there must be sufficient water carried by the stream at such intervals as may make it practicable to irrigate from or use the stream. . . . The authorities frequently say that a natural watercourse must have a permanent source of water supply. This however merely means that the stream must be such that similar conditions will produce a flow of water, and that these conditions recur with some degree of regularity, so that they establish and maintain a running stream for considerable periods of time. Farnham on Waters, Vol. 2, § 457; Ruling Case Law, Vol. 27, pp. 1065, 1066; Kinney on Irrigation, Vol. 1, § 306."

Since water is the common denominator of all life on earth no matter the culture, legal system, or location, public water policies are the fundamental foundation or cornerstone of community formation. Public water policy formation is the "prelude to community formation" anywhere. Without fair, workable, and transparent public water policy any society is threatened with tyranny and economic destruction, especially in the arid areas now living under severe drought and the continuing threat of long term warming trends worldwide.

Some nations, their states, or other political subdivisions often use public water policy as a weapon of social control. For example, anti-growth advocates in the western United States subtly lobby against development of new water infrastructure which includes not only fresh water supplies but also sanitary sewage water³³ in order to limit population growth. Some city governments regulate growth through their planning and zoning departments by using water infrastructure planning as their most powerful tool of social control. National governments that want to control dissident behavior or force unwanted population away from any given

³³ Sanitary sewage is wastewater of all types that has been used by human beings.

geographical area use the periodic denial of water as the ultimate weapon of social control.

Three Hypotheses To Be Explored in This Study

The idea of public water policies being used as the ultimate weapons of social control is explored in this study's three hypotheses. The hypotheses are:

1. The three pillars of society can be controlled by the supra-legal authority of central governments over member sovereign states' public water policies;
2. The three pillars of society can be controlled by the length of time it takes courts to resolve conflicts in public water policy; and,
3. The three pillars of society can be controlled by promulgating formal and informal water policies as weapons to control dissident behavior or to protest other government policies.

This study concerns the use of water policy as a means of social control by examining in Chapter 4 the conflict between central governments and its member states using

examples from the United States and Spain. This study next in Chapter 5 examines water as a means of social control by investigating the jurisprudence of water in Spain as a member state of the European Union (EU) and the state of Texas as a member state of the United States of America. It continues in Chapter 6 by examining water policy used for social control in Austin, Texas, and Beit Soreek,³⁴ West Bank - Palestinian Territories, Israel, and in New Delhi, India.

Hydropolitics and the Three Pillars of Society

The *hydropolitics*³⁵ of public water policy - both in the past and even moreso in the present - have become the battlefields for competing social values worldwide. Public water policies dynamically and significantly impact the three pillars that make up the foundation of any society, *the environment, the economy, and human relationships*. One could

³⁴ Beit Soreek is a village in between Jerusalem and Ramallah in the occupied West Bank territory of Israel.

³⁵ Anthony Turton and Roland Henwood (editors). *Hydropolitics in the Development World: A South African Perspective*. Pretoria: University of Pretoria, 2002. 16. The authors support the use of Dr. David Easton's 1965 definition of politics which is "the authoritative allocation of values in society" but with a modification by adding water to arrive at their clear and concise definition "the authoritative allocation of values in society with respect to water" which I embrace. Further fundamental considerations are applicable in the process of political analysis, according to Turton and Henwood, "In scrutinizing [sic] his [Easton's] definition, the following becomes apparent:

- Politics is a dynamic and ongoing process.
- Central to this process is the allocation of values via laws and policies.
- This implies decision-making of some kind.
- Decision-making favours [sic] some over others.
- This implies an element of contestation as no universal set of values exists.
- These values are being applied in an authoritative manner.
- This implies contestation over the legitimacy of the authority concerned.
- This also means that some are favoured whereas others are not, so who gets what, when, where and how becomes relevant."

say all three pillars of society are grounded in the “liquid foundation” of water policy. The significance of water policy in the strength and reliability of the three pillars in Spain for example are indicated in this astute comment made by Fornés,

While it is true that the role of groundwater in Spain’s water policy is better understood today than it was before, improvements take place very slowly, causing significant damage to Spain’s economy and environment.. In turn, these authorities [basin authorities who are ostensibly responsible for groundwater policy management] are unable to manage groundwater resources, often due to the lack of an appropriate mindset or the necessary means and support... Political willingness is essential to success.³⁶

Fornés alludes to all three pillars, the economy, the environment, and human relationships, in this case, the human relationship with the government in the very appropriate reference to the “political willingness” of the people.

The answer to the central research question in this study involves an assessment and analysis of public water policies as weapons of *social control*, therefore the term social control first must be defined and understood.

What is Social Control?

What is meant in this study by the term *social control*? According to the Oxford Bibliographies, that it seems to me

³⁶ Fornés et al. 682.

must be amended with the addition of the phrase **attempts to maintain**, social control is:

...the study of the mechanisms, in the form of patterns of pressure, through which society [**attempts to maintain**] maintains social order and cohesion. These mechanisms establish and enforce a standard of behavior for members of a society and include a variety of components, such as shame, coercion, force, restraint, and persuasion.³⁷

In order to thoroughly analyze the central research question of this study, I propose four new terms to fully describe types of social control that specifically relate to water policy. The first type of social control proposed here is "due process" social control. "Due process" social control is defined as the normal governmental processes which include rules and standards of behavior that originate in constitutions, originate in legislatures or parliaments via the normal law making process, originate in the regulatory agencies appointed by the legislative branches to make rules and enforce implementation of a new law, and originate in court rulings that modify the impact of new rules and standards of behavior. Constitutions set out the due process of government that allows ostensibly for the will of the people to determine rules and standards of behavior.

³⁷ Jason Carmichael, McGill University provided this definition to the Oxford Bibliographies found at <http://www.oxfordbibliographies.com/view/document/obo-9780199756384/obo-9780199756384-0048.xml>.

The second type of social control proposed here is "diplomatic" social control. This type of social control is defined as originating between sovereign nations or states via diplomacy in treaty negotiations. A good example of "diplomatic" social control is in the EU treaties establishing the Court of Justice, other agreed upon EU laws such as environmental laws, or older and less complicated examples in North America such as the 1944 International Treaty between the United States and Mexico and the establishment and joint operation of the International Boundary Commission, the manager of the shared waters of the Rio Grande, the Colorado River, and others.

The third type of social control proposed in this study is "deceptive" social control. This type of social control is defined as originating in government corruption, misrepresentations, coercion, restraint, misdirection, shame, and emotions. Many political groups use water as an emotional issue to meet other social or political agendas, such as limiting growth in a community, that oftentimes veil or hide the real agenda, hence their public positions are "deceptive:" verging on misrepresentations or even fraud. The study includes several examples of deceptive social control and the financial and value consequences that result from this deception. The study discusses in great detail the

financial and social consequences, both intended and unintended, of deceptive social control.

The fourth type of social control proposed by this study is “destructive” social control. The relationship between Israel and the occupied Palestinian territories and vice versa³⁸ are examples of destructive social control. Most recently, an even more blatant and sad example is found in the Jats of India and their decision to block and destroy part of the surface water canal that provides 60% of the water used by the city of New Delhi, one of the world’s most populous cities.³⁹ The unintended consequence of the Jats’ “destructive” action of social control was an immediate shortage of water for over ten million New Delhi residents. The destructive action by the Jats resulted in rioting and even several deaths. As the results of this study’s research are revealed, it demonstrates the use of the proposed types of social control to help the reader better understand how public water policies are used as the ultimate weapons of social control.

³⁸ From my personal interviews and research, both of the extreme positions taken by some Israelis and some Palestinians exhibit “destructive” social control. This discussion is expanded in Chapter 6 of this study.

³⁹ Different sources attribute New Delhi as being the fifth largest city in the world.

What is a Society?

Drilling deeper into the definition of social control, another even more basic question arises. What is a society? Traditionally, sociologists define society from the three theoretical perspectives: functionalism, conflict, and symbolic interaction. Functionalists consider society as a machine made of many parts each of which has a function. A functionalist considers society to be "a social system composed of parts that work together to benefit the whole." From a functionalist point of view society functions when all the parts work properly as planned. When a part or parts fail to function, these failures are considered dysfunctions. Functionalists believe that a dysfunction becomes a social problem when some part of the system fails. Sociologist James M. Henslin opines that functionalists generally blame the failure on "rapid social change." Social controls are put in place to ensure society as a whole functions properly. Water policies that are dysfunctional for society can wreak havoc throughout any society by weakening the three pillars, the environment, the economy, and human relationships. Dysfunctional water policies can cause long term damage to the environment, can cause economic breakdowns, and can cause

human relationships to enter into brutal and violent conflict.⁴⁰

Conflict theorists define society as "groups competing with one another within the same social system." Around the world during drought conditions competition for water is fierce and likely an omnipresent worry just under the cognizant surface of daily life even in wet years because water availability has such profound control of everyone's lives. Conflict theorists, according to Henslin, consider something a social problem when "authority and power are used by the powerful to exploit weaker groups." The most obvious conflict occurring over water occurs in Israel in their relationships to the Palestinians living in the West Bank and the Gaza Strip. Israel has virtually omnipotent power in water issues in their region and use that power to directly control Palestinians' daily lives as you will read later in this study. Conflict theorists feel that social problems are the inevitable outcome of interest groups competing for limited resources.⁴¹

Sociologists that follow the theory of symbolic interactionism focus on how people in a given society make

⁴⁰ James M. Henslin. *Social Problems: A Down-To-Earth Approach*. (Boston: Pearson, 2011) 28-44.

⁴¹ Ibid.

sense out of life by seeing the world through symbols. These theorists feel peoples' patterns of behavior are always changing and when something becomes a social problem it is because one set of definitions are accepted by some and those with competing views are rejected. For example, in Texas, based on ancient Spanish legal concepts and practices, a person's right to surface water is based on an **appropriative grant**⁴² from the crown or government. For over 300 years in Texas, water rights have followed the Spanish example by being prioritized by "first in time, first in right" which allocates water in times of drought or water shortages by giving priority use of the water to senior rights holders to the detriment of junior rights holders. Over the years these definitions have been accepted for the most part in surface water policy. In Texas though symbolism and generally accepted ideas of what is normative, use of groundwater does not include actual transfer of groundwater via private providers from one region to another. Regardless that the water laws of Texas do not allow discrimination against transfers of privately owned groundwater from region to region, the people in the source region simply do not accept the law and completely reject all competing viewpoints.

⁴² Porter. *Sharing*. 27.

Symbolic interactionists consider a social problem to exist whenever any group feels a situation is a social problem in their sole discretion. What they determine to be a social problem becomes a social problem for that group without any consideration of other definitions regardless what the law of the land may be. Later in this study this phenomena is explored in detail.⁴³

Public water policies are the ideal example of a core social problem under each sociological theory. Hence, public water policies can be used as the ultimate weapons of social control as this study will demonstrate.

Every reasonably thinking human being wants and needs water to be pure, available, accessible, and affordable.⁴⁴ Every reasonably thinking human being supports fair and reasonable regulations to protect water quality and the hydrological environment. However, using peoples' trepidations, fears, and lack of knowledge of public water policies and laws to promote other agendas without considering the entire spectrum of consequences of these policies is unfair and at times, highly deceptive. The

⁴³ Ibid.

⁴⁴ The World Health Organization defines a human right to water to include four characteristics; the water must be affordable, acceptable, accessible, and safe. Please see, http://www.who.int/water_sanitation_health/en/righttowater.pdf and for further study, see http://www.who.int/water_sanitation_health/humanrights/en/index2.html .

development of fair and transparent water policy includes an element of base human emotion no doubt, but using the way people feel about water to promote other agendas under the guise of water protection makes poor public policy. Hence, this study also considers the unintended and unrealized consequences when people choose to use water policy to accomplish other social control agendas.

I presented this study at three academic conferences in 2016, the Academic and Business Research Institute Conference in Orlando, Florida on January 7, the World History Association Conference in Austin, Texas on March 5, and as an encore at the invitation of Dr. Russell Baker, Executive Director of the Academic and Business Research Institute Conference in San Antonio, Texas on April 1. I submitted a condensed version of this study for publication in the Academic and Business Research Institutes' **Research in Business and Economics Journal** and it was accepted officially after peer and editorial review on May 23 (see attached letter from Dr. Barry Thornton, Editor). It is manuscript number 162390 in the journal. One peer reviewer, Lal C. Chugh, Professor of Finance at the University of Massachusetts Boston made this comment about my article:

I liked the MS and it is worthy of publication in the Journal. I recommend it for publication. It is topic worthy of attention by the economists.

I was especially pleased by his comment - "**It is a topic worthy of attention by the economists.**" One of my goals in making this study is to change policymaking paradigms to include all the permutations of intended and unintended consequences of any public water policy on equally as important cherished social values of any society, both **environmentally and financially.** It is my sincere hope that this study will assist people in making comprehensive inquiry into how existing and new public water policies impact the three pillars of any society, the environment, the economy, and human relationships.

Chapter Two

Review of the Literature

There are seminal pieces of work in the literature germane to my topic three of which stand out above all the rest. For a current in-depth analysis of Spain's water policy issues internally and in their relationship as a member state of the European Union is the work edited by Lucia De Stefano and M. Ramón Llamas titled *Water, Agriculture and the Environment in Spain: can we square the circle?*. Published by Taylor & Francis Group, London, UK in 2013, the Editors gathered together articles on various topics written by more than 20 water experts a group consisting of academics and professionals. It is by far the finest set of non-biased analytical works on the topic of water management in Spain. The authors first examine the political framework and institutions, next discuss water uses and resources in Spain under the umbrella of the movement towards "Integrated Water Resource Management", followed by detailed critical analysis of water and the environment, water management mechanisms, and rounded up with three case studies. Every article is footnoted in great detail from hundreds of references. If there is a current reliable

encyclopedia on water law and policy in Spain this seminal work edited by De Stefano and Llamas is it.

Another seminal book directly germane to this study is Professor Elli Louka's *Water Law and Policy* published by Oxford University Press of New York in 2008. Even though the book was published some 8 years ago it remains a timely, accurate, and reliable resource to understand European water law and policies.

For water policy in Texas, the books I authored, *Spanish Water/Anglo Water* and *Sharing the Common Pool: Water Rights in the Everyday Lives of Texans* both published by Texas A & M University Press in 2009 and 2014 respectively, offer the public the only books written ever whose subject is only Texas water policy from the broad perspective that includes the historical roots of Texas water law from their inception of Spanish Colonial times to today's current water policies and problems.

The work by authors on the water relationships between Israelis and Palestinians are many in both books and journal articles. I find all the work to be highly polarized to the point of almost ineffectiveness. The bulk of the work published in books comes from Israeli or Jewish authors and from the Israeli viewpoint; most are highly biased and prejudicial with subjective opinions that do not necessarily

reflect the facts. Palestinian authors have published in magazines and online blogs and journals; their viewpoints are skewed in exactly the opposite direction from the Israelis. It is simple to see the difference in views and easy to report. The Israelis authors tout Israel's fairness to and financial support of water projects and availability for the unappreciative Palestinians. The Palestinian authors claim Israel has deliberately and maliciously at times restricted water to the territories and the Palestinian people have been and are continuing to be subjected to serious daily hardships over water. This study comments on and analyzes the works of all the authors and supplements the published works with personal interviews of people "on the ground" in the territories and in Israel so the reader form their own conclusion on whether or not Israel uses water policy as an ultimate weapon of social control over the Palestinians. After my review I feel Israel absolutely does use water for social control of the Palestinians to the point of long-term pressure at such a level as to eventually make life so miserable at the base core, water availability, that the Palestinians will simply leave the territories.

A key work on the Israeli view is written by Seth M. Siegel in *Israel's Solution for a Water-starved World: Let There Be Water* published by St. Marten's Press of New York in

2015. A key work on the Palestinian point of view is by Elisabeth Koek in "Water for One People Only: Discriminatory Access and 'Water Apartheid' in the OPT" published in Ramallah - West Bank - Palestine: Al-Haq in 2013. Siegel's work has wonderful detail on water projects and the successful development of and enhancement of the limited natural water sources in Israel, but at all times in all sections he praises Israel almost to the level of a heroic tale. The limited space he gives to the Palestinian water situation is simply to share his opinion that the Israeli government has gone far and beyond the norm in providing water for the unappreciative Palestinians. Elisabeth Koek's views seem to me to be more neutral and non-biased; her basic opinion matches the results of my personal interviews with Palestinians.

Mark Zeitoun's *Power and Water in the Middle East: The Hidden Politics of the Palestinian-Israeli Water Conflict* published in London by I.B. Tauris & Co Ltd. in 2012 has been heavily criticized by Israeli experts. However, I find his work intriguing and his conclusions coincide with my personal interviews of eyewitnesses.

Not surprisingly, the Palestine Liberation Organization Negotiations Affairs Department's publications accuse Israel of violations of international law, of coercion to force

Palestinian communities to pay exorbitantly high prices for water from the Israeli national water company, and to divert what water there is to "illegal" Israeli settlements. Their publications offer the diametrically opposite view of the water argument in Israel and the Palestinian territories. It is obvious that Israel has all the power over Palestinian water resources in general and that this power is used in a manner in which Israel exerts social control over the daily lives of the Palestinians. Whether or not Israel deserves to hold that power or responsibly and fairly projects that power is a topic for another study.

Overall, the literature today does not directly address my subject of water as the ultimate weapon of social control, but does inform my research. It appears my work will be unique in the overall body of water policy research up to this time.

Chapter Three

The Study's Methodology

In summary, qualitative and quantitative approaches to research allow a different perspective of situations or phenomena. These two main approaches to research are highly informative especially if used in combination.

Adar Ben-Eliyahu, Ph.D.⁴⁵

This study follows the qualitative method of research. In doing so, one of its more practical uses in Texas will be to inform the Texas Legislature of the need for judicial reform to allow more timely court rulings in water disputes and to offer a fair market valuation for water. Why choose a qualitative study in part based on the author's actual participation as a member of the key stakeholder associations in Texas water policy? Professor Louka offers support to the

⁴⁵ Dr. Adar Ben-Eliyahu is a MacArthur Foundation Postdoctoral Fellow at the Center for Evidence-Based Monitoring at the University of Massachusetts in Boston. According to Dr. Ben-Eliyahu, "In summary, qualitative and quantitative approaches to research allow a different perspective of situations or phenomena. These two main approaches to research are highly informative especially if used in combination. Each approach has its benefits and detriments, and being aware of the methods used to gather information can help practitioners and policy-makers understand the extent to which research findings can be applied."

decision. Put simply, Louka opines, "A key to effective water governance is the provision of information, consultation with, and participation of stakeholders and the public in water management."⁴⁶ This study, if it is to be an effective tool of change in water policy in Texas, must include firsthand information from, consultation with, and participation of stakeholders and the public. It does.

The central hypothesis of this study is that public water policies are the ultimate weapons of social control. The central research question is: How are public water policies used as the ultimate weapons of social control in today's societies?

In order to discover, explore, and seek an understanding of how water policies are used as public policy weapons for social control of the three pillars of society - the environment, the economy, and human relationships - the following three hypotheses and research questions are researched and answered:

- Hypothesis Number One - The three pillars of society can be controlled by the supra-legal authority of central governments over sovereign member states' public water policies. The research question for this hypothesis is:

⁴⁶ Louka. 3.

How does the supra-legal authority of central governments over sovereign member states' public water policies control the three pillars of society?

- Hypothesis Number Two - The three pillars of society can be controlled by the length of time it takes courts to resolve conflicts in public water policies. The research question for this hypothesis is: How does the lack of timely court rulings on public water policy conflicts change and control the three pillars of society?
- Hypothesis Number Three: The three pillars of society can be controlled by promulgating formal and informal water policies as weapons to control dissident behavior or to protest other government policies. Israel's water policies towards the Palestinians in the West Bank village of Beit Soreek, the Jats in India towards the citizens of New Delhi, and the City of Austin, Texas' water policies and actions exert social control over the three pillars of society. The research question for this hypothesis is: How do these governments and people exert social control over the three pillars of society?

Detail of the Study's Methodology

This study uses the qualitative research methodology.

According to John W. Cresswell:

Qualitative research is an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem. The process of research involves emerging questions and procedures, data typically collected in the participant's setting, data analysis inductively building from particulars to general themes, and the researcher making interpretations of the meaning of the data.⁴⁷

There are five types of data collection in this study:

- In-depth, open-ended interviews;
- Direct observation;
- Written documents; and,
- Focus groups.

Another leading scholar, Adar Ben-Eliyahu, Ph.D., a MacArthur Foundation Postdoctoral Fellow at the Center for Evidence-Based Monitoring at the University of Massachusetts in Boston, offers her opinion of the benefits of the qualitative approach to research, which swayed my choice of research methodologies:

- Identification of new and untouched phenomena;
- A potential to discover a better understanding of mechanisms;

⁴⁷ John W. Cresswell. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. (Los Angeles: Sage Publications, 2014) 4.

- One-on-one and anecdotal information;
- Verbal information that may sometimes be converted to numerical form; and,
- Revelation of information that would not be identified through pre-determined survey questions.⁴⁸

Leading research methodology scholar Michael Quinn Patton provides an assessment of the qualitative researcher, "The validity and reliability of qualitative data depend to a great extent on the methodological skill, sensitivity, and integrity of the researcher."⁴⁹ In response to Patton's assessment, and another reason I chose the qualitative methodology is found in a brief look at my past academic interest in water policies.

I dedicated the past 16 years of my life to educate the public in water rights and how water rights affect their everyday lives, to put water law, rights, and public policies into the overall context of their duties and responsibilities as professionals, citizens, and participants in society as a whole. I began my long term research at the chronological beginning of the Spanish roots in Texas water law. I explored

⁴⁸ <http://chronicle.umbmentoring.org/on-methods-whats-the-difference-between-qualitative-and-quantitative-approaches> Accessed many times but specifically last on May 1, 2016.

⁴⁹ Patton, 11.

and shared my understanding of the historical and current relationship of the water laws of Texas and Spain in my public and academic books and articles and in my continuing education for professional credit in both the legal profession and real estate brokerage. For a decade I have taught water history and rights at the college level at St. Edward's University. As of May 4, 2016, I completed my 218th water law/water rights speech somewhere in the United States, this list dates **only from July 2012**, and does not include the hundreds of speeches, lectures, and classes prior to that date. All of these speeches were at the invitation of some group of educators, some group of stakeholders, a committee of the Texas Legislature, or at the request of a member of the Texas House of Representatives.

To take my research from a purely academic approach to cause actual change public water policy, I authored and organized House Bill 1221 in the 84th session of the Texas Legislature, a bill that became law in Texas on June 16, 2015.⁵⁰ A two year process, I organized ad hoc committees of attorneys and stakeholders, at my sole unreimbursed expense,

⁵⁰ <http://www.capitol.state.tx.us/BillLookup/History.aspx?LegSess=84R&Bill=HB1221>. See also at the same site mention of my sworn testimony at the House Natural Resources Committee hearings and the Senate Business and Commerce Committee hearings <http://www.capitol.state.tx.us/tlodocs/84R/witlistbill/pdf/HB01221H.pdf#navpanes=0> and <http://www.capitol.state.tx.us/tlodocs/84R/witlistbill/pdf/HB01221S.pdf#navpanes=0>.

to draft the bill, find sponsors in the Texas House and Senate, present and gain the unanimous approval of the Texas Alliance of Groundwater Districts, the Texas Association of Realtors, and the Texas Water Conservation Association among others. I testified under oath at the hearings considering the bill held by the House Natural Resources Committee and the Senate Business and Commerce Committee in support of the bill. The total population of the trade associations and political groups I gained support from for the new bill exceeded 200,000 people.

The bill amended the Texas Property Code to include a legally required question asking each seller of any single family home in Texas if the property for sale was in the jurisdiction of a groundwater conservation district, the preferred method of groundwater management and regulation in Texas. The answer to the question became a part of the mandatorily required Sellers Disclosure Notice in Texas, a notice that must be provided to a potential purchaser of any single family home while the potential purchaser is making his or her decision to commit to buy.⁵¹ It was the first time in the 66 year history of the groundwater conservation

⁵¹ See Texas Property Code, 5.008.

districts⁵² in Texas that the public was required to at least confirm or deny their knowledge of any groundwater regulatory district affecting the property they were selling. The ten year impact of the bill, which will cost the state of Texas taxpayer \$0, is that at least 39,000,000 parties⁵³ to single family transactions would be exposed to the groundwater regulatory question.

From my past work with the water stakeholders in Texas, my publications, speeches, teaching, and assistance to the legislature,⁵⁴ this study will support my ideas to improve Texas water policy.

Additionally, I also testified as a water rights and water law expert and participate in water policy determination in Texas with a wide group of other water policy officials and stakeholders.

⁵² See Charles Porter. "Of Urgent Concern: What Prompted House Bill 162, the Groundwater Conservation Act of 1949." Published in the papers of the Texas Water Law Conference, Austin, Texas 2015. I also presented the paper at the conference on October 6, 2015 as the "Featured Presentation" of the conference.

⁵³ This figure is based on only the Multiple Listing Service (MLS) single family homes listed in the MLS systems in Texas, not any other potential sale by owner or a listing for sale not placed in the MLS system. MLS listings alone have averaged 1,300,000 per year in Texas. The parties are the seller, the buyer, and at least the listing agent or 3, hence 3,900,000 parties per year for 10 years equals 39,000,000. At least 60% of the time, there is a buyer's agent adding another 13,000,000 parties. The law requires sellers to provide the notice regardless of listing the home with a real estate agent. At best 85% of all home sales in Texas are via MLS systems, so over 10 years, many more Texans will be exposed to the question. A more reasonable estimate would be that the impact could easily exceed 45,000,000 people during the first 10 years.

⁵⁴ On February 9, 2016, I testified in Burlleson, Texas at the request of the Texas House Natural Resources Committee in a public hearing of the committee on the subject of private property rights and water in Texas. I was asked to discuss the impact on private property rights in water of the proposed (and stayed) Waters of the United States Environmental Protection Agency Rule and groundwater regulations in general in Texas.

For further detail in understanding my higher education teaching, I developed, authored, and have taught global water policies at St. Edward's University, a class named "Global Water Challenges" also known as CULF 3331. Along with this class, I have been the instructor and designer of three (3) Cultural Foundations (CULF 3330/3331) Water Workshops. These three (3) workshops were accomplished in the fall semester 2009, the spring semester 2011, and the spring semester 2013. Over the three (3) workshops, 2,000 St. Edward's students studied and mediated moot global water disputes in international transboundary surface waters and international transboundary aquifers. This fall beginning in August 2016, I have designed the fourth set of water workshops. I also am the author of the only Texas Real Estate Commission (TREC) Continuing Education Course on water rights in Texas, "Water Rights for Texas Agents" TREC course #04-00-030-6748. This course was awarded the Best Ethics Education Course in the state of Texas in 2008. I have the skill, competence, and rigor to prepare a valid and reliable study as my brief bio indicates.⁵⁵

⁵⁵ Charles Porter is an award winning author, speaker, testifying real estate expert, and a full time Visiting Professor in the College of Education at St. Edward's University. He also serves on the Advisory Council of the Briscoe Center for American History at the University of Texas. His newest book *Sharing the Common Pool: Water Rights in the Everyday Lives of Texans* (Texas A & M Press, 2014) hit the bookstores on May 15, 2014. He is also the author of *Spanish Water/Anglo Water* (Texas A & M Press, 2009) winner of the **2011 San Antonio Conservation Society Publication Award** and the **2011 Texas Old Missions and Forts Restoration Association Book Award** for outstanding published book contributing to a better understanding of Spanish Colonial Texas. He won *The Texas Catholic Historical Society's Catholic Southwest Journal of*

As further support for my choice of the qualitative methodology, I consulted sociologist John Lofland's work in which he offers four people-oriented mandates in Patton's *Qualitative Evaluation and Research Methods*. I meet the requirements of each mandate.⁵⁶ The mandates requirements and my response to each are as follows:

- The qualitative methodologist must get close enough to the people and situation being studied to understand in depth the details of what goes on. (I am deeply involved and have been for almost two decades in "what goes on" in water policymaking.);
- The qualitative methodologist must aim at capturing what actually takes place and what people actually say: the perceived facts. (I have testified live as an invited

History and Culture **2009 Robert S. Weddle Award** for the article "Querétaro in Focus: The Franciscan Missionary Colleges and the Texas Missions." He won *The East Texas Historical Association's East Texas Historical Journal's* **2013 Chamberlain Award** for the article "The History of W. A. East v. Houston and Texas Central Railway Company, 1904: Establishment of the Rule of Capture in Texas Water Law or 'He Who Has the Biggest Pump Gets the Water'."

His teaching awards at St. Edward's University include the **2013 Hudspeth Award for Innovative Teaching**, the **2011 St. Edward's University Outstanding Adjunct Faculty Award**, and the **2011 Best Adjunct Professor of the Schools of Behavioral and Social Sciences and University Programs**. Additionally Porter was a **2008 Presidential Award Winner at St. Edward's**. His Texas Real Estate Commission Continuing Education Course *Water Rights for Texas Agents* won the Best Education Course in the state of Texas in 2008; his *Mediate, Arbitrate, Litigate* TREC Continuing Education Course won the Best Education Course in the state in 2005. He was awarded the **Peacemaker Award** by the Austin Dispute Resolution Center in 2007. He was elected and served as **Chairman of the Board of Directors** of the Austin Board of Realtors in 2007.

For further information please visit www.charlesporter.com.

⁵⁶ Patton. 32.

expert on Texas water policy making and serve on a variety of committees in stakeholder groups that make water policy in Texas including the Texas Water Conservation Association Surface Water Committee and a subcommittee, the Texas Association of Realtors Public Policy Subcommittee on Utilities and Infrastructure, and in my own ad hoc committees of stakeholders in making Texas water policy.);

- The qualitative data must include a great deal of pure description of people, activities, interactions, and settings. (My data comes from in-person live observance and participation in water policy making in Texas.);
- The qualitative data must include direct quotations from people, both what they speak and what they write down. (My data includes years of my collection of direct quotations from my personal live interviews and participation in water policymaking in Texas and also includes what the people observed have written down.); and,
- Designing and conducting interviews with participants in the making and interpretation of Texas water policy in

the courts specifically to determine the demand for a special water court in Texas. No one has every proposed a study like this one. I have gained the total support of the Texas Alliance of Groundwater Districts, the Texas Water Conservation Association, and many in the legal profession.

I have been closely committed to another of Patton's key descriptions of what a qualitative researcher strives to accomplish. According to Patton, [qualitative research is the] "study of people *in situ*⁵⁷... Since a major part of what is happening is provided by people in their own terms, one must find out about those terms rather than impose upon them a preconceived or outsider's scheme of what they are about."⁵⁸ For almost two decades I have actively participated in the subject of this study.

Patton further offers six (6) data-collection questions to guide qualitative researchers. Please find below my answers as indications of my strategies:

⁵⁷ Merriam Webster defines *in situ* as "in the natural or original position or place."

⁵⁸ Patton. 32-33.

1. *Who is the information for and who will use the findings?*

All water policymakers and stakeholders in Texas, Spain, and elsewhere around the world as well, will be users of the information in this study. The information from the study is designed to assist and inform water policymakers in Europe and the United States along with informing the general public of some of the consequences water policy has on the three pillars of society.

2. *What kinds of information are needed?* The kinds of information needed include but are not limited to live interviews with the attorneys who are actually trying the water policy dispute lawsuits in Texas and Spain, focus group meetings to discuss problems and concerns in water policy making, information from stakeholders as to the current status of water law in the United States via Texas stakeholders and in the European Union via Spanish stakeholders. Court rulings, academic journal articles, personal interviews with everyday citizens as to the affect water policy has on their daily lives, field observations and live testimony, and books germane to the subject are examples of other information needed and considered.

3. *How is the information to be used? For what purposes is evaluation being done?* The information will be used in informing the shape of future water policies in Texas, Spain and elsewhere. The evaluation is being done to offer all the permutations of water policy and the consequences they could have on the three pillars of society.

4. *When is the information needed?* The information can be used immediately; I presented my preliminary findings at three academic conferences since January 7, 2016 to great interest. The information for use in Texas specifically is needed as soon as possible and certainly before the 85th session of the Texas Legislature in January, 2017.

5. *What resources are available to conduct the evaluation?* The resources available include the leading attorneys and experts in water policy in Texas and Spain, academic and law journal articles, and libraries especially the University of Texas School of Law's Tarleton Law Library.

6. *Given the answers to the preceding questions, what methods are appropriate?* The methods appropriate are qualitative research methods enhanced by a quantitative study of stakeholders in Texas and in Spain.

In summary, this study seeks to improve the rationality and justice in recent and historical practices of setting water policy via the civil and administrative law systems in Texas and Spain coupled with the laws, rules, and regulations of the United States and European Union central governments. My methodology additionally uses an interdisciplinary approach that includes gathering qualitative data in order to provide a comprehensive analysis of the research problems.

Specifically the working plan included but was not limited to:

- Conducting personal interviews with the disputants in civil and administrative lawsuits in which water is the subject of the dispute, the judges of the various courts in which the trials or hearings to litigate the disputes were held, past and present elected and appointed state officials, and the attorneys representing plaintiffs and defendants in past and current litigation over water issues in Texas;
- Conducting historical document reviews by reviewing the archival court documents beginning with the Bexar Archives in the 18th century through the court

documents in modern court cases in Texas and as much as is reasonable in Spain (the Tribunal keeps no written documentation of the disputant's testimony) - those decided and settled, those pending, and those under appeal;

- Designing and conducting interviews and focus groups of participants in the making and interpretation of Texas water policy in the courts specifically to determine the demand for a special water court in Texas. No one has ever proposed a study like this one. I will have the total support of the State Bar of Texas, the Texas Alliance of Groundwater Districts, the Texas Water Conservation Association, and many judges and attorneys.
- Gathering statistics about civil and administrative water litigation in the United States, Texas, the European Union, and Spain; and,
- Interviews with citizens from Israel, the city of Austin, San Antonio, Spain, and from the West Bank Palestinian Territories.

Chapter Four

"Diplomatic" and "Due Process" Social Control: "Supra-Legal" Authority in Water and Limitations on Sovereignty

Irrigation in the Indus River basin dates back centuries; by the late 1940s the irrigation works along the river were the most extensive in the world. These irrigation projects had been developed over the years under one political authority that of British India, and any water conflict could be resolved by executive order.⁵⁹

Aaron Wolf and Joshua Newton⁶⁰

My first hypothesis is that the three pillars of society can be controlled by the *supra-legal* authority of central governments over member sovereign states' public water policies. How does the implementation of *supra-legal* authority by central governments over member sovereign states' public water policies control the three pillars of society in that nation?

⁵⁹ Aaron T. Wolf and Joshua T. Newton. *Case Study of Transboundary Dispute Resolution: The Indus Water Treaty*. http://www.transboundarywaters.orst.edu/research/case_studies/Indus_New.htm, accessed March 3, 2016.

⁶⁰ Professor Aaron T. Wolf is a Professor at Oregon State University in The Program in Water Conflict Management and Transformation. He is an internationally recognized expert on water conflict resolution and was named a 2015 recipient of the Heinz Award in the category of public policy.

The phrase *supra-legal authority* is a phrase I created several years ago based on the Latin word "supra" meaning above.⁶¹ *Supra-legal* authority is jurisdictional authority that takes precedence other existing laws in a nation, region, or state. A similar term is *supranational authority* meaning above the authority of a nation.⁶² A continuing debate in Spain and the United States, a debate that is in no way unique in the world to these countries, involves the issue of local control versus national control, or the issue of *sovereignty*. The issue of the jurisdictional extent of water law and policy between state sovereignty and central government authority is ever present today and for centuries in many regions of the world, especially in the United States and more recently in Spain. Determining water policy's involvement in the sovereignty debate hangs like a "sword of Damocles" over Great Britain today as they contemplate leaving the EU commonly referred to as "Brexit."⁶³ Quite

⁶¹ I chose to develop the term as a part of my Global Water Challenges class at St. Edward's University in 2008. Since then I have shared the term and used it often in my 219 speeches about water in Texas. I used the term yet again recently in my testimony to the Texas House of Representatives Natural Resource Committee hearings in February, 2016. One of the subjects the committee asked me to comment upon was the U.S. E.P.A.'s proposed Waters of the United States ruling. The term is highly effective when describing the relationship between a state and a federal or central government. A similar term, supranational, is less descriptive and actually confusing when applied to national relationships with member states.

⁶² <https://www.translegal.com/legal-english-lessons/supra-vs-infra>, accessed March 3, 2016.

⁶³ The vote in Britain will be taken on June 23, 2016. Polls vary and lean towards remaining in the EU but the situation is in flux. Today, June 24, 2016, the British people elected to leave the EU 51.8% to 48.2%.

similarly, this same issue has been battled for over 175 years between Texas and the United States. Likewise in 1948, this very debate came to life with potentially dire consequences for thousands in one of the world's "cradles of civilization", the Indus River Valley.

**Chaos Caused by the Loss of *Supra-legal* Authority in the
Indus River Dispute**

Wolf and Newton's quote at the beginning of this chapter is taken from their analysis of the Indus River treaty that settled a dispute that began after India won its independence from Great Britain in 1948. Almost immediately, the independence, earned at the high cost of human lives, was followed by a partition of India into the new nations of India and Pakistan.

The Indus River travels from its headwaters in the disputed Kashmir Region of India and flows mostly through modern day Pakistan to enter the Indian Ocean. For decades before the partition of India and Pakistan, the regions of Sind and Punjab in British India argued over the common water of the Indus. The heart of the dispute was the overflow of Indus River water for irrigation purposes essential to the survival of millions of people in both provinces. While the area was under British rule, the *supra-legal* authority of Great Britain provided a single political authority empowered to hear and settle disputes between these regions. The

partition created two separate nations and any and all *supra-legal* authority ceased to exist, throwing the Indus River management into chaos. As the headwaters of the Indus River mostly are found in India, India's control of the upstream watersheds represented an ultimate weapon of social control over the very lives of tens of millions of citizens of the new nation of Pakistan.

Thanks to the ground-breaking efforts of World Bank President Eugene Black who offered the "good offices" of the World Bank as a mediating facility, a negotiated settlement was made between the two fledgling nations. The treaty negotiations were held from 1948 to 1960 and the agreements made are still in existence today though in a continuing state of revision and renegotiation. Wolf and Newtown summed up conceptual causes of the dispute succinctly, "Shifting political boundaries can turn intra-national disputes into international conflicts exacerbating tensions over existing issues."⁶⁴ The World Bank was in the unique position with a talented leader as its President, Black. Both new nations were desperately seeking economic stability and without Indus River water for irrigation, literally millions of people in each new nation found their very lives at risk. Black not

⁶⁴ Wolf and Newton, http://www.transboundarywaters.orst.edu/research/case_studies/Indus_New.htm, accessed March 3, 2016.

only offered an impartial third party's vital and continuous involvement but his institution was in the uniquely powerful position to provide financial incentives to spur a settlement to fruition.

The lessons learned from the Indus River dispute illustrate the immediate and critical consequences of the abrupt withdrawal of all central government *supra-legal* authority because everyone is aware that water is the common denominator of all life on earth. The relationship between the central government of the European Union and Spain and the United States and Texas fortunately have never reached and likely will not ever reach the level of danger the Indus River dispute did. The Indus River dispute did raise two centrally significant questions that do apply in Texas, Spain, and elsewhere in the United States and the European Union. These questions, really about the limits of sovereignty are:

- How much authority should the United States government have over its individual states' water policies?
- How much authority should the European Union have over Spain's water policies?

This study does not offer answers to these questions, but uses these questions in part to guide ways in which water policy can be, is being, or is attempting to be used as a weapon of social control by a central government.

Along with jurisdictional authority comes the right and duty of enforcement of laws or regulatory agency rules that stem from that authority. This issue of sovereignty is complicated by the fact that the member state or nation voluntarily agreed to become part of its central government as Texas did in rejoining the United States in 1870 and Spain did when joining the European Union in the 1980s. In 2015, the issue of sovereignty erupted in the United States when a federal agency proposed a new rule involving water.

**The Supra-Legal Debate in the United States -
The Proposed "Waters of the United States" Rule**

One of the best examples of an attempt by the United States to use public water policy as a weapon of social control at a national level occurred on May 27, 2015. The United States Environmental Protection Agency (EPA) Administrator, Gina McCarthy, proposed a new rule that came to be known as the "Waters of the United States" rule supposedly to "clarify" 1972's Clean Water Act. The EPA considers the proposed rule to be the result of "due process" from the edicts and rights they have in their agency mandate.

This proposed rule is an example of “due process” social control. Even though it is controversial and has been “stayed”⁶⁵ by federal courts, the EPA claims their proposed rule was generated properly within their jurisdictional mandate. The extent to which the EPA’s behavior exceeded and exceeds their legislative mandate forms the heart of the debate.

The proposed rule was a controversial proposal that many members of Congress, property rights groups, and almost the entire agriculture industry claimed would put all surface and other waters under the full and total control of the federal agency.⁶⁶ According to a press release offered by Philip Ellis, President of the Cattlemen’s Beef Association, “Today, the Agency [EPA] finalized its ‘Waters of the United States’ proposed rule, which unilaterally strips private property rights and adds hundreds of thousands of stream miles and acres of land to federal jurisdiction.”⁶⁷ After review of the wording of the proposed rule, it appears to me the language is indeed ambiguous, vague, and confusing in a capricious

⁶⁵ According to the Legal Information Institute of Cornell University Law School a stay is “A ruling by a court to stop or suspend a proceeding or trial temporarily or indefinitely. A court may later lift the stay and continue the proceeding.” https://www.law.cornell.edu/wex/stay_of_proceedings . Accessed May 5, 2016.

⁶⁶ Environmental Protection Agency press conference, Washington, D.C., May 27, 2015.

⁶⁷ Philip Ellis, President of the National Cattlemen's Beef Association, comments on AgWeb of the Farm Journal, May 27, 2015.

effort by the agency to expand the jurisdiction of the Clean Water Act to include potentially every drop of surface water in the United States.⁶⁸

North Dakota Federal Judge Ralph Erickson stayed the proposed rule on August 27, 2015 but his stay was only applicable in 13 states. North Dakota Attorney General Wayne Stenehjem said of Judge Erickson's stay, "I am very pleased by today's ruling, which protects the state and its citizens from the serious harm presented by this unprecedented federal usurpation of the state's authority."⁶⁹ Shortly thereafter, Judge Erickson's stay was appealed by the EPA and on October 9, 2015, in a 2-1 ruling, the Sixth Federal Court of Appeals delivered a ruling that protected and expanded Judge Erickson's stay to the entire United States. Some background about the EPA and the Clean Water Act is necessary for a complete understanding of the context of this effort to use water as a weapon of social control by one of the most powerful agencies in the United States government.

The EPA was established on December 2, 1970; one of the duties of the agency was to protect "water". The Clean Water Act of 1972 was enacted as an attempt to better define the

⁶⁸ Exceptions in the rule include wastewater treatment ponds, some "ditches" (undefined in the rule), and gullies, rills, and non-wetland swales.

⁶⁹ North Dakota State Attorney General's Office News Release, August 27, 2015.

precise jurisdiction over which "waters" the EPA and their colleague agency, the U.S. Army Corps of Engineers would regulate. Shortly after the Clean Water Act was passed in 1972, a variety of lawsuits resulted in several court rulings that along with the opinion of legal scholars decreed that the Clean Water Act's jurisdiction was limited to major navigable rivers only. Agricultural interests claimed then and continue to claim that the jurisdiction of the EPA under the terms of the Clean Water Act does not include tributaries of major navigable streams or creeks and smaller streams and definitely not include farmers' stock tanks or earth moving to create irrigation systems on private land. Throughout 2015, many people and stakeholder groups complained that the EPA illegally used social media to promote the proposed ruling before even offering it for debate in Congress or the public forum. Other complaints against the EPA rule alleged lack of transparency by the agency intentions in the proposed rule. The EPA Administrator was accused of refusing to answer inquiries by media, stakeholders, and even members of Congress.

In answer to formal complaints, on December 14, 2015, the General Accounting Office (GAO) of the United States officially addressed the EPA's use of social media in this matter by ruling that "... [the EPA] engaged in "covert

propaganda" and violated federal law when it blitzed social media to urge the public to back an Obama administration rule intended to better protect the nation's streams and surface water."⁷⁰ The GAO ruling stirred anger and consternation inside the EPA and is currently under appeal.

While there is no doubt the EPA has some jurisdiction over navigable waters, the now GAO-declared illegal actions coupled with the stays by a federal judge supported and expanded by the Federal Sixth Court of Appeals, are national examples an attempt to use water as a weapon of social control. If the concerns of agricultural interests and the individual states are valid, the impact on individual property owners could very well be never before required stringent federal permit acquisition for the most basic activities, usurpation⁷¹ of state surface water laws and state and local regulatory agency jurisdictions, and decades of federal lawsuits over property rights. A farmer that is required to obtain a federal permit from the EPA or the US Army Corps of Engineers before moving soil to divert water into livestock ponds and irrigation ditches, would be subject

⁷⁰ "EPA Broke Law With Social Media Push for Water Rule, Auditor Finds." New York Times, December 15, 2015.

⁷¹ "Usurpation" means taking someone's power or property by force.

to a potentially punitive level of social control by all-but-omnipotent federal agencies.⁷²

The EPA's behavior fits several elements of our definition of "due process" social control. The 400 meetings they held across the country to promote their proposed new rule along with their social media blitz are examples of mechanisms in the form of patterns of pressure to maintain the agency's internal interpretation of their desired normative social order and cohesion. The GAO officially ruled that the EPA's actions were illegal, meaning that the EPA used coercion as one of their mechanisms of social control. Due process in the United States is overseen by the checks and balances set out in the United States Constitution. However, even "due process" social control by a United States government sanctioned agency can involve coercion, force, and restraint via their authorized enforcement duties. Should the EPA act in the manner in which agricultural stakeholders anticipate, that of obtaining permits prior to moving soil for stock tanks or irrigation purposes, the EPA would likely use force and restraint, an

⁷² Proposed activities that are subject to the rules of the EPA are regulated through a permit review process. An individual permit may be required for potentially significant impacts. Individual permits are reviewed by the U.S. Army Corps of Engineers which evaluates applications under a public interest review, as well as the environmental criteria set forth in the Clean Water Act Guidelines, regulations promulgated by EPA. In addition to jointly implementing the Clean Water Act Section 404 program, EPA and the U.S. Army Corps of Engineers (Corps) share Section 404 enforcement authority.

obvious mechanism of "due process" social control, to enforce the regulations. In fact, they have enforced by restraint often in their history. Although, the EPA claims in their extensive press releases that no farmer should worry about a permit to move dirt around in his irrigated fields or expand their stock tanks, the EPA's actions overrule their claims in one particular case now pending in the United States federal courts.

The case is known as the *United States Army Corps of Engineers v. Hawkes Co., Inc.*, in the United States Court of Appeals for the 8th Circuit, docket number 15-290. According to Miriam Siefert, an Assistant Professor of Law at the University of Wisconsin Law School writing in SCOTUSblog (the Supreme Court of the United States blog):

In this case, respondent Hawkes Co. wishes to mine peat on a wetland property in Minnesota. (Peat is ultimately used, among other purposes, to construct golf greens.). In 2010, Hawkes applied for a permit from the Corps. In 2011, the Corps issued a letter containing a "preliminary determination" that the property contained jurisdictional waters. The nearest traditional navigable water, the Red River of the North, is 120 miles away, but the Corps asserts that the wetlands in question are connected to that river by culverts, unnamed streams, and another river. After a series of further meetings and site visits, in 2012 the Corps issued an "Approved Jurisdictional Determination" (JD) confirming that the property contained waters of the United States. Hawkes's complaint alleges that, during this time, Corps employees stated that the permit process would be very lengthy and expensive, and that one Corps representative told a Hawkes employee that "he should start looking for another job." Hawkes administratively appealed the JD pursuant to Corps regulations. After oral argument, a

review officer issued a written decision in Hawkes's favor, concluding that the administrative record did not support the JD. On remand, the Corps revised the JD but again concluded that the property contained jurisdictional waters. The revised JD noted that the wetlands on the property contain significant biodiversity, are of "exceptional quality," and have a significant nexus with the Red River of the North.⁷³

Notwithstanding the publicized position taken by the EPA that their intent in promulgating the "Waters of the United States Rule" was not to stop farmers from their daily activities, this case clearly demonstrates the EPA's intent to exert their authority 120 miles away from the farmer's land using the theory of the conjunctive relationship of the geological containers of water.⁷⁴ An amicus curia brief (friend of the courts brief) was filed on March 2, 2016 by the California Farm Bureau Federation, California Cattlemen's Association, and others. Peter Prows, counsel of record wrote in support of Hawkes the defendants:

The Clean Water Act is a penal statute, imposing potentially ruinous criminal sanctions and civil penalties on landowners accused of violating it. Due process requires that penal statutes "define the criminal offense with sufficient definiteness that ordinary people can understand what conduct is

⁷³ <http://www.scotusblog.com/2016/03/argument-preview-diving-into-finality-issues-under-the-clean-water-act/> March 24, 2016.

⁷⁴ The three geological containers of water are surface water (water that exists in a watercourse), groundwater (water underground in pools or aquifers), and diffused surface water (water that runs across land before entering a surface watercourse or into the ground to become groundwater). These geological containers relate to each other conjunctively; surface water feeds groundwater and vice versa; diffused surface water feeds surface watercourses and groundwater. A water molecule traveling through the hydrogeological cycle, is like a chameleon, it changes geological containers at will as it seeks sea level.

prohibited and in a manner that does not encourage arbitrary and discriminatory enforcement.”

But ordinary people have practically no way of understanding in advance whether their activities would violate the Act, or lead to arbitrary or discriminatory enforcement by the Government or other private parties. The Corps’ litigation position would make this constitutional problem even worse.

The Corps’ regulations prescribe that approved jurisdictional determinations (JDs) are “final agency action”, and the Corps has explained that the public can “rely on” them. But here, the Corps argues that approved JDs are not final agency action, and they should not be relied on. It even takes the position that landowners who rely on an approved JD, and are careful to avoid any property identified as jurisdictional, can still be subject to penal enforcement action if the Corps or any member of the public later asserts that additional jurisdictional areas exist on the property. This only adds to the uncertainty that the Act imposes on landowners. To help mitigate the constitutional problem that this uncertainty would present, this Court should interpret “final agency action” to include approved JDs.⁷⁵

The dispute is over the jurisdiction of the EPA under the Clean Waters Act. Hawkes rightly applied for a permit to dig the peat in an undisputed wetlands area. The Corps of Engineers issued an “Approved Jurisdictional Determination” (JD) which Hawkes disputed successfully in an administrative hearing with a Corps review officer. The JD was revised but

⁷⁵ UNITED STATES ARMY CORPS OF ENGINEERS, Petitioner, v. HAWKES CO., INC., et al. Respondents. — On Writ Of Certiorari To The United States Court Of Appeals For The Eighth Circuit — BRIEF FOR CALIFORNIA FARM BUREAU FEDERATION, CALIFORNIA CATTLEMEN’S ASSOCIATION, CALIFORNIA BUILDING INDUSTRY ASSOCIATION, BUILDING INDUSTRY LEGAL DEFENSE FOUNDATION, & CALIFORNIA BUSINESS PROPERTIES ASSOCIATION AS AMICI CURIAE IN SUPPORT OF RESPONDENTS — PETER PROWS Counsel of Record BRISCOE IVESTER & BAZEL LLP 155 Sansome Street Seventh Floor San Francisco, CA 94104 (415) 402-2700 pprows@briscoelaw.net. March 2016.

still concluded the peat bog was under the jurisdiction of the United States Corps of Engineers. Hawkes strongly objected to this JD and sought relief in the federal court. According to their petition written by counsels Mark Mill and M. Reed Hopper:

The Administrative Procedure Act "creates a presumption favoring judicial review of administrative action." *Sackett v. Env'tl. Prot. Agency*, 132 S. Ct. 1367, 1373 (2012). That presumption applies in this case. Like the *Sacketts*, Hawkes is subject to agency strong-arming under the law. The facts show the wetlands on Hawkes' property are not jurisdictional under the Clean Water Act. But the Corps has erroneously determined otherwise through a final and legally binding Jurisdictional Determination (JD). Hawkes can take no action without incurring exorbitant expense and delay. Seeking a permit will cost hundreds of thousands of dollars and months or years in review. Proceeding with the project without a permit will subject Hawkes and its officers to both civil and criminal liability with potential fines of \$37,500 per day and the risk of incarceration. Even taking no action is prohibitive because it means an end to the proposed project and Hawkes' economic viability.⁷⁶

The petition indicates an example of "due process" social control by mentioning the civil and criminal penalties at risk for Hawkes in the incredible amount of \$37,500 per day *plus* the risk of incarceration. "Due process" social control, though strongly disputed in this federal case, can include the statutorily sanctioned right of enforcement of an agency rule. Here again the federal courts are a part of the checks

⁷⁶ UNITED STATES ARMY CORPS OF ENGINEERS, Petitioner, v. HAWKES CO., INC., et al., Respondents. On Petition for Writ of Certiorari to the United States Court of Appeals for the Eighth Circuit. Docket Number 15-290.

and balances contemplated by the United States Constitution and can establish a vital precedent that could have both intended and huge unintended consequences for the agricultural business across the United States.

On Tuesday May 31, 2016 the United States Supreme Court issued a ruling on the Hawkes case. According to Wall Street Journal reporter Brent Kendall, "The Supreme Court on Tuesday made it easier for landowners to contest the federal government's ability to regulate their property under the Clean Water Act."⁷⁷ The limited issue in this Supreme Court's ruling was whether Hawkes could bring suit before exhausting the US Army Corps of Engineers' permitting process. The court ruled in favor of Hawkes to allow the Hawkes suit to proceed without completing the permit process.⁷⁸

The Court's opinion began with an abstract of the prior jurisprudence process of the case. The US Army Corps had rendered a "jurisdictional determination" (JD) that the Hawkes' property was within their regulatory jurisdiction. Had they not issued the JD, it is likely that Hawkes would have been denied their "day in court" until at least this most basic question was answered: Did the Corps have any

⁷⁷ Brent Kendall. *The Wall Street Journal*. May 31, 2016.

⁷⁸ http://www.supremecourt.gov/opinions/15pdf/15-290_6k37.pdf.

regulatory authority over the Hawkes' activities? Chief Justice Roberts reported this detail,

Respondents [Hawkes], three companies engaged in mining peat, sought a permit from the Corps to discharge material onto wetlands located on property that respondents own and hope to mine. In connection with the permitting process, respondents obtained an approved JD from the Corps stating that the property contained "waters of the United States" because its wetlands had a "significant nexus" to the Red River of the North, located some 120 miles away. After exhausting administrative remedies, respondents sought review of the approved JD in Federal District Court under the Administrative Procedure Act that the revised JD was not a "final agency action for which there is no other adequate remedy in a court," 5 U. S. C. §704. The Eighth Circuit reversed.⁷⁹

The Corps claimed that even though they issued the JD, Hawkes had not fully completed the permit process. Why then should the matter be questioned at this time?

Chief Justice John Roberts, author of the Court's opinion, used the Corps' own previous testimony to support the Court's basic reasoning in the decision, "As Corps officials indicated in their discussions with respondents, the permitting process can be arduous, expensive, and long."⁸⁰ The reality of Hawkes' precarious position was simple: if they had to go through the entire permit process in order to

⁷⁹ Opinion. 1.

⁸⁰ **SUPREME COURT OF THE UNITED STATES**. No. 15-290. UNITED STATES ARMY CORPS OF ENGINEERS, PETITIONER v. HAWKES CO., INC., ET AL. . ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE EIGHTH CIRCUIT. Opinion of the Court, 578 U. S. (May 31, 2016). 9 .

then file suit, the economic burden of such would deny them justice. Six of the Supreme Court justices concurred with the Opinion "with Justice Ruth Bader Ginsberg joining in with "most of it."⁸¹ The message the court sent to the Corps was an all but unanimous ruling offering one highly significant comfort to the citizens of the United States: that being "justice" based on reality, not obscure and confusing legal language, remains, at least in this matter, a cherished social value.

Perhaps the final comment made by Chief Justice Roberts is the most telling,

Finally, the Corps emphasizes that seeking review in an enforcement action or at the end of the permitting process would be the only available avenues for obtaining review "[i]f the Corps had never adopted its practice of issuing standalone jurisdictional determinations upon request. True enough. But such a "count your blessings" argument is not an adequate rejoinder to the assertion of a right to judicial review under the APA.⁸²

Clearly it is the EPA's duty to protect our waters under the Clean Water Act and the first question that must be answered is the jurisdictional question, how far does the EPA's jurisdiction go? The EPA has all legal rights to

⁸¹ Brent Kendall. *The Wall Street Journal*. May 31, 2016.

⁸² Opinion. 10.

propose their jurisdictional boundaries and the public has an equal right to dispute the proposal in our courts of law.

Of course all reasonably thinking citizens would applaud any agency or person trying to protect our national water quality. However, using illegal tactics such as the EPA has been declared guilty of by the Government Accounting Office to promulgate any rule without following the due process of law, proves the EPA's intent was much more than mere protection of our water; it was a pronounced effort at "due process" social control using water as a weapon. There are countless other examples of the disputes between the central government and its member states in the United States over water policy. Most scholars of water policy are in general agreement that the US EPA is the agency that most affects state sovereignty over water. Many lawsuits are pending in the United States currently that may someday better define the limits and boundaries of water policy jurisdiction. Unfortunately, it seems to me from decades of scholarly observation that only the courts will offer remedy and relief in this debate as the United States Congress simply fails to exercise their rightful guidance. Congressional hearing after congressional hearing on water issues seem only to offer a forum for complaints, responses to public opinion, and politics, resulting in little if any workable legislative

guidance. The debate over the boundaries between state and federal government jurisdiction in water issues, arguments over the issue of sovereignty, will continue for years to come. It is clear that at least half of the states in the United States are standing ready to meet the federal government in the courts to “draw the lines on the map” of sovereignty.

Cases completed by judgments in the United States Federal Courts indicate the activity of the US in exerting their supra-legal authority over its member states in the “Environmental” category. Water disputes are placed into the Environmental category. I chose only the civil cases as this study only involves civil policy matters not criminal matters.

US federal cases resulting in judgment (civil) involving federal environmental laws.					
	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Environment (Total US)	277	183	186	151	143
Environment (Texas only est.)	26	15	13	10	7

Figure 1. US Federal Court Judgments Rendered Concerning the Environment 2010-2014

Figure 1 above shows 71 estimated Texas environmental cases over this 5 year period that resulted in a judgment.⁸³ Texas

⁸³ From “United States Attorneys’ Statistical Reports 2010, 2011, 2012, 2013, 2014”. <https://www.justice.gov/usao/resources/annual-statistical-reports> . Accessed May 5, 2016. The US Attorneys’

is, disproportionately when compared to the 50 states of the United States, either the plaintiff or defendant in civil lawsuits in the federal courts; if the distribution was equal across the United States, Texas' share would only be 2% per year. However, due to Texas' size, population, and the nature of one of its major businesses, that of oil and gas exploration, refining, and chemical refining along the Gulf Coast, it is somewhat understandable Texas would be more involved in federal environmental judgments. For the purposes of this study, in comparison to Spain and its relationship with the EU courts and EU enforcement of its *supra-legal* authority, it does indicate Texas has almost 2.5 times (71 in the case of Texas, 29 in Spain⁸⁴) as many civil judgments stemming from federal lawsuits than Spain does from their relationship to the EU Court of Justice. The *supra-legal* authority of the federal government in the United States has been in place since 1788 upon ratification of the U.S. Constitution and in Texas since 1845 when Texas first joined the union. This *supra-legal* authority was disputed to one degree or another, even to the point of a terrible civil

reports do not separate Environmental judgments by state, only by total nationwide in all federal courts. Therefore, I estimated the amount of Environmental judgments in Texas by taking the percentage of all Texas civil cases that resulted in a judgment of total civil cases that resulted in a judgment nationwide. The percentages calculated for Texas were 2010 9.6%, 2011 8.1%, 2012 7.1%, 2013 6.5%, 2014 4.9%.

⁸⁴ See Figure 2 in this study.

war between 1861 and 1865, continuously since 1788 and likely will continue for many years to come. The laws involving these judgments are not "directives" such as in the EU, but laws with huge dollar enforcement penalties and damages. The EU is a much younger central government. It will be interesting to see if over a similar 220 year period to the United States, if the EU will gradually claim increasing *supra-legal* authority as the United States has.

The Supra-Legal Debate in Spain - Environmental Law and the European Union

The European Union came into existence from a series of international treaties beginning in 1957 with the Treaty Establishing the European Economic Community that formed the first pillar of the community, that of economic integration. In 1987 the Single European Act was ratified in 1987, the Maastricht Treaty or "Treaty on the European Union" was ratified in 1993 followed by other subsequent treaties and agreements. The Maastricht treaty established the second and third pillars of the community of common foreign and security policy and enforcement and cooperation in criminal matters.⁸⁵ These treaties are examples of "diplomatic" social control through which "due process" social control mechanisms were created.

⁸⁵ Louka. 40.

Legal scholar Molly Hall characterized the European Union (EU) as "a supranational, treaty-based organization consisting of four central institutions: the European Commission, the European Parliament, the European Council of Ministers, and the ECJ [European Court of Justice]."⁸⁶ Ms. Hall opined:

Up until the last eight years [1999-2007], Europeans had issued a great deal of environmental legislation, but had balked at thorough-going enforcement of those laws. Since 1998 however, the EU has taken three significant steps that signal a willingness to enforce EU environmental laws: judicial enforcement with the threat of sanctions; central coordination of inspections and monitoring; and new legislation on public access to environmental information.⁸⁷

The Court of Justice of the European Union is the supreme legal body of the EU and has jurisdiction to:

- Review the legality of institutional actions of the EU;
- Ensure that EU member states comply with their obligations under EU law; and,
- Interpret EU law at the request of national courts and tribunals.

According to the Court of Justice of the European Union:

The primary task of the Court of Justice as the legal order of the European Union is to examine the legality of European measures and ensure the uniform

⁸⁶ Molly Elizabeth Hall. "Environmental Law in the European Union: A New Approach to Enforcement". *Tulane Environmental Law Journal*. Summer, 2007, 20 Tul. Env'tl. L.J. 278.

⁸⁷ *Ibid.*

interpretation and application of European Union law... The Court of Justice is composed of 28 Judges and 9 Advocates General. The Judges and Advocates General are appointed by common accord by the Governments of the Member States after consultation of a panel responsible for giving an opinion on the suitability of candidates to perform the duties in question. They are appointed for a renewable term of six years. They are chosen from among lawyers whose independence is beyond doubt and who possess the qualifications required for appointment, in their respective countries, to the highest judicial offices, or who are of recognised competence.⁸⁸

Over the years, the Court of Justice through its case-law has established itself as the *supra-legal* authority over member states in areas of jurisdiction that the member states have agreed to by treaty ratification.⁸⁹ The Court of Justice puts their relationship with the courts of EU member clearly,

The Court of Justice also works in conjunction with the national courts, which are the ordinary courts applying EU law. Any national court or tribunal which is called upon to decide a dispute involving EU law may, and sometimes must, submit questions to the Court of Justice for a preliminary ruling. The Court must then give its interpretation or review the legality of a rule of EU law.⁹⁰

⁸⁸ Court of Justice of the European Union. December 2010 edition.
http://curia.europa.eu/jcms/upload/docs/application/pdf/2012-05/cjue_en.pdf

⁸⁹ The terms of all the treaties creating the Court of Justice's authority along with the details of all the laws agreed to and ratified by member states is outside of the scope of this study. Spain voted strong support to the treaties in effect now including the treaties giving the EU a strong claim to authority over Spanish water mostly in through the EU environmental laws. The assumption in this study is that there is no debate that Spain agreed to the general terms of the EU environmental laws. However, the extent of the interpretation and enforcement of those EU environmental laws are in question exactly as the extent of the environmental laws promulgated by the United States Congress is debated in the courts by individual states like Texas.

⁹⁰ Ibid.

EU environmental law is binding and “serves as an overlay to Spanish domestic law.”⁹¹ Albert C. Lin, providing the basics of the water relationship between Spain and the EU, emphasizes,

Binding EU law consists primarily of regulations and directives. EU regulations have binding legal force as soon as they are passed. EU directives, in contrast, require a member state to accomplish specified results but allow the state discretion regarding how to do so. Numerous EU directives govern environmental matters...⁹²

In 2014, 622 new cases were introduced in the Court of Justice, 719 cases were completed, and 787 cases were pending.⁹³ The category in which the Court of Justice’s water authority exists is designated as the “Environment.” One hundred thirty-six (136) judgments were issued by the Court of Justice involving EU environmental laws from 2010 – 2014 as shown in the figure below:⁹⁴

⁹¹ Albert C. Lin. “Fracking and Federalism: A Comparative Approach to Reconciling National and Subnational Interests in the United States and Spain.” *Environmental Law*. Fall, 2014. 44 *Envtl. L.* 1045.

⁹² *Ibid.*

⁹³ Court of Justice. Luxembourg, January 1, 2015. “COURT OF JUSTICE OF THE EUROPEAN UNION ANNUAL REPORT 2014 Synopsis of the work of the Court of Justice, the General Court and the Civil Service Tribunal”. Luxembourg, 2015. www.curia.europa.eu .

⁹⁴ *Ibid.* 101.

Cases completed by judgments, by opinions or by orders involving a judicial determination — Subject matter of the action (2010–14)					
	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
Environment	9	35	27	35	30

Figure 2. Court of Justice Judgments Rendered Concerning the Environment 2010–2014

From 2010 through 2014, the Court of Justice issued a total of 29 judgments (net of dismissals) against Spain “concerning failure of a Member State to fulfill its obligations.” Of the 29 overall judgments against Spain, 12 were in the “Environment” category or 8.82% of the total.⁹⁵ However, the bulk of the environmental judgments against Spain involved “minor” issues such as one as minor as excessive emissions from boilers in buildings or others in the form of “warnings.”

For example, in Case C-343/10 European Commission v. Kingdom of Spain, the European Commission claimed Spain failed to meet its obligations under this directive: “Failure of a Member State to fulfill obligations - Directive 91/271/EEC-Pollution and nuisances-Treatment of urban water-Articles 3 and 4 (2011/C 179/08).” The Plaintiff claimed Spain failed to “ensure that urban waste water from the

⁹⁵ InfoCuria - Case-law of the Court of Justice, List of results. <http://curia.europa.eu/juris/documents> . Number of Environment category cases was determined by the author’s own count after examining all the cases listed.

agglomerations with a population equivalent of more than 15,000 is collected in conformity with Article 3 and 4. The complaint listed 48 "municipalities" by name. Judgment was rendered in favor of the European Commission on April 14, 2011. The only orders were "...the Kingdom of Spain to pay the costs" which are the court costs and legal fees. No penalty for damages to the Plaintiff was assessed. There was little detail available publicly and it appears the judgment was a warning acknowledging Spain's need to bring the waste water treatment in these areas in compliance with the European Union laws.⁹⁶

The environmental laws of the EU are relatively young, dynamic, and still being processed through the national courts and the Court of Justice in the typical search for the elusive water policy comfort of "consistency and predictability." The judgments against Spain are classified as judgments but do not represent any indication of irresponsibility or deliberate disobedience to EU environmental laws, merely matters of legal clarification and expressions of accountability to new laws promulgated by a relatively new central government. Another mitigating factor may be the success rate of the European Court of Justice in

⁹⁶ *Ibid.*

litigation against member states. According to New York Times reporter Steven Erlanger on Britain's loss of 75% of the 131 cases brought against it in the European Court of Justice,

True, at least in part. But the European Commission for example, brings only cases it thinks it can win. And 91 of the cases were brought by the commission because of Britain's failure to put in effect European law, as it is obligated to do.⁹⁷

What must be kept in mind in thinking about the *supra-legal* authority of the EU over its member states is that the member states voluntarily chose to join and comply with the laws and directives.

How then does the implementation of *supra-legal* authority by central governments over member sovereign states' public water policies control the three pillars of society in that nation? Central governments control the three pillars of society by using "due process" social control. "Due process" social control exists and is enforced by the due process that evolves from debate in constitutions as in the United States, in treaties as in the European Union where it is given birth by agreement between sovereign member states on "diplomatic" social control, in the development of laws enacted by the authorized legislative branches, by

⁹⁷ Steven Erlanger. "Money, Jobs and Sovereignty: Myth vs. Reality Ahead of 'Brexit' Vote." *New York Times*, June 7, 2016.

regulatory agencies' promulgation of rules to enforce the laws, and by the courts' interpretations of the laws and rules. Water policy emerges from the constitutions, treaties, laws, regulations, and court decisions and can dramatically impact the three pillars of society. Without reliable water sources and fair and workable water public policies that are accepted and adhered to by the public, any economy cannot grow or frankly, even survive. Without environmentally sustainable and protected water sources no society can thrive or even survive if the extraction, use, or discharge is not at all times cognizant of the consequences to society's environment. Without fair and workable water public policies that are accepted and adhered to by the public *voluntarily*, human relationships rapidly deteriorate into chaos.

The choices made by sovereign state governments to allow a central government to have *supra-legal* authority was indeed a free choice in Spain and Texas. Spain overwhelmingly agreed to join the EU; Texas frankly, did the same in 1845 having all but begged to join the United States in 1837 but was rejected because it would enter as a "slave state." But is it possible for central governments to share authority with their member states over water?

Yes, through “diplomatic” and/or “due process” social control. The current debate in Great Britain about leaving the EU commonly known as “Brexit” has produced a significant treatise by University of Cambridge Public Law Professor Mark Elliott. According to Elliott, Parliament [the Parliament of the United Kingdom] can be sovereign yet European Law can also be supreme. Elliott describes the fundamental principle of British constitutional law is that the law of Parliament is *sovereign*. He opines, “Yet the supremacy of European Union law - meaning it takes priority over conflicting laws enacted by Individual Member States - is a basic principle of the EU’s legal system.” Elliott refers to section 18 of the European Union Act of 2011 in which it is stipulated that “... EU law has effect in the UK only because Parliament, by enacting the 1972 Act [the European Communities Act of 1972], has allowed it to.”⁹⁸

It is my opinion that Parliament agreed to “diplomatic” social control by ratifying their relationship with the EU and then set up “due process” social control parameters that are dynamic and “living.”

⁹⁸ Elliott, Mark. “If European Union Law is supreme, can Parliament be sovereign?” Public Law for Everyone blog. <http://publiclawforeveryone.com/2016/02/21/1000-words-if-european-union-is-supreme-can-parliament-be-sovereign/> . Accessed 04/03/2016.

Elliott discusses several key cases in English law that tried to face the issue of sovereignty and arrived at the conclusion that it depends on interpretation by the courts. His ultimate answer is yes, Parliament can maintain sovereignty and still allow certain EU laws to have *supra-legal* authority over some laws in the United Kingdom. The distinction is what I would call a "boundary" issue between domestic law and international law. Jurisdiction must be specific and explicit and worked out following the "due process" of both Parliament and the EU, both of which United Kingdom authorized representatives have the choice of decision.⁹⁹

Similarly in the United States, Texans authorize members of the House of Representatives and two senators to represent their political will in the United States Congress. Elliott sums up astutely the manner in which it can be applied in the United States as well,

The upshot is that, for as long as the UK remains a Member State of the EU, parliamentary sovereignty still *exists*, but it is unlawful- as a matter of EU and international law- for sovereignty to be *exercised* in ways that are incompatible with EU law.

As long as Texas is a member of the United States, Texas sovereignty exists but Texas cannot exercise its sovereignty

⁹⁹ Ibid.

in ways that are incompatible with federal law. That is precisely why we have a system of government in the United States that has "checks and balances" or three branches of government that hold veto or other power over the decisions and actions of the other branches. In fact, this is the key to the long term life of the United States as an ongoing concern. As long as social control is exercised following "due process" then the best possible chance is given to survival of both member states and central governments. Central governments and member states governments then share the duty and responsibility of maintaining, protecting, and respecting the three pillars of society for all because they **freely chose** to create the governments following "due process" in whatever unique terms chosen. Water as the most basic ingredient of life can be protected by member states and by the central government. Water policies and laws can and do set out jurisdictions for control and the boundaries of these jurisdictions are determined in great tension. It has been accepted in the United States for over two centuries that a dispute between two or more member states only court of jurisdiction is the federal courts with the ultimate jurisdiction being the United States Supreme Court. This is not necessarily so for disputes over local government issues in a state like Texas. Certainly there can be a federal law

that supersedes local law such as the various United States Civil Rights Acts for example, but the use of these laws in local matters are under constant debate in the courts, again following due process.

My first hypothesis, that the three pillars of society can be controlled by the *supra-legal* authority of central governments over member sovereign states' public water policies proves true without doubt. Central governments are given authority by the people and in the case of Texas in the United States and Spain in the European Union, free choices were made to honor laws and regulations set by the central governments. There will be a continuing debate over the extent of EU authority over its member states, but "diplomatic" social control as a result of treaty negotiations and ratification set up "due process" social control. Likewise there will be continuing highly controversial debate over the extent of the United States authority over its member states, but the over 200 year old US Constitution sets out through checks and balances the limits of federal authority and offers the US citizenry a path to modify and revise at all times under "due process" social control.

**A Local Central Texas Example of "Due Process"
Social Control That Worked**

In 2014, a hotly debated central Texas controversy over groundwater transfer occurred resulting in a fine example of "due process" social control honoring the processes set out in the U.S. Constitution and the Texas Constitution. As heretofore mentioned, groundwater in Texas is owned by the surface landowner and as such is allowed to be sold, leased, or otherwise disposed of outside the transfer of overall title to the land. Water rights can also be permanently severed from the land in a separate transaction in Texas and has been done since the mid-1700s.

A private water marketing company, Electro Purification negotiated a contract to provide water to the City of Buda and other water users sourced from groundwater in the vicinity of the city of Wimberley, Texas located thirty miles or so south of Austin, Texas. The company negotiated leases and sales of water rights from a handful of local ranchers in the area. An odd quirk was discovered and/or claimed by the company in the groundwater regulatory jurisdiction for the aquifer that would become the source for the contracts. The public around Wimberley generally thought that their groundwater, mostly drawn from the Trinity Aquifer, was regulated by either the Edwards Aquifer Authority (EAA) or

the Barton Springs Edwards Aquifer Conservation District (BSEACD). It was discovered and/or claimed that the EAA had no jurisdiction over the groundwater in the Trinity Aquifer. It appeared likely that the BSEACD had no legal jurisdiction over the Trinity Aquifer either, creating a "hole" in regulations.

When the Wimberley public discovered that Electro Purification did not have to acquire a permit from either the EAA or BSEACD, they became understandably alarmed. Since the Trinity Aquifer was shared by everyone in the area in a "common pool" the citizens of Wimberley were alarmed that Electro Purification would drain an unlimited amount of groundwater no matter the consequence to the other landowners' groundwater under the concept of the "rule of capture."¹⁰⁰ The rule of capture had been in place and

¹⁰⁰ The roots of the "rule of capture" are found in the ancient idea that the ownership of wild game could not be claimed until possession was actually taken. "The rule of capture" is one of the most confusing and for some, most reviled concepts in Texas water law today.

The "rule of capture" as it pertains to groundwater states that a land owner who drills water wells on his or her land can pump all the water from underground that can be "captured" without any liability for damage to any neighboring property owner. If the land owner does not waste the water from the well, dig the water well to intentionally harm a neighbor, or cause subsidence, even if the neighbor's water well dries up completely as a result, the neighbor has no claim for compensation or damages against the land owner.

The "rule of capture" does not recognize correlative rights between landowners in pumping groundwater, and the Texas courts have consistently upheld this rule for over a hundred years. See *W.A. East v. the Houston and Central Texas Railway*, 1904. Also see Charles Porter, "***The History of W.A. East v. Houston and Texas Central Railway Company, 1904: Establishment of the Rule of Capture in Texas Water Law or 'He Who Has the Biggest Pump Gets the Water'***" in the 50th Anniversary Issue of the *East Texas Historical Journal*, Fall, 2012. This article won the **Chamberlain Award** for the best journal article of 2012.

confirmed as legitimate time and again by the courts for over one hundred years in Texas. Commonly known as "he who has the biggest pump gets the water," the rule of capture allowed any landowner to pump all the groundwater they wanted, even if they drained their neighbors' groundwater to the extent that the neighbors' wells dried up. The only restrictions to the rule of capture are:

1. No one can maliciously take groundwater from a neighbor;
2. No one can waste groundwater;
3. No one can cause land subsidence¹⁰¹ when taking groundwater; and,
4. If the surface land is within the jurisdictional boundaries of a groundwater conservation district or other authorized groundwater regulatory district, then the districts have the right to regulate the spacing of groundwater wells, the amounts drawn from the groundwater pool, and allocate the amount of groundwater transferred outside the district, all through a public hearing process.

¹⁰¹ "Subsidence" means the lowering in elevation of the land surface caused by withdrawal of groundwater. See Texas WATER CODE, TITLE 2. WATER ADMINISTRATION, SUBTITLE E. GROUNDWATER MANAGEMENT, CHAPTER 36. GROUNDWATER CONSERVATION DISTRICTS, SUBCHAPTER A. GENERAL PROVISIONS, Sec. 36.001. DEFINITIONS.

If the Trinity Aquifer was truly outside the jurisdiction of any regulatory agency, then Electro Purification could take any amount of water and sell it or lease it to anyone they wanted without liability to any other landowner sharing the aquifer water.

The people of Wimberley gathered together in “due process,” formed groups, filed a lawsuit, and sponsored a bill in the 84th Session of the Texas Legislature to correct the regulatory oversight. Dr. Patrick Cox, a well-known civic leader and historian, led the group from Wimberley in the legislative process that resulted in the enactment of House Bill 3405¹⁰², subsequently correcting the oversight in the regulation of the Trinity Aquifer in the area.¹⁰³ The bill as passed modified the jurisdiction of the BSEACD to include the Trinity Aquifer.

The emotions ran strongly on all sides. The citizens of the Wimberley area had every right to be worried about their groundwater being shipped elsewhere; their land values and way of life depended upon the use of the groundwater. Yet

¹⁰² See the entire bill’s history and final passed language at <http://www.capitol.state.tx.us/BillLookup/History.aspx?LegSess=84R&Bill=HB3405>

¹⁰³ See the online journal *Policy: Water, Government, and the People*. <https://texaswaterpolicy.org/2015/02/> - Patrick Cox, Ph.D. “Our Water and the Threat to the Heart of Our Existence”. February 3, 2015. Dr. Cox artfully describes the Wimberley issues over transfer of groundwater.

instead of using "deceptive" or "destructive" social control tactics, they used the constitutional due process to protect their rights. The actions of the Wimberley citizens in the dispute followed due process, not without controversy and angst, but the system worked. Whether or not Electro Purification will gain an adequate permit to transfer the water they leased or bought from other ranchers in the area is still unknown, but the due process system of government worked. The lawsuits were dropped and the permit process has begun. This is the finest and most recent example of "due process" social control in public water policy formation.

"Due process" social control takes time however, sometimes so much time that the potential threat or issue dissipates. Water transfers out of district as proposed in the Wimberley area are prime examples of proposed transactions that are known as "time is of the essence."¹⁰⁴ The time of due process in the United States and around the globe is a critical factor in workable public water policies. When the process is not "timely" then justice can be denied to all parties involved. Cities usually cannot wait from

¹⁰⁴ "Time of the essence means that the performance by one party to the contract at a specified location, date and time is required for the performance by the other party to the contract, and a failure to perform by the time specified will be a breach of the contract. This clause requires that all references to specific dates and times of day noted in the contract should be interpreted exactly in the same manner. Generally, the date set forth in a contract for closing of title is an estimated date and may often be delayed by either party without penalty. Time of the essence clauses can work to the advantage as well as disadvantage of both the parties." From <http://definitions.uslegal.com/t/time-of-the-essence-clause/>.

years of due process to slake their thirst for immediate water, especially in droughty regions such as Texas and Spain.

Chapter Five

"Due Process" Social Control: Timeliness of Jurisprudence and the Fair Market Valuation in Water

The world's water problems are due to bad governance not physical scarcity.

*M. Ramón Llamas et al.*¹⁰⁵

My second hypothesis is that the three pillars of society can be controlled by the length of time it takes courts to resolve conflicts in public water policy. How does the lack of timely court rulings on public water policy conflicts change and control the three pillars of a society?

The two most significant challenges in the jurisprudence process of water policy in both Texas and Spain are the timeliness of the adjudication process and the credible determination of the fair market value of water. An integral part of the bad governance mentioned in the highlighted quote from Llamas is a water jurisprudence system that does not

¹⁰⁵ Lucia De Stefano and M. Ramón Llamas, ed. *Water, Agriculture and the Environment in Spain: can we square the circle?* London, Taylor & Francis Group, 2013. 1.

deliver timely rulings in civil and administrative court cases. Another inextricably linked part of water governance is an acceptable method to determine the market value of the water in dispute. The market value of water is heavily influenced by the adjudication process of regulations and judicial oversight in the courts. For example, the permit regulations and the permitting process for use of water controls much of the end fair market value of water. In much the same manner, the adjudication process and judicial oversight is heavily influenced by the end market value of water. The market value of water influences the legislative process of water laws and the regulatory agency permit processes since the incentive of the citizenry to pursue changes in water policy through administrative or court hearings is based on the financial risk and reward of the outcome of the judicial process. Since one of the three pillars of any society is its economy, that society must agree on a formula to find the fair market value of water in the courts in consideration of damages owed by an offending party, in taxation, and in real property valuation.

“Justice delayed is justice denied.” The origin of this well-known phrase is attributed to William Gladstone, a famous British statesman who served as Prime Minister four

times from 1868 to 1894.¹⁰⁶ Years later Dr. Martin Luther King, while incarcerated in a Birmingham, Alabama jail, revised the phrase slightly when he wrote to a fellow clergyman on April 16, 1963 that "Justice delayed too long is justice denied."¹⁰⁷ This phrase absolutely applies to public water policymaking, adjudication, and enforcement. Water when needed is needed all but immediately and any judicial determinations or regulatory permitting processes that are not rendered in a timely manner deny "justice"¹⁰⁸ for everyone involved including all members of any society.

From my service on the water committees of the Texas Water Conservation Association, arguably the most powerful water policy group in Texas, my long time membership on other infrastructure committees at the Texas Association of Realtors, and my membership in the Texas Alliance of Groundwater Districts, the only trade association for this regulatory group, the unanimous consensus of all the members and trade associations is that the jurisprudence of water permitting in Texas is much too slow, expensive, and is

¹⁰⁶ For a wonderfully in depth study of Gladstone see Ruth Clayton Windscheffel. Roger Swift. Roland Quinault eds. *William Gladstone: New Studies and Perspectives*. Farnham, U.K.. Ashgate Publishing, 2012.

¹⁰⁷ For the complete text of the letter posted by the African Studies Center of the University of Pennsylvania, please see http://www.africa.upenn.edu/Articles_Gen/Letter_Birmingham.html .

¹⁰⁸ "The quality of being fair and reasonable." Public water policy across the entire spectrum must be above all else fair and reasonable.

detrimental to fair water policy for the state. Spain sets a long time example of timely jurisprudence in water disputes.

The Timeliness of the Jurisprudence of Water in Spain

Spain has a centuries-long history of recognition of the consequences of “justice delayed” best demonstrated by the Tribunal de las Aguas de las Vega de Valencia, or Water Tribunal of the Valencia Plain¹⁰⁹ or Tribunal of Waters at the Gate of the Apostles of the Cathedral of Valencia¹¹⁰ which has been adjudicating irrigation disputes since, some experts say, from the 8th century.¹¹¹ Today the jurisdiction of the Tribunal covers an area of roughly 17,000 hectares¹¹² home to 8 *acequia madres*¹¹³ absolutely critical to the agricultural economy of the traditionally dry region.¹¹⁴ According to Julia Hudson-Richards and Cynthia Gonzales discussing the area,

We see a long tradition of agricultural growth, and extended history of market-oriented agriculture, and,

¹⁰⁹ Julia A. Hudson-Richards and Cynthia A. Gonzales. “Water as a Collective Responsibility: The Tribunal de las Aguas and the Valencian Community.” *Bulletin for Spanish and Portuguese Historical Studies, Journal of the Association for the Spanish and Portuguese Historical Studies*, 2013. Vol 38: Iss. 1, Article 6. 95.

¹¹⁰ Thomas Glick “Irrigation and Society in Medieval Valencia”, Cambridge, Mass. The Belknap Press of Harvard University, 1970. 65.

¹¹¹ Julia A. Hudson-Richards and Cynthia A. Gonzales. 98.

¹¹² A “hectare” equals 2.47 acres, hence 17,000 hectares equals approximately 42,000 acres or almost 66 square miles.

¹¹³ An *acequia* is an irrigation canal; an *acequia madre* is the main canal or “mother canal” from which many lateral or smaller canals spring.

¹¹⁴ Julia A. Hudson-Richards and Cynthia A. Gonzales. 100. See also Thomas Glick “Irrigation and Society in Medieval Valencia”, Cambridge, Mass. The Belknap Press of Harvard University, 1970.

perhaps, most importantly, a history of people concerned about and involved with the success of these systems.¹¹⁵

Spain served as a key granary for the Roman Empire making the agricultural tradition of the area one of the longest in history. The irrigation systems may be over 3,000 years old. Glick observes that in Valencia and Castellón water and land were inseparable and water rights could not be severed from the land and sold on the open market, as opposed to Alicante, Elche, and other southern *huertas*¹¹⁶ where water rights could be sold apart after severance from the land much like in early Villa San Fernando (today's San Antonio, Texas).¹¹⁷ In the extensive research I conducted for my book *Spanish Water/Anglo Water*, the earliest original deed trading water rights by severing those rights from the land along the San Antonio River occurred on March 23, 1782 in a transaction between Juan Montes and Juachin Flores; a later transaction was made on August 9, 1800 in which Antonio Armas sold of three hours of his water rights to Francisco Amangual and the land corresponding to that right to José Bustillos.¹¹⁸

¹¹⁵ Julia A. Hudson-Richards and Cynthia A. Gonzales. 100.

¹¹⁶ Garden, orchard, or produce farm.

¹¹⁷ Glick 1970. 12-13.

¹¹⁸ Porter. *Spanish Water/Anglo Water*. 64-65.

The differences between water rights under Spanish law was as much based upon customary laws (those unique to certain areas) as they were overall Spanish law. In another treatise written by Glick he suggests,

The stipulations of the *Recopilación* had little practical effect; therefore to tediously argue their meaning is a waste of time. The actual rules and norms governing the structure of irrigation rights can only be determined by the systematic study of actual titles and other documents, such as records of litigation, which can provide information of how water was apportioned in reality... Irrigation rights were controlled by a constantly evolving process which sought to adjust the supply of water to demand, both of which could change over time.¹¹⁹

One of the geniuses of the Spanish system of law was the trust the Crown placed in competent local officials who are, according to Glick, "...assigned in the promotion of stability within the system."¹²⁰ Charles R. Cutter, Professor at Purdue University, agreed with Glick in his discussion of *derecho indiano*,¹²¹

Judicial [Spanish Colonial] administration is still depicted as ponderous, tyrannical, arbitrary, and corrupt. Clearly, many scholars have failed to appreciate the essential qualities of *derecho indiano*. A

¹¹⁹ Thomas Glick. "Irrigation Rights and the Limits of Civil Law in the Spanish Legal Tradition (with Reference to the Southwestern United States)". III Conference on water law and administration. December, 1989. 5.

¹²⁰ Ibid.

¹²¹ Charles R. Cutter. "Community and the Law in Northern New Spain". *the Americas*. Journal of the Academy of American Franciscan History. Vol. 4, April 1994. 467-480. "derecho" according to Cutter has no "... exact English equivalent for the Castilian word, though the word 'justice' might come close." See 468 and fn2 468.

more careful scrutiny of the historical record reveals an intricate legal system that proved to be adaptable to the peculiar needs of the diverse regions of the empire. Local modification of Hispanic law - *derecho vulgar* - was an important element of this flexibility and constituted a legitimate expression of local self-government.¹²²

It is my understanding over the past twenty years of intensive study of the Spanish Colonial system in the New World that the Crown in Madrid recognized the uniqueness of each situation across the sea and not only allowed flexibility in order to "stabilize and defend" his holdings but encouraged such flexibility.

Along these lines, even more interesting and supportive of my opinion of the genius of Spanish Colonial legal doctrine, ***which must be remembered to have absolutely been in place in a similar manner in peninsular Spain at least since the mid-16th century and highly applicable or even possibly influenced by the success of the Tribunal de las Aguas,*** Cutter goes on to argue,

Known as *arbitrio judicial*, or judicial will, this feature of the system figures as the key to the flexibility of Spanish Colonial legal administration... Largely misinterpreted as mere whimsy or capriciousness, *arbitrio judicial* allowed Spanish law to be much more than the mechanical application of judicial prescriptions. Through this device, law became a living, organic entity that the local population might mold to meet situations peculiar to the region. This mechanism, as well as others, empowered Spanish subjects to modify

¹²² Cutter. 467.

legislation that they deemed to be unreasonable, unjust, or harmful to the community. Locals often played a significant role in shaping the legal culture of a particular region.¹²³

It seems to me that the lessons learned by hundreds of years of exposure to Roman, Moorish, and Iberian water regulations and practices have allowed Spain to “set the industry standard” so to speak for water law, management, and policy.

The Tribunal de las Aguas is best described in American terms as an *alternate dispute resolution* process, has dispensed justice in its region likely for over a thousand years and was designed and operated to be sure, due to the vital nature of the immediate need for water to protect fragile agricultural produce, that its process could never be accused of delaying justice. Justice is the overriding goal of the Spanish legal system now and for over 500 years.

Each week on Thursday at 11:00 am, a Tribunal hearing takes place which is “without doubt, the oldest existing justice institution in Europe.”¹²⁴ The proceedings are totally verbal, no documentation is offered by the parties to the dispute or by the Tribunal. The Tribunal’s proceedings are **not confidential**, which is a major distinction between the Tribunal hearings and America’s most used form of alternate

¹²³ Cutter. 470.

¹²⁴ See <http://www.tribunaldelasaguas.org/en/> for a fascinating outline of this incredible legal icon.

dispute resolution, mediation.¹²⁵ In the United States there are generally three forms of alternative dispute resolution, alternatives to normal court litigation. These processes are ombudsmanship, mediation, and arbitration.

Mediation has become a required process for each civil lawsuit in Texas (and is required in most other states in the United States) prior to going to trial. Every filed and served civil law suit must go to mediation at least once with a report given to the court by the mediator. The mediator is certified by training so as to be appointed by the court or agreed upon by the parties.¹²⁶ The mediator's goal is to create a safe and neutral environment for the disputing parties to try to settle their dispute. The mediation process is a "laddered" process beginning with information gathering, followed by problem identification, option generation, bargaining and negotiation, reality testing, and if the parties have come to agreement, settlement writing. Mediation settlements are enforceable by the courts. The mediator is only a **facilitator** - the parties to the dispute determine with the mediator's assistance and support what the problem is, what the options for settlement are, and the

¹²⁵ Charles Porter. "Mediate, Arbitrate, Litigate". Texas Real Estate Commission Continuing Education Course # 04-00-081-8335, 4 hour Student Manual. 3.

¹²⁶ I have been a certified mediator for over 24 years and mediate on a pro bono basis. I also have a special certification in family law.

final settlement agreement. The mediation process is somewhat similar to the Tribunal process as the sessions are **officially** only verbal proceedings, while supporting documentation may be brought to the mediation, it is not distributed to the parties beforehand (this is being modified in some cases), and whatever notes or other writings are destroyed after the mediation session ends. Only a very brief report is filed with the court. Of course, the settlement agreement makes mediation quite different than the Tribunal process.

The most significant difference between mediation and the Tribunal process is that the parties "own" their decision; any decision is at the parties' sole discretion. The Tribunal makes a judgment and decides the dispute after hearing the testimony of the parties. In that regard, the Tribunal is most similar to the American alternate dispute resolution process of arbitration.

The arbitration process is used quite often in the United States and is a documented proceeding. There can be substantial documentation. I have been an expert witness in many arbitration hearings in the United States over real estate or construction disputes and often there is even more documentation for review than in fully litigated court cases. The parties relinquish another level of their ownership of

the outcome of the dispute as the arbiter or arbitration panel of arbiters rule and make a final decision on the outcome of the dispute. The parties, usually represented by attorneys, can however, choose from a limited list of special rules of the arbitration association giving some element of choice to the parties.

The American arbitration process is only similar to the Tribunal de las Aguas in the regard that it makes a decision that the parties have to abide by. However, the odd thing about the American arbitration system which greatly differs from the Tribunal de las Aguas is that some are agreed to be "non-binding" on the parties. All rulings by the Tribunal are binding to the parties. The parties in American arbitrations also have, in some cases, the right of appeal, a right not available to Tribunal disputants.

In the Tribunal de las Aguas process there are no records kept and there are no appeals. The parties take part in their own name, neither attorneys nor written documents may "be proposed" but the parties may call witnesses and can request a visual inspection germane to the dispute. From the Tribunal's website,

The President and members of the Court can ask the necessary questions for better information on the case and, without more proceeding and in the presence of the interested ones, the Court deliberates and sentences... The Court only recognizes and sentences if the denounced one is guilty or innocent. In this simple way, so

effective and respected by all the members of an agricultural community, the laborious Valencian people have solved their water problems from the most remote times. There are no lawyers, there are no documents, no long bureaucratic proceedings that delay what constitutes the most elementary of the human rights: **justice** [emphasis added].¹²⁷

Notice I emphasize the word "justice" as the Tribunal's most "elementary" work is of "justice." This goal is absolutely congruent with the time-honored tradition of Spanish law, justice for all. Another internationally respected scholar support my respect for Spanish laws' tradition of justice.

As mentioned earlier in this study, surface water was owned by the King of Spain held in trust for the people now and in ancient times. In his analysis of Spanish surface water law, the appropriative system of water right grants based on "first-in-time, first-in-right" priority during water shortage periods, Spanish Colonial water expert, the late Michael C. Meyer long time Director of the Latin American Center at the University of Arizona reasoned,

It [surface water law] had a more benevolent social purpose. It recognized that unbridled individual ambition would never produce a harmonious society and viewed justice not as a metaphysical abstraction but as an attainable goal. By enshrining the concept of normative restraint, it was clearly designed to check monopoly, limit the influence of irresponsible officials, protect the disadvantaged, and most importantly to **encourage equity** [emphasis added].¹²⁸

¹²⁷ See <http://www.tribunaldelasaguas.org/en/> .

¹²⁸ Michael C. Meyer. Water in the Hispanic Southwest. Tucson: The University of Arizona Press, 1984. 179.

Meyer's "holistic" view above of Spanish water law concurs with mine precisely; no one could state it better. Equity and justice must be in place and protected in order for any society to not only flourish but simply to survive in the long term. Now that we have reviewed briefly Spain's traditions in water law in the distant past, a look at modern water policy is necessary.

Spain's leaders in the past thirty years have struggled to establish a variety of reforms in traditional public water policy even to point of the radical decision to take groundwater ownership out of private landowner's hands and place it in the public domain.¹²⁹ The result of such a historically diametrically opposite revision of groundwater ownership¹³⁰ has been received by the Spanish citizenry in what could best be described as general "civil disobedience".¹³¹ According to Spanish water rights experts Fornés, de la Hera, Llinas, and Martínez-Santos:

The 1985 reforms of Spain's Water Law put groundwater under public ownership. While this posed an evident change in groundwater rights, the practical implications

¹²⁹ Juan Maria Fornés, África de la Hera, Ramón Llinas, Pedro Martínez-Santos. "Legal Aspects of Groundwater Ownership In Spain." *Water International*. Vol. 32, No. 4, December 2007: 676.

¹³⁰ Groundwater was owned by the surface landowner in Spain for centuries. See Charles Porter. *Sharing the Common Pool: Water Rights in the Everyday Lives of Texans*. College Station: Texas A & M University Press, 2014. 135. See also Michael C. Meyer. *Water in the Hispanic Southwest*, 178, 179. Refer to *Siete Partidas* (Seven-Part Code) *Partida 3, Título 28, Ley 1* (part 3, title 28, law 1).

¹³¹ Fornés et al. 682.

of the law have not been so significant. The 1985 Water Law did introduce significant changes for those wells drilled from 1986 onwards. However, these were only a very small share of the total. Therefore, the 1985 Water Law left things more or less as they were with regard to pre-existing wells, which are still the overwhelming majority (Moreu, 2002). This non-committed approach on the part of the legislator is sometimes interpreted as a way of escaping potential social and political unrest.¹³²

In response to its citizens concerns, the Spanish government appears to me to have entered into a bidding war against itself for several years.¹³³ Each new proposal relating to groundwater ownership in response to citizens' concerns resulted in continued failure of public acceptance in many regions.¹³⁴ Since many Spanish citizens seem to be generally ignoring the proposed reforms in groundwater ownership, it appears to me that Spain's groundwater policy is fragmented and inconsistent. Some Spanish legal experts recently escalated the debate by making constitutional arguments against the reforms.¹³⁵ One of the most important determinants of public water policy is the court system that interprets the law and enforces contracts between parties.

¹³² Ibid. 677.

¹³³ Ibid. 676-684. The authors discuss the diligent efforts of legislators to respond to the disobedience with yet another offer of management ideas each rejected and virtually ignored rarely enforced due to lack of funding. The authors declare the situation as "very discouraging" and deem "hydrological insubordination" as the Spanish citizenry's continued response to groundwater management and ownership reforms.

¹³⁴ Ibid.

¹³⁵ Fornés et al. 680.

These business contracts comprise the “steel reinforcing” inside one of the three pillars of society, the economy of any society. What have scholars who study Spain’s judicial system today determined as the judicial system relates to the economy and contract enforcement?

Spain is ranked in the top 20% of countries, 33rd from 2011-2015 up from 34th in 2006-2010, on the World Bank’s “Ease of Doing Business Index”, an ongoing index comparing 189 countries worldwide.¹³⁶ In the 2011-2015 period, the United States ranked 7th.¹³⁷ While Spain’s ease of doing business is very good, likely a strong reason the state of Texas has pursued Spanish companies to operate there, according to one scholar, the Spanish judicial system generates high levels of “dissatisfaction” in reference to contract enforcement.¹³⁸

Juan S. Mora-Sanguinetti of Banco de España-Eurosystem asserts,

This situation has not improved in the most recent years. In fact, since 2001 and for the specific case of executions of judgments, the average resolution rate of the first instance courts of Spain (taken as “Juzgados de Primera Instancia e Instrucción”) has fallen by more than 25%. At the same time, the congestion rate and the pendency cases rate of the same courts have increased by more than 33%. These facts are certainly disturbing once we take into account that the judicial system is an

¹³⁶ <http://data.worldbank.org/indicator/IC.BUS.EASE.XQ> .

¹³⁷ Ibid.

¹³⁸ Juan S. Mora-Sanguinetti. “A Characterization of the Judicial System in Spain: analysis with formalism indices”. *Economic Analysis Law Review*. EALR, V. 1, n° 2, p. 213-240, Jul-Dez, 2010.

essential instrument of contract enforcement in a developed economy and therefore an important determinant of competitiveness (see next section). At the same time, the Spanish system is costly, requires a high public expenditure (0.35% of GDP in Spain, 2003, 0.5% if we also include prisons) and employs an important number of public workers (57000) for whom an appropriate system of incentives and productivity is needed.¹³⁹

Mora-Sanguinetti concludes the Spanish Judicial system has slowed both by fewer cases reaching final resolution in the court of initial hearing and that the pending docket of these same courts has increased 33% since 2001. His thoughts, of course, echo the opinion of the civil court system of the general public in Spain and in Texas. The court process is too expensive, takes too long, and is a stumbling block to economic growth. How does Mora-Sanguinetti's statement compare to a similar comment made by a legal scholar in the United States? According to Bill Henderson, Professor of Law and Val Nolan Faculty Fellow of the Maurer School of Law at the University of Indiana, and Rachel Zahorsky,

Law touches on virtually every aspect of our [the United States] social, political and economic lives. As the world becomes more interconnected and complex, new legislation, regulation and treaties bind us all together in ways that promote safety, cooperation and prosperity. Not surprisingly, over the last 25 years data shows legal services constitute a slightly larger proportion of the nation's GDP-now nearly 2 percent-with no hint of decline.¹⁴⁰

¹³⁹ Ibid. 214.

¹⁴⁰ William D. Henderson and Rachel M. Zahorsky. "Paradigm Shift". American Bar Association Journal, July 2011. 41. From 2009-2014, Henderson served as the director of Indiana Law's Center on the Global Legal Profession. <http://www.law.indiana.edu/about/people/bio.php?name=henderson-william-d#profile-biography> .

The GDP in the United States in 2011 was 15.518 trillion dollars, hence the amount spent on legal fees at 2% was \$310.360 billion dollars. Assuming that Mora-Sanguinetti's .35% included all "legal services" as Henderson and Zahorsky loosely define it, it is obvious that although Mora-Sanguinetti feels Spain's public expenditures are "high" they are nowhere near (or can be interchanged in this case with "not nearly") as high as in the United States.

The Timeliness of Jurisprudence of Water in Texas

Texas jurisprudence of water issues is sadly so bifurcated and so confusing that most major cases take over a decade, or even longer, to be resolved. Two critical court cases took almost 20 years to come to any conclusion and both have left the water policy making community in Texas disappointed and still seeking answers.

Day vs. the Edward's Aquifer Authority - A Groundwater Case

Suffice it to say, most landowners and legal experts in Texas for many years considered groundwater underneath their land to be their property; a bill, SB332 passed easily by a large margin in both houses of the 82nd Texas Legislature in 2011 and for once and for all clarified in law that groundwater in Texas is owned by the surface landowner. Most Texans have also felt that any taking of that groundwater by

eminent domain or other regulatory action should be compensated. In the first sentence of the ruling in the case of *The Edwards Aquifer Authority and the State of Texas v. Burrell Day and Joel McDaniel*, Justice Nathan Hecht wrote,

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 1, section 17 (a) of the Texas Constitution. We hold that it does.¹⁴¹

The dispute in the case arose in 1996 when landowners Day and McDaniel requested a permit to draw 700 acre-feet of groundwater per year from the Edwards Aquifer, regulated by the then recently formed Edwards Aquifer Authority (EAA), and were granted only 14 acre-feet by the EAA.¹⁴² The issue eventually considered by the Texas Supreme Court was not about the EAA's authority; the court decided EAA's authority was clear, the EAA acted properly.¹⁴³ The landmark issue that the Texas Supreme Court considered was whether Day had a constitutionally protected interest in the groundwater

¹⁴¹ *The Edwards Aquifer Authority and the State of Texas, Petitioners, v. Burrell Day and Joel McDaniel Respondents* In the Supreme Court of Texas No. 08-904, page 1.

¹⁴² *Ibid.* 7.

¹⁴³ *Ibid.* 11.

beneath his property; they concluded that Day's interest was constitutionally protected.¹⁴⁴

The Day case made it clear that groundwater is owned by the surface landowner and that the ownership interest is constitutionally protected by the State of Texas. The next big question, which further litigation in the Day case will determine is this: How much groundwater regulation is too much? The preferred method of management of groundwater in Texas is by locally managed Groundwater Conservation Districts.¹⁴⁵ Since the EAA is a unique form of groundwater conservation district, every groundwater conservation district will watch the Day case closely as it progresses through the court system to determine their limitations in allocating their constituents' privately owned groundwater, especially in light of a significant entrepreneurial effort of those whose business goal is to "harvest, transport, and sell" groundwater to many of Texas' thirsty cities.

The Texas Supreme Court issued a long awaited opinion in the case *Day and McDaniel v. Edwards Aquifer Authority* on February 24, 2012.¹⁴⁶ Private landowners, groundwater

¹⁴⁴ Ibid 8.

¹⁴⁵ As confirmed over the last decade several times by the Texas Legislature. However, not all of Texas has chosen to be covered by a groundwater conservation district.

¹⁴⁶ *Edwards Aquifer Authority v. Day*, S.W. 3d, 2012.

conservation districts, cities, and many other stakeholders, including key trade associations, followed this case for years as it passed through the court system. The case scared many entities involved in the regulation of groundwater since the potential compensation award could prove unaffordable when applied to the thousands of permits and denied permits across the state. Many viewed the ruling as the ultimate determining factor in the affordability, possibly even the existence, of our current groundwater management systems. The unanimous decision of the Texas Supreme Court in this case consisted of two legally significant rulings. The first ruling was that landowners in Texas own the groundwater "in place" beneath their property, which clarified for once and all the ownership of groundwater in place by the surface landowner. (How one can absolutely prove the amount of groundwater in place is problematic since water is "fugitive" and moves around at will all the time.) The second ruling was that landowners may have a valid claim for just compensation from a government entity if the regulations and or regulatory ruling went too far in limiting groundwater withdrawals, which opened the door to further litigation about "how much groundwater regulation is too much." If the evidence proves the government entity went too far in their regulatory

efforts, those efforts could be a "taking" of the landowners' private property. Justice Nathan Hecht wrote in the opinion:

We decide in this case whether land ownership includes an interest in groundwater in place and cannot be taken for public use without adequate compensation guaranteed by Article 1, section 17 (a) of the Texas Constitution.¹⁴⁷ We hold that it does. We affirm the judgment of the court of appeals¹⁴⁸ and remand the case to the district court for further proceedings. . . . We begin by considering whether, under the EAAA, the Authority erred in limiting Day's IRP [Initial Regular Permit] to 14 acre-feet of water and conclude that it did not. Next, we turn to whether Day has a constitutionally protected interest in the groundwater underneath his property and conclude that he does. We then consider whether the Authority's denial of an IRP in the amount Day requested constitutes a taking and conclude that the issue must be remanded to the trial court for further proceedings.¹⁴⁹

The court concluded, based upon the evidence presented, that it could not determine, as a matter of law, if the EAA did or did not take Day's property. According to Hecht, "A full development of the record may demonstrate that EAAA [The Edwards Aquifer Authority Act] regulation is too restrictive of Day's groundwater rights and without justification in the overall regulatory scheme."¹⁵⁰ The court sent the case back to

¹⁴⁷ Texas Constitution Article 1, 17 (a). "No person's property shall be taken, damaged, or destroyed for or applied to public use without adequate compensation being made"

¹⁴⁸ *Edwards Aquifer Authority v. Day*, 274 S.W. 3d 742 (Tex. App.-San Antonio 2008).

¹⁴⁹ "Ruling" page 1 and page 8.

¹⁵⁰ "Ruling" page 45.

the trial court in Atascosa County (Jourdanton) for further consideration.

As clear as the court was about groundwater ownership in place, its ruling leaves the question of how much groundwater regulation is too much before the regulation becomes a taking open for further review. According to authors Tom Mason and Robin Melvin:

As a practical matter, Day means it may take a number of landowner lawsuits that assert takings claims against groundwater districts - each based on unique facts and circumstances - before enough case law is developed to provide clearer guidance on how much groundwater regulation is too much.¹⁵¹

The case arose from the plaintiffs' disagreement on the amount of groundwater they could pump from the Edwards Aquifer. The Plaintiffs asked the EAA for a permit to pump 700 acre-feet per year from a water well on their 381.4 acre ranch. Day timely applied for the permit before the deadline of December 30, 1996. In November 2000, the EAA denied the application for 700 acre-feet. Day appealed and the matter was sent to the State Office of Administrative Hearings. The administrative law judge concluded that Day should be granted a permit for 14 acre-feet per year. The key aspect of this case for all landowners in the Edwards Aquifer Authority's

¹⁵¹ Thomas G. Mason and Robin A. Melvin. "New Developments in Texas Water Law, Planning and Management." Presented to the Austin Bar Association Real Estate Section Meeting, March 6, 2012.

jurisdiction is what evidence is acceptable to prove "historical use" of groundwater.

The facts supporting the plaintiffs' request were complicated. The water well in question had not been in service since 1983 when landowners removed the pump; it still flowed under artesian pressure into a channel that led to a tank or reservoir on their land. Day offered eyewitness testimony from the period at the administrative hearing but under cross-examination, one witness admitted a lack of knowledge of key facts concerning the amount of water pumped historically. The volume of water drawn from the well was not measured by a water meter; the amount of water historically produced could not be accurately determined. Under the existing exemption for domestic and livestock use, the plaintiffs could pump 25,000 gallons per day equating to 28 acre-feet per year without a permit. But Day's purpose for this water was for irrigating his pasture.

The lack of documentary evidence to support historical use was fatal to Day's argument; the witnesses he called were of no help, either. Hecht wrote, "Day, having offered no other evidence of beneficial use during the historic period,

the Authority's decision to issue an IRP for 14 acre-feet must be affirmed."¹⁵²

The court summed up the remaining issue in the case at the end of Section III of their ruling. Addressing the EAA's warning that if its groundwater regulation can result in a compensable taking, the consequences will be nothing short of disastrous, Justice Hecht wrote, "Groundwater rights are property rights subject to constitutional protection, whatever difficulties may lie in determining adequate compensation for a taking."¹⁵³

According to the Edwards Aquifer Authority Act, "The Legislature intends that just compensation be paid if implementation of this article causes a taking of private property or the impairment of a contract in contravention of the Texas or federal constitution."¹⁵⁴ Justice Hecht wrote, "The requirement of compensation may make the regulatory scheme more expensive, but it does not affect the regulations themselves or their goals for groundwater production."¹⁵⁵ Later he continued, "We cannot know, of course, the extent to which the Authority's fears will yet materialize, but the

¹⁵² "Ruling" page 11.

¹⁵³ Ibid. 28.

¹⁵⁴ Edwards Aquifer Authority Act, section 1.07.

¹⁵⁵ "Ruling" 45.

burden of the Takings Clause on government is no reason to excuse its applicability.”¹⁵⁶

The Day case that began in 1996 took 16 years to the partial ruling by the Texas Supreme Court. Still, all water policy makers in Texas were pleased that after so long a time finally the original court had somewhat clearer directions. Sadly for us all, the family of Day and McDaniel decided to forego further court activity and settled for a meager \$950,000 in June 2012,¹⁵⁷ an amount that surely did not cover their legal fees over 16 years.

**Bragg v. the Edwards Aquifer Authority -
Another Groundwater Case**

The case known in Texas water law as *Bragg*, began with the filing of a lawsuit in 2006; actually, the dispute had begun in 1996 in a very similar way to the Day case. The irrigation wells for these farms required permits from the Edwards Aquifer Authority (EAA). When the Braggs requested more groundwater than the EAA granted, long years of litigation resulted in decisions generally in favor of the EAA. However, the Braggs persisted in the face of these unfavorable rulings and filed another lawsuit under a

¹⁵⁶ Ibid. 46-47.

¹⁵⁷ Announcement by the Edwards Aquifer Authority made public June 9, 2012.

"takings"¹⁵⁸ claim against the EAA after an appeals court ruling in a similar and more famous case, *Day and McDaniel v. the Edwards Aquifer Authority*,¹⁵⁹ brought up the possibility that the EAA owed landowners just compensation for their regulatory actions. The Braggs' new lawsuit sought just compensation from the EAA for the amount of groundwater they were denied.

Finally on February 22, 2016, some 10 to 16 years later, dependent upon one's perspective, the courts made a final ruling in the case. According to the *San Antonio Express News* on February 22, 2016,

Glenn Bragg, a retired Texas A&M University extension agent, used his retirement savings to first buy the 60-acre property they call "Home Place." He planted more than 1,800 trees on the land.

In 1983, the couple bought another 40-acre orchard near D'Hanis and planted 1,500 trees. Both orchards relied on Edwards Aquifer wells drilled on the property.

After the EAA's regulations went into effect in 1996, the Braggs applied for two pumping permits based on historic use for those orchards. The EAA issued a permit for half the volume they asked for on one orchard and denied the permit other entirely. The Braggs then sued the authority in 2006.

¹⁵⁸ Greg Ellis. "Regulatory Takings and Texas Groundwater" an article pending publication found at <http://www.schreiner.edu/water/pdf/RegulatoryTakings&TexasGroundwaterLaw.pdf>; Also Black's Law Dictionary defines taking as "There is a 'taking' of property when government action directly interferes with or substantially disturbs the owner's use and enjoyment of the property. *Grothers v. U.S.*, C.A.Or., 594 F.2d 740,741. To constitute a "taking, within constitutional limitation, it is not essential that there be physical seizure or appropriation, and any actual or material interference with private property rights constitutes a taking."

¹⁵⁹ Cause No. 08-0904 in the Texas Supreme Court.

The government agency in charge of the Edwards Aquifer must pay two pecan farmers upwards of \$2.5 million for limiting their groundwater pumping, a jury decided Monday.

The verdict came as welcome news to Glenn and JoLynn Bragg. The couple has been in litigation with the Edwards Aquifer Authority for 10 years after suing the EAA for denying one of their groundwater applications and cutting the other in half. "We're pleased to have it over," JoLynn Bragg said. "We can live with this." Including interest, the total owed to the Braggs is expected to be more than \$4 million, their attorney Paul Terrill said. "These two had something very valuable taken from them," Terrill said. "Today, they finally, finally after 10 years, got some measure of justice."¹⁶⁰

The dispute had begun in 1996 when the Braggs filed their first lawsuit against the EAA, therefore the entire time of litigation took 20 years to reach a full conclusion as was also reported in the *San Antonio Express News* on May 12, 2015,

The Braggs had earlier sued the EAA in 1996, alleging its permitting process denied them water they needed for their orchards. That lawsuit reached the state Supreme Court, which upheld the EAA's ability to regulate groundwater.¹⁶¹

Another delay in justice in the Texas jurisprudence and regulatory system is in the slow and at times duplicitous water project and water rights permitting system.

¹⁶⁰ Brenda Gibbons. "Edwards Aquifer Authority must shell out to pecan farmers". *San Antonio Express News*, February 22, 2016

¹⁶¹ Scott Huddleston. "Key ruling stands in aquifer lawsuit". *San Antonio Express News*, May 12, 2015

Permit Process Timeliness in Texas Defeats Justice

A subject of one of the focus groups for this study was the lack of a timely jurisprudence system in Texas from the viewpoint of the private sector. On February 16, 2016 Timothy L. Brown, past General Counsel for the Texas Commission on Environmental Quality,¹⁶² and Jason Hill, water law attorney named as one of Texas Super Lawyers,¹⁶³ met with me in a focus group format; the goal was to discuss the permitting process in Texas only.¹⁶⁴ Both shared their frustrations with a cumbersome process both in groundwater and surface water permitting.

Hill opined that once past the initial hearings at the GCD level, if your client is not satisfied with the results, the next step in the process is to go to the State Office of Administrative Hearings (SOAH). If the client's result from this hearing is not satisfactory, then the choice is a

¹⁶² Tim Brown has practiced water law in Texas for over 40 years. His early career was with the Texas Water Rights Commission as one of the first regulatory agency officers for promulgation of the 1967 Texas Water Rights Adjudication Act. As the Texas Water Rights Commission morphed into the Texas Commission on Environmental Quality, Tim became General Counsel for the agency. He also served as a Texas Assistant Attorney General, as Chief of the Environmental Protection Division of the Texas Attorney General's Office. He has entered private practice with Sledge Law in Austin, Texas.

¹⁶³ Jason T. Hill is a water law attorney in Austin, Texas. He has earned the ranking of Super Lawyer in Texas and Best Lawyers. He has extensive experience in representing clients in contested case hearings before the State Office of Administrative Hearings, the Railroad Commission of Texas, and many other political subdivisions.

¹⁶⁴ I say only in Texas since many water rights permits must not only be processed by Texas regulatory agencies but also by the US Army Corps of Engineers and the EPA among other federal agencies. The focus group was held at the Austin Club on February 16, 2016.

lawsuit in district court. If the client decides to appeal an unfavorable ruling in district court, then the next step is the appeals court in Austin. All water permitting cases are supposed to be heard in Austin to provide some continuity and predictability in the administration of the law.

However, the last few years the concept of "judicial equalization" has entered Texas law. Many times a permit case that should have been heard by a panel of appeals judges in Austin who have experience in the matter at hand was set in El Paso, Amarillo, or other far away appeals courts who simply do not see water permit cases often enough to gain expertise and present a consistent and predictable ruling.

Brown discussed the surface water permitting process and expressed his frustration with the TCEQ legal staff. Even the simplest permits, such as allowing two clients with senior appropriative rights to use surface water to trade a portion of their water right to the other under an agreed contract inside the exact same region has taken up to three years to process. Brown observed that the TCEQ takes permits on a "first come, first serve" basis. Woe be unto the proposed permit, even if it is an obviously simple approval, if there is a more complicated case in front of it. The staff of the TCEQ will not triage the permits. Many of the simple uncontested permits could be processed all but immediately,

but due to the process now, even the uncontested permits take inordinate periods of time to work through the system. Water projects and use are categorized as a "time is of the essence" type activity. In Brown's example, the probable reason the permit holders decided to trade their volume allowances were to support some change in the crops they were planning to grow, the new crop needing more water. The decision was made for economic reasons, but with the rapidly changing market for agricultural products, a several years long permitting process could cause the permit traders to miss the market. The permitting process must be timely or justice is denied.

There is another level of expense and delay when a permit is proposed that not only has to gain state approval but federal agency approval as well. From my service on the Texas Water Conservation Association (TWCA) Surface Water WARP/WAM and State Permitting Subcommittee, I had the opportunity to discuss the nature of the state/federal permitting process with the stakeholders who daily deal with actual permits for water projects. The committee of 70 plus members met at the Lower Colorado River Authority board room in Austin, Texas on March 31, 2016. Denis W. Qualis, P.E., D.WRE, Senior Program Manager of the Dallas Water Utilities, City of Dallas, Texas, spoke at the podium and then later to

me individually. Qualis expressed frustration that the background work required to be done for the state permitting process - the cost of which can run into the hundreds of thousands of dollars - was generally not used by the federal regulatory authorities. Therefore, since the federal authorities did not use or recognize the work done for the state permit, even though the work could be used, the federal side of the final permit required a "start from scratch" rework at the federal level. Again, since the projects are "time is of the essence" projects, and even if you represent one of the United States' largest cities, Dallas, the ninth largest, in permitting a project that potentially impacts millions of residents, the process is so untimely that justice is again denied.

In another one of this study's focus groups held on May 10, 2016 and June 2, 2016 made up of Brown, Carlos Rubinstein, past Chairman of the Texas Commission on Environmental Quality,¹⁶⁵ and Herman Settemeyer¹⁶⁶ an engineer

¹⁶⁵ Carlos Rubinstein is a licensed civil engineer, past Rio Grande Watermaster for the State of Texas, past Commissioner of the Texas Commission on Environmental Quality, past Chairman of the Texas Water Development Board and a leading expert in water law and permitting both at the state and federal levels. He is a partner in RSAH20 a consulting firm in Austin, Texas.

¹⁶⁶ Herman Settemeyer is a licensed professional engineer with 40 years of experience in water regulation in Texas working for the Texas Commission on Environmental Quality. He was the TCEQ representative in interstate river compact administration, international treaty compliance officer, was involved in the adjudication of surface water rights in Texas under the 1967 Water Rights Adjudication Act, and permitted and enforced water rights and management policies in Texas. He is one of the foremost experts on Texas surface water permitting. He is a partner in RSAH20 a consulting firm in Austin, Texas.

with over 40 years of experience in water permitting at both the federal and state levels, a discussion was held about the lack of timeliness in the surface water permitting process in Texas from the regulatory authority's viewpoint. This lack of timeliness is a contributing cause to the lack of interbasin water transfers from wetter areas of Texas to drier areas. All three experts had actively processed surface water permits at the state level, Rubinstein at the very highest level in his role as Chairman. The consensus opinion was that the agency was short of staff, especially seasoned staff, and that the normal process of permitting could be improved, if only by triaging the permit applications and assigning the more basic undisputed permits to a separate group of staff so as to avoid a large disputed permit having a first come, first serve position that slowed the entire department's work to a crawl. We discussed the staff's legitimate concern about politics at the commissioner's level since commissioners have limited terms and are political appointees.

There is little dispute that the water permitting process at both the state and federal level in Texas is flawed and almost unworkable economically. What is the

financial consequence? The answer is centered on what the true market value of water is. Yet, valuing water, the key to assessing damages in court cases involving water as the issue, is a challenge.

From extensive inquiry the next section of this study offers a model for water valuation using Texas as an example but the model can be adapted easily with unique inputs and characteristics of any region of the world. The model is an effective methodology for all water valuation.

The Challenge of Fair Market Valuation of Water

Many Texans, when asked, profess confusion about how to determine their water rights, what government entities regulate water, and of utmost importance, the market value of the water they own. Everyone feels as if their water right has value, but few have experienced the sale of that water. There is no Multiple Listing Service available as in residential property sales to instantly find true and reliable comparable sales in water transactions. There is no Blue Book for guidelines as to value as exists for automobiles. To begin the process of sale of a water right, first a buyer, seller, or lender must gain a fundamental understanding of who owns the water, what regulations apply, if any, to allow the transfer of that water to the purchaser or lessee, and what process is required to close a sale or

lease of the water right. A thorough investigation must be undertaken to determine the credible and defensible fair market value of water. This is especially challenging no matter the methodology used. The commonly heard saying that "water is the next oil" is fundamentally flawed. Water is an all but real time renewable resource and is to be conserved and ideally allocated fairly; oil is a resource that is only renewable over millennia and is to be mined by the highest bidder. Certainly water has real value; it has been said "water renders the land its value,"¹⁶⁷ nothing could be more true especially in most farm and ranch real estate transactions. To begin to discover an answer to credible and defensible valuation of water and water rights it is important to first understand some basics about water, ownership, and regulations.

A Brief Texas Water Law Primer

Water rights in Texas vary between water flowing on the surface and water underground, vary from regulatory agency to regulatory agency, vary from place to place, and vary from time to time. A good example of the "conventional wisdom" that water rights in Texas are convoluted and at times in the

¹⁶⁷ Letter from George W. Brackenridge to "Brother Tom" [his brother Thomas] recommending Thomas' land in Junction, Texas should only be sold if it included the section with water on it, "as water render the land its value." November 19, 1879. Austin History Center, Robert Thomas Brackenridge Papers, La Prella-Brackenridge Papers.

recent past, incomprehensible, is found in a ruling in 1955 made by Federal Judge James V. Allred, a former attorney general and governor of Texas. Allred wrote,

For years it has been a matter of common knowledge that the Texas water laws and decisions are in hopeless confusion; that even if they are clear as some attorneys profess to believe them, their application and administration would be difficult¹⁶⁸

When a well-known jurist such as Judge Allred expresses confusion and frustration with our water laws and decisions, **in a published decision no less**, it is understandable why the general public may share his feelings. Still today, few Texans understand the wider view of the legal, social, and economic consequences of our water rights system.

Water rights are the most fundamental "stick" in the "bundle of sticks"¹⁶⁹ that determine all the "property rights" and much of the market value of any real property in Texas. Real estate adjacent to surface water, with surface water irrigation diversion rights, with groundwater irrigation rights, and with large amounts of fresh potable groundwater simply sells at higher prices, and at times, at many multiples higher than land without adequate water.

¹⁶⁸ Martinez v. Maverick County Water Control and Improvement District No. 1, 5th Cir., 1955, 219 F. 2d 666,670.

¹⁶⁹ Judon Fambrough of the Texas Real Estate Center uses the "bundle of sticks" phrase in his writings and teachings - very appropriately. "Real property" is defined as land and all the things that are attached to it.

Why else is it important to know about water rights in Texas? In addition to the significant impact water rights have on the value of real property, statutory obligations have created a need to understand water rights because all known defects in real property must be disclosed to any potential purchaser during the time the purchasers are making their decision to buy. This duty to disclose any defect known, *including a known defect in a water right*, is shared by sellers, lessors, and their real estate agents. Buyers and lessees must know about the water rights to a property they are considering but first must have to know the questions to ask about water rights in general. The duty to disclose all known defects has become a part of our everyday real estate transactions in Texas and in most parts of the United States. As water becomes scarcer throughout our state due to population growth and our inevitably recurring droughts, the need for sellers, buyers, and real estate agents to fully understand the water situation associated with any property for sale has become critical.

Today, assessing the water characteristics of any particular property presents unique challenges to buyers, sellers, lessors, lessees, real estate agents, accountants, attorneys, and estate planners. The water scarcity predicted in our future requires potential buyers to consider a variety

of heretofore less often considered assessment criteria. Likewise, the potential of future water scarcity requires sellers and their real estate agents to exercise extreme caution and prudence in their fiduciary duties to their clients and their duties to the public as a whole regarding the water rights situation of any property being offered for sale or one being considered for purchase.

To further complicate a sometimes confusing and seemingly contradictory myriad of state water regulations, Texans must keep one other very important consideration in mind - several United States government agencies may have supra-legal¹⁷⁰ authority over Texas water policy either directly or indirectly. Agencies such as the Environmental Protection Agency and the United States Fish and Wildlife Service promulgate rules that can significantly affect water rights, the congress passes laws which affect water rights, and the federal courts issue rulings which historically have drastically modified water policies nationally and in Texas. Local, state, and federal regulations can and do impact any calculation of the fair market value of a water right. Most Texans' understanding of their water right goes only as far as their ability to read the monthly water bill; as long

¹⁷⁰ Superior authority. "Supra" means "above" in Latin.

as the faucet turns and water flows, assuming they pay the monthly bill, their water right is limited only by their ability to pay. The ubiquitous press reports and everyday experience proves to all but the most "asleep-at-the-wheel" Texan that we have recently "emerged" from the throes of yet another prolonged, record-setting drought. Yet, even as eyewitnesses to the devastation of water scarcity all around us, still the great majority of Texans do not have the most basic knowledge of how water rights are determined and regulated in their state. The legislature, the state agencies, the real estate industry, and our educational institutions have offered the public little, if any, support in gaining this knowledge. Due to our recent drought and the shortages of water we are predicted to face in our future¹⁷¹ coupled with the obvious impact water has on our everyday lives, *especially our property values*, we absolutely must educate our citizens about water rights in Texas.

¹⁷¹ The Texas Water Development Board's (TWDB) State Water Plan for 2012 asked, "Do we have enough water for the future?" Their startling and unequivocal answer was: "**We do not have enough existing water supplies today to meet the demand for water during times of drought.** In the event of severe drought conditions, the state would face an immediate need for additional water supplies of 3.6 million acre-feet per year with 86 percent of that need in irrigation and about 9 percent associated directly with municipal water users. Total needs are projected to increase by 130 percent between 2010 and 2060 to 8.3 million acre-feet per year. In 2060, irrigation represents 45 percent of the total and municipal users account for 41 percent of needs."

A Detailed Texas Water Rights Overview

Determining a water right in Texas depends on which of three geological containers¹⁷² holds the water. The first container is **surface water** or water that flows on the surface of the ground in a watercourse.¹⁷³ The State of Texas owns the water in a watercourse, held in trust for the citizens of the state. The Texas Commission on Environmental Quality (TCEQ) regulates use of surface water in Texas by a system of water rights.¹⁷⁴ The TCEQ, through its authority in allocating water rights, essentially oversees the 17 statewide river authorities and 4 Watermasters¹⁷⁵ as well.

¹⁷² The term "geological container" to describe water types in Texas can generally be traced to the fine work of Dr. Ron Kaiser of Texas A & M University.

¹⁷³ "Watercourse" in Texas law is not found in the statutes but in the 1925 case *Heofs v. Short*, 273 S.W. 785 (Tex. 1925). "When it is said that a stream in order to be a natural water course to which water rights attach must have bed, banks, a current of water, and a permanent source of water supply, we have only described in detail such physiographic and meteorological characteristics as make the use of the stream for irrigation practicable. When it is once shown that the waters of a stream are so confined and persistent in their course, and flow with such frequency and volume that it is both practicable and valuable to irrigate therefrom, it is a stream to which such water rights attach."

With reference to the phrase 'definite and permanent source of supply of water', frequently used by the courts as describing a necessary requisite of an irrigable stream, all that is meant is that there must be sufficient water carried by the stream at such intervals as may make it practicable to irrigate from or use the stream. . . . The authorities frequently say that a natural watercourse must have a permanent source of water supply. This however merely means that the stream must be such that similar conditions will produce a flow of water, and that these conditions recur with some degree of regularity, so that they establish and maintain a running stream for considerable periods of time. Farnham on Waters, Vol. 2, § 457; Ruling Case Law, Vol. 27, pp. 1065, 1066; Kinney on Irrigation, Vol. 1, § 306."

¹⁷⁴ There are 17 river authorities in Texas and a number of other special districts authorized by the legislature.

¹⁷⁵ On April 21, 2014 TCEQ Chairman Bryan W. Shaw signed an order 2013-0174-WR that "partially granted" the Petition for the appointment of a watermaster in the Brazos River Basin. This will bring the number of watermasters to 4 the others being the Concho River Watermaster, the South Texas Watermaster, and the Rio Grande Watermaster. The Order states: "NOW, THEREFORE, BE IT ORDERED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY THAT: 1. The Petition for the appointment of a watermaster in the Brazos River Basin is partially granted." (The Petition was "partially granted" because only

The second geological container is known as **diffused surface water** or rainwater that runs off your roof or over the surface of your land without flowing in a stream or channel. The water in this container is owned by the landowner. The TCEQ ostensibly oversees this geological container, but there is no record of any hearings or rulings in the archives.

The third container is **groundwater** or water held underground in aquifers and pools. Ownership of groundwater in Texas was debated for many decades, but in the fall of 2011 the debate about ownership of groundwater ended for all practical purposes: The Texas Legislature passed a bill (generally known as Senate Bill 332 by Fraser) which states "The legislature recognizes that a landowner owns the groundwater below the surface of the landowner's land as real property." The bill was signed into law by Governor Perry, effective September 1, 2011. Groundwater is regulated by 100 Groundwater Conservation Districts (GCDs) with 100 different sets of rules and regulations. Not all of Texas is under the jurisdiction of a GCD either. Certain special groundwater districts have been created by the legislature, perhaps the

the Lower Brazos River Basin was included.) Section 2 of the Order states: "The ED shall appointment a watermaster with jurisdiction over the Lower Brazos River Basin, which will consist of all water rights holders in the Brazos River Basin including Possum Kingdom Lake and below that Lake in the Brazos River Basin."

best known is the Edwards Aquifer Authority, which regulates the groundwater in the aquifer of the same name. Most citizens in these jurisdictions are unaware of these regulatory agencies.

According to water law expert, Edmond J. McCarthy, Jr., a fourth container to be considered is "developed" water:

Developed water is generally considered to be new water because it has been artificially introduced into the watercourse, i.e., it is water that would not be part of the normal flow of the watercourse but for the activities of the developer. Developed water can include drainage, return water, groundwater delivered to a watercourse, and surface water that is returned to a watercourse other than the originating watercourse or river basin. In the context of surface water owned by the state, so long as the owner of the developed water retains physical control over it, he has the right to its continued beneficial use for the purpose(s) authorized by his water right, e.g., permit, certificate of adjudication, or certified filing. Like diffused water, once physical control of the developed water is either lost or abandoned and it is allowed to flow into a watercourse and again become part of the ordinary flow, it loses its character as developed water and reverts to state owned surface water. Additionally, once the water right holder has beneficially used the surface water, it cannot be claimed as developed water if by the terms and conditions of the authorization it must be returned to a watercourse.¹⁷⁶

Mr. McCarthy's developed water category recognizes the economic value of water projects and inserts another element of justice into the foundations of Texas water law. Once any

¹⁷⁶ Edmond J. McCarthy, Jr. "Mixing Oil and Gas with Texas Water Law." Texas Tech Law Review, 2007. Vol. 44. 889.

entity has followed the permitting process to earn a valid permit, once the entity has invested in the infrastructure of the water project, the water generated or "developed" from this project and investment which has varying degrees of financial risk, should be categorized and treated differently from the natural geological containers.

Surface Water Regulators and Regulations

The "buck-stops-here" surface water regulator in Texas is the TCEQ. Generally, a permit is required from TCEQ in order to use surface water in Texas. According to the TCEQ, ". . . anyone who wants to use surface water in Texas must first get permission from the state unless they are using the water for one of several exempt uses. These exempt uses allow anyone to use surface water without getting permission."¹⁷⁷ Domestic and livestock use, wildlife management use, and emergency use by fire departments and other similar public services comprise the bulk of these exemptions. Surface water rights in Texas are fully allocated and have been for years. It is likely that the surface water found any place west of IH 35 in Texas can be said to be over allocated, at least on paper, due to recurring droughts. The decades long implementation of the Water Rights

¹⁷⁷ http://www.tceq.state.tx.us/publications/gi/gi-228.html/at_download/file - "Rights to Surface Water in Texas" Texas Commission on Environmental Quality, GI-228 (Rev. 3/09).

Adjudication Act of 1967 clarified individual surface water rights for agricultural (generally irrigation), industrial, municipal, and other specific uses. The 17 river authorities promulgate regulations regarding surface water also under the broad purview of the TCEQ.

An example of the public's lack of knowledge about surface water regulations is found in the all but standard question asked about lake water use. Most often this question comes from Lake Travis property owners or potential purchasers of land there: "May I pump water from the lake to my home since I am adjacent to the water?" The answer is "no, you must obtain a permit from the Lower Colorado River Authority to do so." Many times upon hearing that answer, the questioner moves to a rather lengthy uniformed and incorrectly reasoned discussion of why he or she has "riparian" rights that overrule the LCRA's regulations, that they are going to take the water anyway, and they cannot wait to see the LCRA in court. Usually the questioner completes their comments with a rave about how the state needs to stay out of their business. The potential severity of the fines for violation of water use on a lake emphasizes the TCEQ's authority over the use of surface water or the river authorities' jurisdiction within their boundaries. There is another level of water regulation that even fewer Texans

understand - the jurisdiction and duties of our 4 state Watermasters.

Texas water rights system and management is rooted in its Spanish heritage developed over the past 300 years.¹⁷⁸ The role of the watermaster is one of the oldest regulatory and management of water in Texas. The first *mayordomo*¹⁷⁹ in what would become later the state of Texas was appointed by the King of Spain in 1732 in Villa San Fernando, the predecessor village to modern San Antonio. The work of the *mayordomo* in Spanish Colonial Texas was very similar to the work of our modern watermasters. Today, according to the TCEQ,

Watermasters divide the water in their areas based on the adjudicated water rights, regulate as necessary the controlling works of reservoirs and diversion works, and monitor stream flows, reservoir levels, and water use. Watermaster programs ensure compliance with water rights by monitoring stream flows, reservoir levels, and water use. Watermasters also coordinate diversions and regulate reservoirs as needed to prevent the wasting of water or its being used in quantities beyond a user's right.

Before diverting, a water right holder must notify the watermaster of the intent to divert at a specific time and the specific amount of water to be diverted. If the water is available and the water right holder will not exceed its annual authorized appropriation of water, the watermaster then authorizes the diversion and records this against the right. The watermaster programs include staff "deputies" who perform regular field inspections

¹⁷⁸ Charles Porter. *Spanish Water/Anglo Water*. 64. (Texas A & M University Press, 2009); Charles Porter. *Sharing the Common Pool: Water Rights in the Everyday Lives of Texans*. 95-104. (Texas A & M University Press, 2014).

¹⁷⁹ Generally known as "ditch boss" or in modern usage, a watermaster; Porter *Spanish*, 64.

of authorized diversions to insure compliance with the water right.¹⁸⁰

Decisions made by the four Texas watermasters can open the door for misunderstanding and at times, litigation. For example, in the Concho River Watermaster jurisdiction, those owning valid rights to divert water from the river have not been able to take their full appropriation of water for many years. Here is an example of the problems that can occur when the watermaster's regulations and practices are not disclosed to a potential purchaser of land. It is normal and quite acceptable for sellers of real property and their real estate agents to advertise the positive features of the property being offered for sale. Without doubt, a prior appropriative right, especially if the right is a senior diversion right, to take water from the Concho for irrigation purposes is a valuable feature of any property for sale. Yet, caution must be taken to fully and accurately disclose the details about the actual process and true volume of water the watermaster allowed to be taken.

Assume the seller has a senior appropriative right to divert 30 acre feet¹⁸¹ annually from the Concho, but the

¹⁸⁰ http://www.tceq.state.tx.us/permitting/water_rights/wmaster/wmaster.html/#about

¹⁸¹ An acre foot of water equal 325,851 gallons.

watermaster has only allowed diversions equaling to 10 acre feet annually in the past few years. The seller and real estate agents must modify their representations to inform the potential buyer that although the senior water right allows diversion of up to 30 acre feet a year, the amount diverted must not exceed 10 acre feet for the precise number of years. If not, especially since appropriative water rights are very valuable, the buyer may have claim for misrepresentation against the seller and real estate agent. This simple example is just one of many, and if surface water continues to grow scarcer hence more valuable, surely more opportunities for misunderstandings will occur. Groundwater regulations can be even more complicated across our state and just as unrealized by the general public.

Groundwater Regulators and Regulations

Groundwater Conservation Districts (GCDs) were first authorized by an act of the 1949 Texas Legislature; the first district formed in 1951. There are now 100 GCDs in Texas covering about 3/4ths of the state.¹⁸² These districts are formed by local election but can be formed by the TCEQ or by direct actions of the legislature. Each district has its own set of rules and regulations, its own definition of terms

¹⁸² The newest GCD is the Reeves County Groundwater Conservation District as of November 3, 2015.

such as “domestic and livestock uses,” and its own permitting requirements. Many of the districts have boundaries set by county lines, as if the groundwater below recognized and followed political boundaries.¹⁸³ GCDs have the right to set spacing of water wells, require meters and registration of the wells, and allocate amounts of water per permit holder. The amount of water under consideration for any permit for irrigation or transfer out of district, is typically the most controversial issue in the permit process. Having discussed the problem of determining how much water any aquifer can yield or store with long time recognized testifying experts Bob Harden,¹⁸⁴ Darrell Peckham,¹⁸⁵ the consensus opinion was that since the amount of groundwater is based upon a “model” or estimate, a GCD board or district court jury may be

¹⁸³ Charles Porter. “Financing Groundwater Conservation Districts in Texas: Results of a Preliminary Study.” *Texas Water Journal* 4, no. 1 (2013): 57-59.

¹⁸⁴ Bob Harden is Vice President of R.W. Harden & Associates, Inc. Over the course of his career Bob has been involved in the discovery, acquisition, permitting, and development of new groundwater supplies for municipalities, water supply corporations, industry, and private landowners. Bob has a Master’s Degree in Civil Engineering and is a professional engineer in Texas, Mississippi, and Indiana.

¹⁸⁵ Darrell Peckham, hydrogeologist, was formerly employed by the Texas Water Development Board (TWDB)/Texas Water Commission (TWC)/Texas Department of Water Resources (TDWR) with 15 years experience conducting ground-water studies in various aquifers across the state of Texas, including ground-water resources evaluations, ground-water protection recommendations, regional water management/conservation plans and recharge studies. Peckham has extensive background in computer modeling used to generate ground-water availability projection studies such as the Texas Water Plan. He designed, developed, implemented and supervised state-wide “Textural GIS” for the automation of determining the recommended depth of protection of useable-quality ground water in oil and gas wells. He is a member and leader of the Texas Water Information Network which included coauthoring the current process implemented by the Texas Department of Licensing and Registration which allows water well drillers to submit well reports via internet. He served on the State of Texas Governor’s Division of Emergency Management Drought Monitoring and Response Committee’s, Drought Monitoring Subcommittee chair.

confronted with several qualified hydrological engineers sworn testimony that offers vastly different opinions on the amount of water available. Juries especially more often than not are confused about water modeling. Peckham mentioned that one of the most perplexing problems is the affect pressurization or depressurization of an aquifer has on its recharge and storage capacity.¹⁸⁶

From the discussion with Harden and Peckham, another focus group was called and made up of attorney Tim Brown and arguably the most influential state of Texas regulatory agency water scientist, Robert Mace, Ph.D.¹⁸⁷ The focus group was held on May 25, 2016. The goal of this focus group was to better understand a challenging element contributing to the lack of timeliness in groundwater permitting, the actual amount of groundwater available in any aquifer. Dr. Mace was asked particularly to discuss the effect of lowering of the artesian pressure in aquifers and how it can drastically impact the sustainable groundwater available for permit. He was asked to also discuss the complexities of this area of

¹⁸⁶ Both Bob and Darrell commented on the debate about water available complicated by the pressurization characteristics of individual aquifers.

¹⁸⁷ Dr. Robert E. Mace is the Deputy Executive Administrator of the Water Science and Conservation section of the Texas Water Development Board (TWDB). Dr. Mace leads a department of 70 scientists, engineers, and specialists dedicated to better understanding groundwater and surface water sources in Texas. He has been at the TWDB since 1999. Prior to working at the TWDB, Dr. Mace worked 9 years at the Bureau of Economic Geology at the University of Texas at Austin.

water science. Dr. Mace's role as Deputy Executive Administrator of the Water Science and Conservation section of the Texas Water Development Board requires him to supervise 70 scientists and water experts in supporting water development in Texas. He is one of the most renowned national experts on groundwater. Dr. Mace said the artesian pressure in any aquifer has a direct relationship to the amount of water available for permitting. The effect of depressurization by new water wells varies from aquifer to aquifer across the state and is a scientific point of sometimes heated debate, rarely with any consensus among experts. All agree that the pressure inside an aquifer can change, sometimes fatally to the life of the aquifer, of the drainage of new water wells. The pressurization characteristics of all aquifers in Texas is a good place to try to hone in on streamlining the permitting process to avoid protracted debate in hearings.

The general public in Texas, unless they are very savvy or have discovered from their water well drilling contractor they had to apply for an irrigation permit from the GCD, has little or no knowledge that GCDs exist, even when they are in the jurisdiction of the few GCDs that have ad valorem

taxation authority.¹⁸⁸ GCD managers all over the state express their frustration in the lack of involvement by their constituency; few citizens other than those directly requesting a permit, ever attend their Board of Directors meetings. The general public simply rarely understands the regulations effecting their groundwater rights or even knows if their property lies within the jurisdiction of a GCD.

Under all situations involving the sale or purchase of water rights, an attorney who understands and has experience in transfer of water rights, simply must be consulted prior to making a decision to buy or sell.

Approaches and Methodology of Fair Market Valuation of Water

Yet another focus group of this study was held on May 20, 2016 with Edmond J. McCarthy, a practicing water law attorney, scholar, and leader in continuing education programs for attorneys at the State Bar of Texas.¹⁸⁹ McCarthy often chairs the major Texas water law conferences across the

¹⁸⁸ The GCD taxing authority and tax rate is listed on all annual ad valorem tax invoices in Texas.

¹⁸⁹ Ed McCarthy joined the Law Firm of Jackson, Sjoberg, McCarthy & Wilson, L.L.P. as a Partner in May 2003. After graduating from St. Mary's Law School in May 1981, Ed served as a Briefing Attorney on the Supreme Court of Texas. During his tenure with the Court, Ed was assigned to former Texas Supreme Court Justices James Denton (deceased) and Ruby Kless Sondock. Following his service on the Court, Ed served as a Captain in the Judge Advocate General's Corps, United States Army. During his tour of active duty, Ed was a member of the United States Army Government Appellate Division, and represented the United States in appellate matters before the United States Court of Military Appeals and the United States Army Court of Military Review. In 1985, Ed joined McGinnis, Lochridge & Kilgore L.L.P., and became a Partner with the law firm in January 1989, where he practiced until 2003.

state. On several occasions, he asked me and I accepted the opportunity to present my work to the attorneys at the continuing education conferences he chairs for the state bar. Each presentation required new research into heretofore unstudied areas of water rights, law, and policy. In the focus group, McCarthy discussed the lack of certainty and the complications of credible fair market valuation of water in Texas. He asked me to write a law journal article under his supervision on the subject which will be the first of its kind in Texas history. The following section of this study is the result of my research that stemmed directly from this request. This study breaks new ground in proposing a water valuation/marketing industry standard approach to comprehensive fair market water valuation. This market valuation model is designed so it can be adapted to any region or area on the globe.

There are traditionally three methods or approaches to determine the fair market value¹⁹⁰ of real property,

¹⁹⁰ “The price the property would bring when offered for sale by a seller desiring to sell, but not obliged to do so, and bought by a purchaser desiring to buy, but under no necessity of doing so as modified by evidence § 51.003(b) authorizes the trial court to consider in its discretion, to the extent such evidence is not subsumed [included or absorbed (something) in something else] in the historical definition.”

Plains Capital Bank v. William Martin. No. 13-0337, __ S.W.3d__ (Tex. March 27, 2015) [emphasis added]; see Tex. Prop. Code §51.003., *From Hirsch Westheimer, Michael D. Conner, April 9, 2015.*

<http://www.hirschwest.com/fair-market-value-under-texas-property-code-section-51-003/>. Simply put the price a willing buyer and willing seller, neither being under any duress, will agree to in order to transfer title.

replacement cost or cost approach, sales comparison approach, and the income capitalization approach or capitalization of the net operating income stream generated from operation of the property. One other significant method may prove very useful in the determination of credible water valuations, rulings of our courts. All four should be considered to determine the value of a water right.

The most thorough definition of fair market value is the most appropriate to use in estimating the value of water or a water right. According to William B. Bruggeman, Ph.D. and Jeffrey D. Fisher, Ph.D.¹⁹¹,

Market value is a key consideration when **financing or investing** [emphasis added] in income-producing properties. It is defined as follows:

The **most probable price** [emphasis added] which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller acting prudently and knowledgably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

1. Buyer and seller are typically motivated;
2. Both parties are well-informed or well-advised, and acting in what they consider their best interests;
3. A reasonable time is allowed for exposure in the open market;

¹⁹¹ William B. Bruggeman is the Corrigan Chair in Real Estate at the Edwin L. Cox School of Business at Southern Methodist University. Jeffrey D. Fisher is the Charles H. and Barbara F. Dunn Professor of Real Estate at the Kelley School of Business Indiana University.

4. Payment is made in terms of cash in United States dollars or in terms of financial arrangements comparable thereto; and,

5. The price represents the normal consideration for the property sold unaffected by special or creative financing or sale concessions granted by anyone associated with the sale.¹⁹²

This definition developed by Bruggeman and Fisher is the most appropriate for use in water valuation anywhere in the world. The following is an in depth analysis for the basis of my reasoning in opining that the Bruggeman and Fisher definition is the preferred definition of fair market value for credible water valuation.

First, the term "***the most probable price***" makes a very specific and realistic point to always keep in mind when offering a valuation of water; water valuation is not like traditional real property valuation as this valuation is so unique accompanied with so many variables that any price opined must be offered as "most probable." It must be kept in mind also that an integral part of a credible water valuation based upon our preferred definition is the old concept of "time is of the essence".¹⁹³ "Implicit in this

¹⁹² Bruggeman and Fisher. *Real Estate Finance and Investments, Fourteenth Edition*. (New York: McGraw-Hill Irwin, 2011) 296.

¹⁹³ "Time is of the essence" means that the specified times outlined and agreed upon in a sales or lease contract are vital and any delay, what constitutes a "delay" is usually determined at the buyer's or the lessee's sole discretion, could be grounds of cancellation of the contract. Buyers and lessors that need water will not and many times cannot wait for delivered acquisition of the water, hence as a seller or lessor typically has a limited

definition is the consummation of a sale as of a specified date" in our preferred definition of fair market value inserts the "time is of the essence" concept.

Second, my preferred definition includes the idea that a buyer and seller is acting prudently and knowledgably. Water policies change often and are highly complicated by permitting processes, overlapping jurisdictions between federal and state agencies in surface water, and wide variance in rules of the GCDs. Added to the groundwater conservation district challenge the fact that the ways GCD boards grant permits for groundwater transfer can be quite inconsistent and unpredictable at times. Buyers and sellers of water rights today in Texas are faced with the arduous task of education into the intricacies and complexities of knowledge that is simply not readily available from any one source. For example, with 100 different GCDs each having a unique set of rules and regulations coupled with the widely variable nature of water resources around the state, acting "knowledgably" takes on a new urgency. Any water valuation must include a realistic assessment of the impact of any regulatory permitting process.

timeframe in which to prove their water being sold or leased is truly deliverable to the buyer or lessor legally and physically.

Third, "undue stimulus" is a more appropriate way to include the impact of "duress" on either party. "Undue stimulus" takes into account not only the idea of parties being under duress but also ideas like an oil exploration company that must have water for hydraulic fracturing at the exact time it is needed. During the normality of drought west of a line just west of IH 35, duress and undue stimulus are much more likely to enter into a water valuation equation. Any valuation must be adjusted for the drought conditions at the time of the valuation in order to more credibly meet the "most probable price" goal.

Fourth, a reasonable time for the water right to be on the open market is another challenge in water valuation. This is because the market, especially in groundwater transfers, and what is a "reasonable time," can vary greatly from GCD to GCD, watermaster regions, and geographical regions.

Fifth, normal consideration without creative financing is highly germane to water valuation. The one element that would require an adjustment in the most probable price is any creative financing's impact on the agreed to price such as very short term loans without longer term loan take out commitments, seller or lessor financing, or other non-traditional underwriting criteria. Typical lenders in water rights acquisitions have enough trouble understanding the

basics of water rights and how to properly underwrite any loan they offer to meet eventual audits from government agencies or other assessors of risk. It is very unlikely that any loan made to acquire a water right will be able to be sold into a secondary market or securitized as recent real estate loans have been.

The chemical and geological nature of water itself complicates each of these four methodologies. For example, in the traditional valuation of real estate, scientific investigation is usually limited to physical inspections of the land and improvements and defects thereto. However, valuation of water requires at the least a chemical analysis of the water quality and for commercially transferable water. The reliability, availability, and amount of the water to be sold must also be reasonably estimated based on scientific testing of the source of the water. All three geological containers of water are constantly in motion and are subject to drainage in many ways. Most groundwater does not lie in a "bath tub" like formation. Aquifers can be impacted by pressure changes that are difficult if not impossible to observe or predict.

Demand for water rights can be fickle dependent upon rainfall, the immediate needs of water buyers, and local politics. Most people forget that "demand" has **two** dependent

elements in order to be “effective” demand - **desire** for the product or good welded with the **ability** to pay for the product or good.¹⁹⁴ In many areas of our state, the ability of any community to pay for water can be quite limited, even though there is strong desire and/or even need. According to State Comptroller Susan Combs’ 2012 report titled “Your Money and Local Debt” found that many local governments in Texas were deeply in debt. Our conclusion drawn after reading this well done report was simple: many local governments in Texas simply could not afford any more debt nor should they seek it.¹⁹⁵

How Can It Be Determined if a Water Market Exists?

Of the most critical consideration, more so in water valuation than traditional real property valuation,¹⁹⁶ is if the water sold or leased is truly deliverable legally or politically. In order for a water transaction to be consummated, the water must be delivered to the buyer. Accordingly, the three groups of questions below offer a

¹⁹⁴ Sue Grant and Chris Vidler. *Economics in Context*.(Oxford: Heinemann Educational Providers, 2000) 28.

¹⁹⁵ www.TexasItsYourMoney.org. Susan Combs, 2012. “Local government debt has more than doubled from 2001 to 2011.”

¹⁹⁶ Deliverability in traditional real estate valuation is the concept of planning and zoning regulations and processes including the impact of the political will of the people affected by any proposed real estate development.

starting place to determine if a potential market for the water actually exists in any given area.

1. Questions about transferability and deliverability.

- Would the ability to transfer/deliver the water to the buyer from surface rights or groundwater rights be a factor in the "value" of that groundwater?
- Will the TCEQ rules allow the water right to be sold and delivered?
- Will the local GCD rules allow the groundwater to be sold or leased and transferred out of the district and in what quantity?
- Will the local people "revolt" against the transfer out of their district and cause expensive delays making the potential sale or lease infeasible and imprudent?
- Is acquisition of right of way able to be acquired in a timely manner to fulfill any sale or lease contract?
- Can a distribution system be installed including lift stations with ingress and egress from the well sites for maintenance and operations in a timely manner to fulfill the contract?

2. Questions about the use of the water.

- What is the ultimate use of the water? Use of the water has a great impact on its market value. Use of the water for a corn crop or other agri-business uses surely influences the market value and generally indicates a lower value for the water. Of course, this varies from crop to crop and varies geographically. Use for bottled water or other industrial uses certainly influences the market value of the water and generally indicates a higher value for the water.
- Is the use “beneficial”?¹⁹⁷
- Is the use of the type that will not cause subsidence?

3. Questions about market demand, depth, and absorption.

- Will the market be able to absorb the amount of water offered for sale or lease?
- Can the water be delivered in a timely manner to meet current demand?

¹⁹⁷ See Texas Water Code Chapter 11, Water Rights, Subchapter A. General Provisions, Sec. 11.002. Definitions. “In this chapter and in Chapter [12](#) of this code:

‘Beneficial use’ means use of the amount of water which is economically necessary for a purpose authorized by this chapter, when reasonable intelligence and reasonable diligence are used in applying the water to that purpose and shall include conserved water.”

- How “deep” is the demand, how many buyers are there?
- What factors must be considered if the water is being sold or leased to a municipality?

These groups of questions are a sample list of questions that should be asked and answered by both buyer and seller before considering purchase or sale. Surely there are other questions that need to be considered as determined by the uniqueness of any certain water sale or lease.

If the answers to the three groups of questions above indicate the proposed water transaction is feasible, then prudent value experts should next use all four aforementioned valuation methodologies to generate a complete picture of fair market value. The section of the study begins with a discussion of the replacement cost method.

The Replacement Cost Method

How can the “replacement” cost¹⁹⁸ of water be calculated? “Water” as a molecule cannot be rebuilt in the traditional way a real property improvement can be. But development of a

¹⁹⁸ Cost to replace an improvement assuming no reasonable person would pay more than it costs to buy the land and replace the improvement.

surface or groundwater-sourced irrigation system is actually “built” of definable parts whose the costs are readily discernable and defendable. For example, a typical center pivot groundwater irrigation system is comprised of these three basic parts:

1. **The groundwater well.** Across the state, the cost of a well ranges from \$10-\$35 per linear foot in depth to the water source. This cost is highly variable dependent upon the depth of the groundwater, the geology of the strata that must be drilled through to reach the water, the cost to create ingress and egress to the drill site, the size of submersible pump required to pull the water up, and the cost of the casing to secure the drill hole. In recent years due to the strong market in scrap metals mostly purchased by China for dams and other needs, heavy steel casing has become very expensive. In fact, the largest portion of deeper groundwater wells likely will be the cost of the casing.¹⁹⁹

¹⁹⁹ On my ranch in Wilson, I drilled a new groundwater well in 2007. The easier and less expensive to reach groundwater on my place up to 300 feet has high levels of dissolved solids including sodium chloride (salt). It tastes bad, smells sulfurous, and while it does not kill the grass or plants, they take on a yellowish-brown tint for a good time after watering from the well. I asked my driller, Thomas Moy to quote the cost of drilling to the Carrizo-Wilcox aquifer some 1,400 feet deep on my place to reach fresher water. While the drilling cost would be around \$10 per linear foot or around \$14,000, the cost of the casing itself exceed \$60,000. I chose not to drill to that depth because I do not farm anymore. I converted my agricultural valuation to a wildlife

2. **The distribution system.** Many modern day irrigation systems use center pivot sprinklers in lieu of canal or flood irrigation. This system pivots like a compass around a central point, usually the groundwater well itself. The cost of the equipment is based upon the length of the sprinkler arm and the type of nozzles attached.
3. **The power source for the well pump.** This could include a new electricity line to power the well pump or the purchase of a diesel engine.

The following is an estimate of the replacement cost of a center pivot irrigation system to provide water for an 80 acre corn field.

<u>Item</u>	<u>Cost</u>	<u>Total Cost</u>
600 foot deep well and casing	\$ 35 per foot	\$ 21,000
1,000 foot center pivot system	\$ 104 per foot	104,000
1,000 feet of electricity line	\$ 5 per foot	5,000

Total System Replacement Cost Estimate		\$ 130,000
	or \$1,625 per acre. ²⁰⁰	

valuation which has greatly improved my property and has been much more enjoyable though frankly much more difficult labor-wise than planting crops or raising livestock.

²⁰⁰ Some sources indicate that drip irrigation systems can be built for as low as \$500 to \$1,200 per acre, if proven true, then the total amount of groundwater required would be significantly less. However, our research has found no 80 acre fields of feed corn that use drip irrigation at this time.

How then can this cost be converted into a per-acre-foot water valuation or replacement cost/acre-foot of water? This can be accomplished by estimating the amount of water needed to make a potentially profitable crop. According to the University of California adjusted in acre-feet instead of acre-inches, an 80 acre crop of corn requires 500,000 gallons of water per acre over the roughly six months from planting to harvesting.²⁰¹ 500,000 gallons per acre equates to 1.53 acre-feet per acre for this 80 acre corn crop. Assume in the example below that all the water required is provided by the irrigation system in lieu of any rainfall.

Conversion of Replacement Cost to Acre-foot Value of the Groundwater Required

<u>Item</u>	<u>Total</u>
1.53 acre-feet of water per acre X 80 acres	122.4 acre-feet water
Replacement cost of irrigation system	\$ 130,000
Indicated value of the water required	\$ 1,062 per acre-foot²⁰²

**Indicated value adjusted for the ten year economic life =
\$106 per acre foot.**

²⁰¹ University of California Drought Management adjusted for acre-feet by the authors.
http://ucmanagedrought.ucdavis.edu/Agriculture/Crop_Irrigation_Strategies/Corn

²⁰² The indicated replacement cost value in this example “expenses” the entire cost of the irrigation system in one year, likely not allowed under generally accepted accounting principles. The system could be required to be capitalized and would also be subject to depreciation. This model offers no tax considerations as the complications of any unique tax situation is incalculable.

The calculations use highly conservative assumptions and indicate the water value to be \$1,062 per acre-foot. If the replacement cost of the irrigation was amortized over the very conservative 10 year estimated economic life of the system, then the indicated replacement cost value of the water is \$106 per acre-foot. An adjustment for the economic life of the water system yields a much more realistic value of the water. There are obvious and challenging adjustments that may need to be considered in the replacement cost methodology in water valuation. One adjustment to be considered is the way in which the United States Internal Revenue Service allows an individual farmer to amortize capital expenses. Another consideration is that different crops need different amounts of water. Still another consideration is the variable that some amount of rainfall during the corn crop's growing season coupled with the general moisture conditions of the land overall could require less water to be drawn from the irrigation system. The water holding ability of the soil type is another variable. Yet with all these challenges, with full disclosure by the valuation expert of all the assumptions made in a model similar to this one, a range of replacement cost values can be offered as reasonable and reliable methodology. In fact, the main point is not to make the assertion that the

replacement cost value of the water needed to make **all** 80 acre field corn crops is always \$1,062 per acre-foot of \$106 per acre-foot. The model is designed to stimulate thought about the possible adjustments for the unique characteristics of any property and its water and water needs, including a reminder to consider particular farmers' individual choices such as the type of crop to be planted.

There are certain reliable resources available to hone down replacement cost to fit more exactly the unique characteristics of any given property. Agricultural extension agents around the United States are available to assist in finding any local area's cost to drill groundwater wells, purchase and install center pivot irrigation systems, and acquire electricity for irrigation systems. Public universities such as Texas Tech, the University of California, or Texas A&M University are reliable sources for supporting data. Certainly a prudent valuation expert would also contact the local contractors and suppliers to hone down even further actual bid estimates of the cost of a local irrigation system. The seed suppliers and the implement dealers in the local area are another reliable source of data. The point made here is that any fair market valuation of water should be the result of exhaustive research into every conceivable permutation of water use. Yet another

challenge is just that - there are an almost infinite number of permutations. However each property will be greatly influenced by local open market conditions and it is realistic that the likely number of permutations and variables could be narrowed. In any region of the world, replacement costs of a water system could be determined in a like way. This leads to the next methodology, comparable sales data.

The Comparable Sales Method

A very reliable method of fair market valuation of water is the comparable sales method.²⁰³ Finding and *confirming* actual closed water sales or leases in any given location or region is possible but likely will require a great deal of personal labor and a little bit of luck. Why? Water transactions typically are held highly confidential by the parties involved and there is no requirement to report to the public any details about the transaction. While the transaction is most always recorded in the real property records, rarely is the actual consideration paid stated in the transfer instrument; most transfer instruments mention the consideration not in actual dollars paid but usually described as "for \$10 and other valuable consideration."

²⁰³ The sales comparison method is based on closed sales of comparable properties in our case, water rights.

Discovering the existence of a water transaction and the parties thereto can at times be equivalent to a proverbial "needle in the haystack" search. More significantly, the word "comparable" takes on a new urgency in credible water valuation.

Another triticle old saying that continues to remind us of this ongoing hurdle to credible market valuation is "comparing apples to apples and oranges to oranges." For decades savvy real estate professionals have expressed their dismay at the use of the mass appraisal²⁰⁴ technique by Texas central appraisal districts. In lieu of the all-but-impossible task of annual individual property appraisals, the districts apply statistics and sales "comps" supposedly

²⁰⁴ According to "Property Tax Basics" by the Texas State Comptroller's office, "The Tax Code authorizes appraisal districts to use a method called mass appraisal to calculate the value of a large number of properties. In a mass appraisal, the appraisal district classifies categories of properties according to a variety of factors.

Using data from recent property sales, appraisal districts determine the value of properties in each class. They consider differences such as age, location and use to appraise all the properties in each class. The market value of a residence homestead must be determined solely on the basis of its current use regardless of its highest and best use. This means that your homestead must be appraised as such, even if it is located where its best use might be as the site for an office building or a parking lot for a mall. In addition, individual characteristics of property must be considered in developing appraisal models and schedules, as well as adjusting values as a result of taxpayer protests."

One of the best and most understandable definitions of mass appraisal is offered by the City of Fargo, North Dakota. Found at <http://www.cityoffargo.com/CityInfo/Departments/Assessor/AssessmentProcess/MassAppraisal/> "Mass appraisal is the systematic appraisal of groups of properties as of a given date using standardized procedures and statistical testing. This differs from single-property appraisal, commonly referred to as "fee" or "bank" appraisal, which normally deals with only a particular property as of a given date.

Mass appraisal includes the application of single-property appraisals, as well as the development of appraisal formulas and statistical models, that can be applied uniformly to a number of properties at a time."

"uniformly" to a number of properties in an area. Mass appraisal has no place in a credible market valuation for water rights. The application of "comps" in the manner in which is allowed by the mass appraisal methodology simply could not reasonably assess the value of water. The chemical composition of the water is infinitely variable across the state. The ability for a seller to deliver to a buyer in another district or area is uniquely limited to the local rules and regulations and of course, the right of way and distribution system required to consummate the transaction. Therefore, a reliable water valuation must be made on an individual basis. Here is a brief list of basic factors in determining **comparability** in water valuation:

1. The chemical composition of the water;
2. The amount of water available to sell (or amount owned) and its probability of maintaining the amount purchased over the time required by the contract to purchase;
3. The rules and regulatory process required for any permit at all levels including required permits from the local GCD (if one exists), the county, the state, and

the United States government via the Environmental Protection Agency and/or the Army Corps of Engineers;

4. The distribution system available or required to be built in order to deliver the water to the buyer which could require years of expensive right of way acquisition to build pipelines or other transfer vehicles;

5. The intended use for the water - oil and gas, agricultural, municipal, and industrial intended uses are rarely comparable; and,

6. The resistance (or support) of the local community from which the water is drawn has great impact on the ultimate valuation of the water being sold or leased.

Each of these six basic factors require diligent investigation and at times, costly professional advice and scientific testing. There are other factors that may need to be considered dependent upon the unique characteristics of any region.

To be defensible and absolutely credible, closed water transactions must first be found, then the sale or lease

price and *terms* of these found transactions must be confirmed by both parties ideally or with evidentiary documentation from one party. This work requires personal interviews and determined research and investigation. Confirming comps is more about patience, politeness, and perseverance than specialized technique skills. In this regard, petroleum landmen could prove to be a very useful resource as their daily work is face-to-face negotiations with individuals after rigorous research in county real property records. How many confirmed comps are required for a credible valuation? As many as possible.

In that regard, certain recent well-publicized water transfer transactions offer a possible starting point for comparable sales and leases. One in particular is more readily available than others, the Vista Ridge water project transaction in which 3,400 water rights holders in Burleson and Lee counties agreed to lease or sell their water rights for eventually delivery to the San Antonio Water System (SAWS). The SAWS website publishes the entire contract. The transfer pipeline will travel some 142 miles to San Antonio roughly on a northeast to southwest line across central Texas. For comparable transactions in 2015, 2016, and maybe even into 2017 this water project has the potential to

provide highly credible comps to enhance the reliability of any water valuation in a vast area of central Texas.

Another source is the San Antonio Water System or SAWS. SAWS periodically offers the public the opportunity to offer their transferable Edwards Aquifer water rights for lease to SAWS.²⁰⁵ Below are the results of a SAWS water solicitation in 2015.



SOLICITATION NO: M-15-015-GC

RESPONSES TO REQUEST FOR LEASE BIDS

Regarding Additional Water Supplies in the Form of the Lease of Transferable Edwards Aquifer Authority Groundwater Withdrawal Rights

Acre-feet per annum offered	First Year of Lease	Term of Lease	Price Per acre-foot (PPA)	Total Lease Cost	Status
50	2016	2 Years	\$130	\$13,000.00	Accept
8	2016	2 Years	\$130	\$2,080.00	Accept
27	2016	5 Years	\$125	\$16,875.00	Accept
590	2016	5 Years	\$170	\$501,500.00	Reject
40	2016	2 Years	\$223	\$17,840.00	Reject
63.148	2016	2 Years	\$223	\$28,164.00	Reject
50	2016	2 Years	\$120	\$12,000.00	Accept
150	2016	5 Years	\$179	\$134,250.00	Reject
414	2016	2 Years	\$147	\$121,716.00	Reject
268.196	2016	2 Years	\$147	\$78,849.62	Reject
414	2016	5 Years	\$173	\$358,110.00	Reject
268.196	2016	5 Years	\$173	\$231,989.54	Reject
150	2016	2 Years	197.50	\$59,250.00	Reject

Acre-feet per annum offered	First Year of Lease	Term of Lease	Price Per acre-foot (PPA)	Total Lease Cost	Status
414	2016	2 Years	\$147	\$121,716	Reject
268.196	2016	2 Years	\$147	\$78849.62	Reject
414	2016	5 Years	\$173	\$358,110	Reject
268.196	2016	5 Years	\$173	\$231,989.55	Reject
72 ½	2016	2 Years	\$125	\$18,125	Accept
150	2016	2 Years	\$130	\$39,000	Accept
40	2016	2 Years	\$195	\$15,600	Reject
320	2017	5 Years	\$135	\$216,000	Accept
440	2016	5 Years	\$130	\$286,000	Non-responsive

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²⁰⁵ http://www.saws.org/business_center/ContractSol/Drill.cfm?id=1577&View=Yes

²⁰⁶

http://www.saws.org/business_center/ContractSol/IFB/1577/Table%20of%20EAA%20Bids_040116%20.pdf

Notice the detail SAWS provides, but keep in mind the water is Edwards Aquifer Authority (EAA) water and pre-determined transferable Edwards rights under their established and accepted rules. It is interesting to note however, that the price of \$125 to \$130 per acre-foot is very close to the \$106 per acre-foot most probable price in our replacement cost method sample.

Other possible sources for comparable sales are real property record searches, title companies, county agents (Texas Agri-life Extension Agents), Farm Service Administration offices across the counties, area central appraisal districts not so much for details of water transactions but for leads from the appraisers who keep up with all real property transactions in their areas, the TCEQ, the 100 groundwater conservation districts, attorneys, accountants, hydrologists, well drillers, local newspapers, implement dealers, irrigation equipment dealers, and fertilizer and seed distributors. There certainly are many other possible sources for comparable sales. Time staking on-the-ground personal research is the key to developing a proper matrix of comparable sales or leases of water or water rights.

The recent oil boom based on hydraulic fracturing technology offered readily obtainable and confirmable water

sale and lease comparables. For example, in the Crockett County area close to Ozona, one rancher confirmed to me that he had sold his groundwater on short term contracts to oil explorers at \$.80 per 42 gallon barrel of water. The sales were quick and not subject to any waiting period for permitting as oil and gas exploration activities are exempt from local permitting. The \$.80 per 42 gallon barrel of water equates to a \$6,207 per acre-foot. The rancher told me that one oil company said they were willing to go upwards of \$1.00 per 42 gallon barrel in the future dependent upon the success of their drilling activities. This discussion took place in 2013 during the heyday of the shale/frack boom. Today, the boom is all but over. At best, a comparable such as this one would have a limited credible life, but in its time, no better comparable could be found. Due to the urgent demand for water and the amount needed to frack a well, in many cases, confirmation by both parties proved easier during the oil boom period. Again, the comparable sales portion of the model could be adapted to any region's facts.

The Income Capitalization Method

One of the most relied upon methods of real property valuation is the income capitalization method²⁰⁷ or

²⁰⁷ According to Bruggeman and Fisher, "The income approach [method] is based on the principle that the value of money is related on its ability to produce cash flow.

capitalization of the net operating income generated from the property. It is a rather simple calculation but full of its own difficulties. Once the net operating income (NOI) from a property is determined, the valuation expert simply selects a suitable market capitalization rate, commonly known as "cap rate" and divides the NOI by that rate. If the NOI is \$100,000 and the capitalization rate chosen is 10%, the income capitalization method indicates a value of \$1,000,000 ($\$100,000 / .10$). Like a bond, the higher the cap rate, the lower the value. The income capitalization method is based on an assessment of the risk of the investment and has its own comparables. The risk-free rate in the United States is generally recognized to be the 10 year United States Treasury Note or "bill." This risk-free rate has hovered around 2% for the past few years. In other words, why would anyone invest in any risky project or purchase unless they are able to receive in return some multiple of the risk-free rate? Investment has **opportunity costs**; once capital is invested it has used up its opportunity to be inserted into another investment. Another tool in assessing investment risk is the present value of the net operating income stream, based upon discounting annual income streams based on the "time value of money". The "time value of the money" is considered in present value analysis based upon the traditional idea that

money received now is worth more than money received later. All investors hope their money investment grows over time at some rate of return. Savvy and experienced investors seek first return **of** their investment and then return **on** their investment. Since today's risk-free rate of return is 2%, then over time an investor, based solely upon his or her own criteria, will surely require a higher return on the money invested to adjust for the risk of any investment alternative to the 10 year US Treasury Bond. Municipal and industrial uses will likely have very specific contract terms such as price or lease rates and the net operating income can be readily determined from the duties and obligations (if any) of the seller or lessor. The rate of return required or the discount rate selected is at the sole discretion of the investor and can vary greatly. Water sales or leases have risk and that risk must be assessed in the light of the risk-free investment.

More problematic is determining the net operating income to use in the income capitalization of an agri-business product. We will use our 80 acre crop of corn example that requires groundwater irrigation to demonstrate a way the value of water can be determined using the income capitalization method. The figure below is a corn yield calculator provided by Pioneer seeds. The expected yield in

Texas for feed corn in 2015 was around 143 bushels per acre and the expected market price was approximately \$4 per bushel.²⁰⁸ Inserting our 80 acre corn crop with \$4 per bushel and 143 bushels per acre, the Pioneer Seed calculator indicates a net operating income of \$5,159.20, ***assuming the irrigation well and center pivot as well as the land is owned outright - no debt amortization costs are included!*** The calculator does include a machinery cost item, but keep in mind the cost of all the equipment needed includes a John Deere or equal tractor, cultivator, disk harrow, and planter. This equipment can easily cost \$150,000 or more new. For our example, we assume the equipment is owned by the producer outright and the Pioneer calculator machinery cost item equals depreciation and maintenance on all equipment used.

²⁰⁸ Source from Texas A & M University.

1 Expected Market Prices	Corn \$ 4 /bu
2 Planted Acres	Corn after Corn 80 acres
3 Expected Yields	143 bu/acre
4 Variable Costs	<input type="radio"/> Use predetermined Variable Costs <input checked="" type="radio"/> Allow me to enter my own Variable Costs
Fertilizer and Lime:	Corn after Corn 153.50 Calculate Costs
Herbicide:	35.50
Insecticide:	23.00
Seed**:	134.90 Calculate Costs
Drying	35.52
Grain Hauling:	7.06
Preharvest & Harvest Machinery:	42.16
Labor:	37.05
Crop Insurance:	14.60
Irrigation: Univ. of Neb - \$125/A (10" of water)	0.00
Other (Interest, etc.)***:	24.22
Total Expenses:	\$507.51
Results	
	Corn after Corn
Total Income:	\$572.00
Market Income	\$572.00
LDP:	\$0
CCP:	\$0
Net Income per Planted Acre:	\$64.49
Net Income:	\$5,159.20
Total Farm Income:	\$5,159.20

Figure . 80 Acre Corn Crop Calculation²⁰⁹

Courtesy Dupont Pioneer

²⁰⁹ <https://www.pioneer.com/home/site/us/agronomy/tools/production-cost-calculator>

Using the Pioneer calculator the following calculations emerge:

Net Operating Income of an 80 Arce Feed Corn Crop
at \$4 per Bushel in Price:

\$4 per bushel X 143 bu per acre X 80 acres = \$ 45,760.

\$507.51 per acre X 80 acres planting cost* = 40,601.

Net Operating Income \$ 5,159.

** Out of pocket to plant corn, not including land, or the irrigation well including center pivot.*

What therefore is the indicated groundwater value on the 80 acres at a 10% cap rate? The calculation divides the NOI of \$5,159 by 10% to result in an indicated capitalized value of the crop of \$51,590. What then is the per acre-foot indicated value of the groundwater? Recall that our example assumes an 80 acre crop of corn needs 1.5 acre-feet per acre therefore, the water need is 120 acre-feet. To determine the value of the groundwater per acre-foot based upon a capitalized value of \$51,590 for the corn crop, divide the \$51,590 by 120 acre-feet of water. The result is the indicated value of the groundwater in our example is \$430 per acre-foot.

A 10% capitalization rate is 5 times the current risk-free rate, a conservative estimate to adjust for the risk in any corn crop. Even with irrigation, crops are subject to deluges or rain at the wrong time, insect infestations, feral hog destruction, early or late freezes, equipment breakdowns, and of course, widely variable market fluctuations which in today's globalized economy are more out of control of the American farmer than ever in history. A more conservative capitalization rate more indicative of the typical risk in a corn crop in Texas likely would be 16%. Therefore the capitalized net operating income drops to \$32,244 (NOI of \$5,159 divided by 16%). The value of the water needed then falls to \$269 per acre-foot (\$32,244 divided by 120 acre-feet).

If the corn market in our example was at its peak of \$7 a bushel as in recent years, the net operating income could increase to \$39,479. Capitalizing the \$39,479 net operating income at 10% results in an indicated value of \$394,790 or \$3,287 per acre-foot of groundwater. Capitalizing the \$39,479 net operating income at 16% results in an indicated value of \$246,744 or \$2,056 per acre-foot of groundwater. A reasonable range therefore for our use of the 120 acre-feet of groundwater is from \$269 per acre-foot to \$3,287 per acre-foot. This is quite a wide range, but the calculation

offers a model to use to determine the value of water using the income capitalization method. It also demonstrates the astounding leverage that the market price paid for the final corn product grown has on any given year's value of groundwater. Again keep in mind that a prudent valuation must be completely transparent to the audience, with all variables and assumptions clearly and concisely made available.

A key question that must be answered in our feed corn model is whether the farmer had in place at least a 120 acre-foot permit from the GCD, if the property was under the jurisdiction of a GCD. A use that emerges from our income capitalization model can be to offer an indication of the potential value of an irrigation permit for farming. Certainly, different crops use different amounts of water, but the estimates of the amount of water needed can be easily found from irrigation equipment suppliers, the fine agricultural colleges and universities in our country, the county agents, the feed/seed suppliers, and the implement equipment dealers.

At this point the market values of water per acre-foot from the valuation models are:

1. **Using the replacement cost method** - \$1,062 per acre-foot of water for an 80 acre crop of feed corn adjusted for the ten year economic life of the irrigation system or \$106 per acre-foot.

2. **Using the sales comparison method** - From \$130 per acre-foot based on the SAWS leases in 2015 to a high of \$6,207 per acre-foot of water in 2013 using the water for fracking new oil wells; and,

3. **Using the income capitalization method** - our 80 acre feed corn crop indicates a range at \$4 per bushel price for the crop \$269 per acre-foot of water to \$3,287 per acre-foot of water if the farmer enjoys \$7 per bushel price for the crop.

These three methods demonstrate a wide variation in value estimates, but collectively they offer a thorough range of potential values based upon uses and market variables. The method not recognized as a traditional method is valuation based on a court ruling, but for water, this source cannot and should not be overlooked. It is safe to assume that any

court ruling is based upon testimony from many sources and valuation experts. Therefore, it is yet another credible source of localized and very specific water value.

Court Rulings and the Water Market Valuation

There are a number of ongoing lawsuits in which the value of water is in issue, usually in the calculation of damages. Of course, the trial court's ruling on value can be appealed up the chain to the Texas Supreme Court based on the circumstances of the individual case. One advantage to using court rulings in valuation estimates is that the entire case file is available to the public and the opinion of the court is public information as well. Without a doubt, these rulings can be highly controversial, and in most cases, any valuation information may only be applicable to the locality and uniqueness of the facts of the case. However, since court rulings in our legal system set precedents, these rulings on water value have a germane and significant impact.

For example, take the case mentioned previously in this study that was resolved recently, Bragg v. the Edward's Aquifer Authority (EAA). At this time the public has not been given access to the details of how the \$2,500,000 in damages were calculated, however as an indication of the use of a court ruling to color a water valuation, following is an in depth discussion of the 2010 trial court award of damages to

the Braggs which was overturned but indicates one judge's overall idea of the value of water in the marketplace.

Jo Lynn and Glenn Bragg operate two farms in the Medina County area which require irrigation to be productive, one named the D' Hanis Orchard (approximately 42.16 acres) and the other named the Home Place Orchard (approximately 58.51 acres).²¹⁰ The irrigation wells for these farms required permits from the Edwards Aquifer Authority (EAA). The Braggs requested more groundwater than the EAA granted. The long years of litigation resulted in decisions generally in favor of the EAA. However, the Braggs persisted in the face of unfavorable rulings and filed another lawsuit under a "takings"²¹¹ claim against the EAA after an appeals court ruling in a similar case, *Day and McDaniel v. the Edwards*

²¹⁰ Exact size of the farms from the Medina County Appraisal District Office. Also, see Texas Supreme Court Justice Deborah G. Hankinson's description of the farms in No. 00-0436, in the Supreme Court of Texas, *Glenn and JoLynn Bragg, Petitioners v. Edwards Aquifer Authority and Gregory Ellis, General Manager of the Edwards Aquifer Authority, Respondents, On Petition for Review for the Court of Appeals for the Fourth District of Texas*, Argued on October 2, 2001: "The Braggs own two commercial pecan orchards in Medina County. The first orchard is located on approximately sixty acres of land, along with the Braggs' residence and pecan processing facility. That orchard is known as the "Home Place Orchard." The second orchard, known as the "D'Hanis Orchard," is located on approximately forty-two acres. The Braggs drilled a well into the Edwards Aquifer on the Home Place Orchard in 1979. They began drilling a well on the D'Hanis Orchard in December 1994, and completed it in February 1995." Also see Judge Thomas Lee's findings letter of May 7, 2010 in *Glenn and JoLynn Bragg v. Edwards Aquifer Authority*; Cause No. 06-11-118170-CV in the 38th District Court of Medina County, Texas.

²¹¹ Greg Ellis. "Regulatory Takings and Texas Groundwater" an article pending publication found at <http://www.schreiner.edu/water/pdf/RegulatoryTakings&TexasGroundwaterLaw.pdf>; Also Black's Law Dictionary defines taking as "There is a 'taking' of property when government action directly interferes with or substantially disturbs the owner's use and enjoyment of the property. *Grothers v. U.S.*, C.A.Or., 594 F.2d 740,741. To constitute a "taking, within constitutional limitation, it is not essential that there be physical seizure or appropriation, and any actual or material interference with private property rights constitutes a taking."

Aquifer Authority,²¹² brought up the possibility that the EAA owed just compensation for their regulatory actions. The Braggs' sought just compensation from the EAA for the amount of groundwater they were denied. Judge Thomas Lee of Hondo ruled favorably for the Braggs on May 7, 2010, with language that should awaken everyone concerned about groundwater in Texas.²¹³

Judge Lee, a retired District Judge living in Hondo reviewed the evidence and testimony. In Judge Lee's words:

The implementation of the Edwards Aquifer Act, and the denial of an Initial Regular Permit (IRP) on February 8, 2005, for an amount less than requested or needed by the Plaintiffs to operate their Home Place Orchard, unreasonably impeded the Plaintiffs' use of the Home Place Orchard as a pecan farm, causing them severe economic impact; interfered with their investment-backed expectations, and constituted a regulatory taking of the Plaintiffs' property . . . the Plaintiffs are entitled to be compensated for their loss.²¹⁴

The difference in the amount requested by the Braggs and the amount the EAA granted them was 108.65 acre-feet of water. The Plaintiffs requested that their compensation for this water would be based upon \$7,500 per acre-foot for a total of \$814,875.²¹⁵ Judge Lee determined that the water was worth

²¹² Cause No. 08-0904 in the Texas Supreme Court.

²¹³ Judge Thomas Lee's findings letter of May 7, 2010 in *Glenn and JoLynn Bragg v. Edwards Aquifer Authority*; Cause No. 06-11-118170-CV in the 38th District Court of Medina County, Texas

²¹⁴ *Ibid.* 2.

²¹⁵ *Ibid.*

\$5,500 per acre-foot for a total award on this portion of the damage claim of \$597,575.²¹⁶ The further language he chose on page 2 and 3 seems to be written to meet the requirements that the actions of the EAA constituted a "taking." Many water rights attorneys and experts took close notice of this section of Judge Lee's ruling:

I believe this is as much about the taking away of a lifestyle as it is about the decrease in the value of land. The Braggs invested their lives, labor and money in a good family farm that could be passed on to their heirs. That life plan has been undermined, and their investment severely damaged.²¹⁷

Judge Lee assigned additional damages to one tract of land, the D'Hanis Orchard, caused by the actions of the EAA. The denial of the water for this orchard no longer allowed it to be considered an "irrigated" farm. He determined that the difference between a dry land farm and an irrigated farm was \$134,918.40 or \$3,200 per acre.²¹⁸ Judge Lee's total compensation award to the Braggs for both elements of damage was \$732,493.40.²¹⁹ The total acreage of the two orchards is 100.67 acres making this award \$7,276 per acre. This ruling is one cornerstone that can be used in determining the market

²¹⁶ Ibid. 3.

²¹⁷ Ibid. 2-3.

²¹⁸ Ibid. 3.

²¹⁹ Ibid.

value of irrigated land and of groundwater. It may not reflect a fair market valuation at any one time in the future but at the time of his finding, it is a strong indication of the value of water and the incremental value of an irrigated farm over a non-irrigated farm. The incremental value of an irrigated farm is a significant by highly subjective new consideration in land valuation.²²⁰ Considering that both tracts of land were valued at the appraisal district at \$4,000 per acre in 2010 apparently without adjustment for the irrigated value found by Judge Lee, simply the fact the farm is considered "irrigated" at a premium of \$3,200 an acre almost doubled the land value. The water rights, therefore, could also be said based on Judge Lee's opinion, to more than double the value of the land.

This ruling is yet another confirmation that water availability and adequate water rights strongly enhance the value of land. His findings also assume the Braggs' interest in groundwater was a "vested" property right,²²¹ a right

²²⁰ It is highly subjective because different crops may require differing amounts of water, irrigation techniques and equipment use differing amounts of water and so on. What level of water constitutes an "irrigated farm" may be ultimately only in the mind of each individual buyer.

²²¹ Black's Law Dictionary defines "vested rights" - "In constitutional law, rights which have so completely and definitely accrued to or settled in a person that they are not subject to be defeated or canceled by the act of any other private person, and which is right and equitable that the government should recognize and protect, as being lawful in themselves, and settled according to the then current rules of law, and of which the individual could not be deprived arbitrarily without injustice, or of which he could not justly be deprived otherwise than by the established methods of procedure and for the public welfare." 1564.

government has a primary duty to protect. Since water rights or the lack thereof so significantly affect land values, the characteristics and especially any defects in those rights are material and significant considerations that must be disclosed by sellers and their real estate agents to any potential purchaser of property during their decision to purchase.

Judge Lee's ruling is an indicator of the value of groundwater in 2010 in the Medina Valley/Castroville area of Texas. While his additional award adding damage to the value of the land that now could not be called an "irrigated farm" has many flaws such as a definition of an "irrigated" farm, no doubt there is some increase in value for land with an irrigation permit and irrigation system. Court rulings can be researched and can provide yet another reliable and credible source of information to value water and water rights in Texas.

The valuation of water and water rights in Texas, as well as elsewhere in the world, are beset with challenges due to the wide variability of the chemical nature of all water, the regulations affecting water including allocation and transfer, uses of the water, and the depth of the demand for water at any given time. Simple rules of thumb such as water being more valuable during drought are obvious. Not so

obvious are the complicated sets of rules and regulations that ultimately hold the key to water sales and leases. Texas is especially challenged in groundwater sales and leases since there are 100 individual groundwater conservation districts across the state with 100 different sets of rules and regulations. Couple the variations of regulations across the groundwater conservation districts with the fact that some 25% of the state has no groundwater regulation at all since the people in those areas have chosen not to create a district, the valuation of groundwater becomes very much a distinctly local issue. Valuing surface water, allocated by the TCEQ based on first in time, first in right appropriative permits and rights, has its own challenges in quality, quantity, and transferability, but at least there is only one regulatory agency in the state overseeing its management. The federal *supra-legal* authority via the Clean Water Act of 1972 and the controversial and pending Waters of the United States ruling along with the various long time environmental regulations such as the Endangered Species Act of 1973 have to be considered also in water rights valuations as would EU regulations impact water's fair market value in Europe.

Here are some of the sources to assist in developing a credible and reliable valuation of a water right:

- **Real estate appraisers;**
- **Existing sales or lease contracts** - willing individuals or demands of public agencies under the "Public Information Act;"
- **Real property records in the counties** for recorded transfers or leases;
- **Pending lawsuits and testimony** from review of district court files;
- **County Ag Agent and Implement/Seed Dealers;**
- **Court rulings** such as Bragg v. EAA by Judge Tom Lee in 2010;
- **Petroleum landmen;**
- **Central Appraisal Districts;**
- **Individual GCDs, EAA, River Authorities, and the San Antonio Water System (SAWS)** - some have "marketplace" opportunities to put buyers and sellers in touch;
- **Real estate agents, attorneys, and accountants;**
- **Water well drillers;**
- **Local FSA, Farm Bureau; and,**
- **Open advertising** by parties seeking sale or lease of water.

Remember that there is no Multiple Listing System (MLS) for water transactions as in traditional real estate transactions, therefore difficult and time-consuming research is required into what has traditionally been the most highly confidential information, water sales and leases. But with due diligence, hard work, and a keen eye for a rapidly changing water marketplace, timely and credible valuations of water rights can be made and used appropriately.

This same fair market valuation model is germane to every society on the globe. Adjustments for currencies, crop choices, water uses, and any other appropriate adjustment for the unique aspects of any independent society must be made, but following the model's principles and formulas, the model would be an effective tool for fair market valuation of water, particularly in Spain due to its similarities with Texas.

My second hypothesis, the three pillars of society can be controlled by the length of time it takes courts to resolve conflicts in public water policy, is true and correct. Justice delayed is without a doubt justice denied. The fairness and success of society with conjunctively-related three pillars depend on timely permitting, rule interpretation, and rule enforcement. "Time is of the essence" in any water project prevails. The economics of a

water project to a large degree depend upon timely actions. The environment, especially when confronted with the danger of human folly, cannot afford to wait for unreasonable lengths of time for repair and protection. Human relationships exist within time frames and are dependent upon opportunities that come and go but rarely are fixed. The timeliness of public water policy has a tremendous impact on the three pillars of society. "Due process" social control is the manner in which any society promulgates its rules and regulations, but a key element in due process is the word "due." Due dates are part of all life as we live in a dynamic and ever-changing world, especially where water policies are concerned.

Chapter Six

"Deceptive" and "Destructive" Social Control: Water Policy Used as the Ultimate Weapon

The third hypothesis of this study is that the three pillars of society can be controlled by promulgating formal and informal water policies as weapons to control dissident behavior or to protest other government policies. This control takes the form of "deceptive" social control as in the case of Austin, Texas or in the case of Israel's water policies towards the Palestinians and vice versa and the recent Jat caste's closing and destruction of part of the water canal delivering water to New Delhi in India, the control becomes "destructive" social control. How do these groups use public water policy or actions as weapons of social control?

Using water as a weapon of social control can be accomplished indirectly or "deceptively" as in Austin, Texas, directly or "destructively" as in the village of Beit Soreek, West Bank, Israel, and recently by the Jat caste in New

Delhi, India. The three pillars of society are dramatically affected by either approach; significant consequences for the environment, the economy, and human relationships result from both approaches. The indirect use of water as a weapon has had significant consequences for Austin, Texas since 1992.

"Deceptive" Social Control in Austin, Texas

Political groups in Texas often attempt to use water policy as a "weapon" to promote their social control agendas. Texas experiences regular droughts in varying degrees of intensity across the entire state especially west of a north south line from Dallas to Brownsville.²²² The most recent severe drought in Texas began in earnest statewide in 2010.²²³ Texas makes an ideal example of groups using water policy as a weapon for social control because even in the midst of the latest, well-publicized, long-term severe drought, Texas continued to enjoy an enormous population increase. Demographers predict and have done so accurately for over a

²²² Charles Porter. *Sharing the Common Pool: Water Rights in the Everyday Lives of Texans*. College Station: Texas A&M University Press, 2014.

²²³ Charles Porter. Speech to attendees at South Texas Law School's *29th Annual Real Estate Law Conference*, June 24, 2014, Houston, Texas.

decade that the state's population will double over the next 50 years.²²⁴

A central Texas group recently attempted to use water as a weapon of social control in a dispute between local citizens and a private company seeking permits to move privately owned groundwater out of one groundwater conservation or regulatory district to another.²²⁵ Homemade signs prepared and held proudly and emphatically by a local group used an alleged statewide water "shortage" as their weapon of social control. The signs held by this group were seen nationwide. The group's signs proclaimed this blunt and dire message - "Don't Come to Texas, Ain't No Water."²²⁶ It was not a statement supported by science or true conditions but an emotional message to discourage people considering a

²²⁴ Austin Area Research Organization Luncheon December 4, 2015, attended by the author. Speaker Tom Meredith and a panel of demographers including past State of Texas demographer, Steve Murdock, agreed that the population of Texas should double by 2050. Also, see "Water for Texas: the 2012 State Water Plan." There is general consensus among all demographers that the population of Texas will grow drastically by 2050 putting tremendous pressures on all its natural resources, especially groundwater. Meredith actually predicted that the population of Austin alone would reach 8,000,000 by 2050, which is currently the population of Manhattan Island in New York.

²²⁵ The tactic was used by people in Bastrop, Giddings and Lee Counties in 2014 and 2015 in an attempt to block transfer of groundwater out of district by Forestar Corporation (Bastrop) and Vista Ridge Partners, Ltd. (Giddings and Lee). Texas groundwater is partially regulated by local option groundwater conservation districts. There are 99 of these districts with 99 differing sets of regulations scattered around the state covering about 65% of the land area. Transfer out of district has been very controversial over the past decade with some lawsuits still pending after waiting years for the local courts to rule.

²²⁶ Austin American Statesman. February 25, 2014. Members of the group I met in various speeches I made around Texas argue strongly that they are not really anti-growth, but only concerned citizens trying to protect their local water resources. I disagree that this is their simple and only motive; I stand by my opinion that their real motive was an anti-growth one - they want to stop new people from moving to Texas. I also stand by their right to voice that opinion.

move to Texas. The message was clear - do not even think about moving to the area because of its desperate water shortage, a blatant and irresponsible misrepresentation of the facts.

Certainly it is difficult to accurately portray the state of mind of all the members of informal groups such as these people in the "...Ain't No Water" campaign. Their actual concerns could be as simple as worrying that newly arriving neighbors would cause the local groundwater table to fall requiring rework and potentially expensive deepening of existing individual wells.²²⁷ Other concerns may include the more indirect and often irritating impacts of population increase such as more traffic congestion, property tax increases due to the higher market values generated by a high demand "sellers'" real estate market,²²⁸ and anticipated long

²²⁷ A rule of thumb for the cost of drilling a water well in Texas is \$10 per linear foot for the drilling and pipe casing only. This applies to wells drilled to depths of up to 500 feet. The casing cost can go up astronomically as the well depth increases due to pressures and geologic conditions. When I drilled a well on my farm, I wanted to go to 1,400 feet in depth; the drilling bid for \$14,000 but the casing that must be made of the strongest steel due to depth pressures, was a hard to believe additional \$60,000. My bid was from Moy Drilling, a 50 year old drilling company in Hobson, Texas. Why is the casing so expensive? For the past decade the international market demand for steel, mostly due to China's dam construction and other building activities, has pushed the cost of steel upwards. The smaller towns of Texas typically have a scrap metal yard. The days of the week these yards buy scrap metal usually are the most heavily trafficked days of the week in the town.

²²⁸ Texas' most cherished social value since 1840 and even before, is a free education for children through the 12th grade financed mostly by ad valorem taxes based upon mass appraisals to render "fair market values" of real estate annually. The huge increase in population Texas has experienced in the past 5 years, a trend that shows no indication of ending soon, has increased the closed sales prices of residential properties as much as 8% annually - some regions such as Austin enjoyed an 11% increase in 2015. Until Texas citizens reach the age of 65, their property values float with the market value based on these appraisal-generated renditions annually. Traffic in some areas of Texas has become nightmarish, especially along the IH-35 corridor in

waits in line to get a cup of coffee at the coffee shop or a meal from the local hamburger restaurant. The message to anyone hoping to move to Texas was crystal clear in this example: water is in such short supply that there is none available for any newcomer, so stay away from this nightmare.²²⁹ The statement is a blatant lie - water for domestic use and life-sustaining consumption by people and livestock has not been unavailable or curtailed in Texas and likely will not be even in another record-setting drought such as the current one. Local regulatory districts and cities did restrict landscape watering and rightly so. But

central Texas. All typically available local services can be heavily impacted from time to time, from season to season severely by expanded population resulting in long lines and delays.

²²⁹ The earliest record of a group using water as a weapon of social control in Texas history occurred in December, 1731 in Villa San Fernando, Spanish Colonial village that would become the 7th largest city in the United States, San Antonio. By 1731, missionary Franciscans had established two missions on the San Antonio River, Valero (commonly known as the Alamo) in 1718 and San Jose in 1720. Upon notice of the pending arrival of three new missions and settlers from the Canary Islands, the President of the missions, Father Vergara wrote the Viceroy Juan Acuña in Mexico City that there was simply not enough water for the any of the new missionaries and their Native Americans and especially not enough for the Canary Island immigrants. On December 25, 1731, the Viceroy responded with the first written water policy in what would eventually become the state of Texas. Viceroy Acuña wrote that not only was there adequate water supplies available to the people already living there, but also for all the newly arriving settlers. He decreed that if any water shortage would happen to occur in the future, the water in the river would be shared by all, irrigation waters would be taken in turn, and the water would be conserved by all. This is the first time in Texas history that anyone tried to use water as a weapon of social control. Viceroy Acuña was correct and stood on the many eyewitness reports made from the area in the late 17th and early 18th centuries that there was an amazing amount of fresh water in the river fed from the prolific springs. One report in particular, written in 1709 after a personal visit to the area by the then President of all the Queréteran missions, Franciscan Father Isidro Felix Espinosa, said there was not only enough water for a villa on the San Antonio River, but enough for a ciudad (city). See *Spanish Water/Anglo Water* by Charles Porter, (College Station: Texas A & M University Press, 2009) and “Querétaro in Focus: the Franciscan Missionary Colleges and the Texas Missions” by Charles Porter in *Catholic Southwest, A Journal of History and Culture*, 2008, Vol. 19, pp. 9-51.

no one in Texas faced government mandated curtailment of water used for domestic and livestock purposes.

The "Ain't" group's commentary does, however, prove their real tactic and agenda was to play upon human beings' basic subconscious worries about survival: the need for a drink of water. "Scare" tactics such as these that take advantage of this most ancient human concern. Claiming a crisis exists in Texas' ability to provide life-sustaining fresh water, is unfair and ridiculous, yet as a weapon to control population growth, this group's tactic certainly gained local and national attention without any discernment by the news reporters - they reported it as fact and in essence, let the group's statement stand as an indication of the actual water condition in water in Texas.

A Subtle Example at a Local Water Forum

Another more subtle example of an attempt to use water as a tool for social control statewide occurred at the 4th Annual Lone Star Water Forum in Brenham, Texas in October, 2012.²³⁰ Well known central Texas attorney Bill Bunch, Executive Director of the Save Our Springs Alliance in Austin

²³⁰ The Lone Star Water Water Forum is a water inquiry forum organized by Brenham, Texas citizens and supported by Texas A & M University's Agri-Life Extension Office, numerous local citizen and environmental groups, the City of Brenham, St. Edward's University, and the Texas Wildlife Association. The 8th Forum will be held in 2016. I was a speaker at four of the forums from 2012 to 2015. I also serve on the Board of Directors. I spoke that day in 2012 immediately after Bunch as he and I shared the podium. My work here is based upon my notes during his speech.

(SOS Alliance),²³¹ told the audience of 250 plus that Texans were doing such a great job at water conservation that there was no real water shortage at the time nor one should be anticipated in the future. Bunch's comments not only surprised the audience and other water policy experts, but simply were not believed by anyone in the audience. Larry Joe Doherty, attorney at law and Master of Ceremonies of the 4th Annual Forum publicly questioned Bunch about his conclusions and his supporting document. According to Doherty, then and now, Bunch's conclusions were invalid.²³² In fact, Bunch's comments were a direct misrepresentation of the facts in 2012. The Texas Water Development Board's (TWDB) 2012 State Water Plan had just been made public a few days before the

²³¹ From their website, "The Save Our Springs Alliance works to protect the Edwards Aquifer, its springs and contributing streams, and the natural and cultural heritage of the Hill Country region and its watersheds, with special emphasis on Barton Springs. The Save Our Springs Alliance sprung to life in 1990 as a loose coalition of citizens fighting a massive development proposal for the Barton Creek watershed. On June 7, 1990, more than 1000 citizens signed up to speak to Austin city council in opposition to the planned 4,000-acre Barton Creek PUD. After an all-night meeting, council unanimously rejected the PUD, and a movement began to strengthen the 1986 Comprehensive Watersheds ordinance under the acronym SOS: "Save Our Springs". Organized in 1992 as the Save Our Springs Coalition, we wrote and petitioned for the Save Our Springs Ordinance to protect the quality of water coming off of development in the fragile Barton Springs watershed. With the voter approval of the SOS Ordinance, developers went on the attack at the court house and the Texas Capitol. We incorporated as the Save Our Springs Legal Defense Fund in 1993 to defend developers' attacks on the SOS Ordinance. Expanding our scope to include building awareness and alliances throughout the Austin area, we became the Save Our Springs Alliance in 1997. We routinely work with local conservation groups to advocate for the protection of Barton Springs and the Edwards Aquifer."
See <http://www.sosalliance.org/community/about-s-o-s-alliance.html> .

²³² I was an eyewitness to Doherty's questions, Bunch's answers, and the audience's non-acceptance of Bunch's conclusions. In fact, I shared the podium with Bunch that day having made my presentation immediately before Bunch offered his. I discussed Bunch's comments then many times with Larry Joe over the past few years, most recently on June 27, 2016 and arrive at the same conclusion. Well-known attorney John Muegge attended the forum that day and agreed with Larry Joe and me about the weakness of Bunch's presentation.

forum. The cover letter written by TWDB Chairman Ed Vaughn could not have been clearer - in drought conditions, there was not enough water available to meet the needs of Texans in the near future and beyond.²³³ The 2012 official state report mentioned several times that there was not enough water available in Texas to meet the state's anticipated growth over the next 50 years supported by professional expert opinions and science.

Bunch's dedicated work as a steward for water conservation in central Texas was then and still is unsurpassed by few and he deserves praise and thanks. Yet his speech that fall day in Brenham centered on only one thought, surprisingly based on an out of date comment made in a past Texas Water Development Board²³⁴ report. Bunch held up a single copied page from an unspecified report showing a small line graph allegedly claiming that the state agency's official opinion was that water conservation was being accomplished so well by Texans that there was no need for the

²³³ Bunch mentioned 2007 in his speech as the date of the graph. However, the Texas Water Development Board's 2012 State Water Plan had just been made public. The cover letter written by TWDB Chairman Ed Vaughn could not have been clearer - in drought conditions, there was not enough water available to meet the needs of Texans. The 2012 official state report mentioned several times that there was not enough water available in Texas to meet the state's anticipated growth over the next 50 years. The TWDB by state law must write an updated State Water Plan every five years.

²³⁴ From their website, "The Texas Water Development Board's (TWDB) mission is: To provide leadership, information, education, and support for planning, financial assistance, and outreach for the conservation and responsible development of water for Texas." See <http://www.twdb.texas.gov/about/index.asp#twdb-history> .

state to focus on finding new water resources for the future. To put it simply, Bunch's message was that Texans were conserving themselves out of any future water worries - Texans had plenty of water for the state's future. Again, a message using water as a weapon for social control. Why did he take this approach? Bunch not only works to protect water resources for over two decades in central Texas, but also works less openly to control population growth by restricting new development in watersheds and aquifer recharge zones. His opinion that day was not based upon credible science - he offered no scientific support for his opinion.

Bunch's remarks contained a hidden agenda for his ongoing anti-growth position - try to limit growth in Texas by persuading the people there was no real shortage of water in the state therefore no new water resources for the future were needed to be considered or put into place by Texas government. His remarks were a feeble attempt to begin to change the public discourse to discourage future population growth in the state with his full knowledge and hope that future water shortages would be made worse by poor planning by the state government. If the state did not develop a plan for new water resources then population growth would doubtlessly have to slow statewide. What responsible person or company would move to a Texas without water? What

institution would invest in state of municipal bonds in Texas?

Local Ordinances and Regulatory Proposals to Limit Growth Using Water Policy as a Weapon

Bunch's Save Our Springs Alliance group was originally formed in 1990. It is another local example of a grassroots movement to attempt to exert social control using water as the main weapon. The group authored and promoted Austin's Save Our Springs Ordinance (SOS Ordinance) of 1992. The city held an election in August 1992 and the SOS initiative, as the future ordinance was originally called, passed overwhelmingly with 64% of the voters approving the idea.²³⁵ The ordinance promulgated stringent low-density controls on almost 100 square miles of the near downtown southern and the western areas of the city. The ordinance accomplished this

²³⁵ Texas Water Resources Institute - New Waves - The Research Newsletter, Volume 5, Number 3, October 1992. See also <http://www.austinchronicle.com/news/2002-08-09/99632/> :“The **Barton Creek watershed** is the 120-square-mile area within which surface water drains into the creek. Any rain that falls in this area makes its way to the creek, unless it soaks into the ground and goes down to the aquifer, and any pollution or impervious cover development in this area will degrade the water quality in the creek.

Aug.: In Aug. 8 [1992] election, Austin voters overwhelmingly approve the Save Our Springs ordinance, as well as bonds for the BCCP and Barton Creek Wilderness park. SOS ordinance is applicable to Barton Springs Zone of the Edwards Aquifer, a small part of the overall watershed southwest of the city, limiting development in that zone to a maximum of 15% to 25% impervious cover, and mandating that stormwater runoff be as clean after development as before.

City records reflect that 277 development applications have been filed covering 12,000 acres in the Barton Springs Zone -- all but 38 of them after the time council delayed SOS initiative election from May 2 to Aug. 8, and almost half on behalf of two developers: Jim Bob Moffett and Gary Bradley. Developers contend that plans are governed by earlier, less restrictive regulation.”

by limiting allowable "impervious cover"²³⁶ for any new development to only 15% of the total land area in the recharge zone, 20% in the contributing zone for Barton Creek, and 25% for the remaining portion of the contributing zone.²³⁷ The impervious cover restriction ostensibly was to protect the recharge zone of the source aquifer of Austin's landmark Barton Springs thereby protecting the springs themselves.²³⁸ The impervious cover restriction in the ordinance effectively limited growth to such an extent that most new and proposed development in the SOS jurisdictional area basically stopped - few new homes were built and new commercial properties were all but eliminated. The typical new residential subdivisions that were built post-SOS had such low-density that the homes were unaffordable to all but the wealthiest of Austinites.

An unintended consequence of the SOS Ordinance was to reduce the ad valorem tax base by millions of dollars across

²³⁶ According to the City of Austin Municipal Code 25-8-1-10, "IMPERVIOUS COVER means the total area of any surface that prevents the infiltration of water into the ground, such as roads, parking areas, concrete, and buildings."

²³⁷ This is the generally accepted maximum for research, but based on set backs, compatibility requirements, and other conditions, the impervious cover limitation may drop to less than the posted percentages of allowable impervious cover.

²³⁸ Barton Springs is a natural set of springs just south of the Colorado River in downtown Austin. There are four springs that create the "springs" and has been a favorite swimming area for time eternal. It is the centerpiece of the 358 acre Zilker Park now the venue for Austin City Limits, a worldwide festival of live music. Barton Springs Swimming Pool is 3 acres in size and has a natural limestone and gravel bottom filled with very cold spring water. It is home to the endangered Barton Springs Salamander. In the 1920s the city dammed Barton Creek just below the springs to create the famous swimming pool. In the 1940s the city built the bathhouses that remain in use today.

the ordinance's boundaries resulting in, 24 years later, tens of millions of fewer dollars for schools, hospitals, and other public services.²³⁹

Beginning with the Republic of Texas (1836-1845), when Texas was briefly an independent nation, and continuing to this day, a free public school education through high school has been one of Texans' most accepted social values. When large areas of land are so limited by impervious cover restrictions such as those set by the SOS Ordinance that they cannot be normally developed, the general revenue available to fund education creates a social value conflict that must be debated including consideration of financial consequences. The debate must examine issues based on scientific fact, not emotions and coercion.

²³⁹ Austin's combined ad valorem tax rate has remained at \$2.43 per \$100 valuation for several years. The Austin Independent School District tax makes up about \$1.25 of this overall rate. The remaining tax rate is made up of special district taxes, hospital taxes, and other voter approved public service taxes.

<u>Impervious Cover Limitation</u>	<u>65%</u>	<u>15%</u>
Tract Size - 6 acres =	261,360 sq. ft.	261,360 sq. ft.
Allowable impervious cover	169,884 sq. ft.	39,204 sq. ft.
Rentable square footage of building (37.5% of allowable impervious cover)	63,707 sq. ft.	14,702 sq. ft.
Annual Net Operating Income at \$20/sq. ft.	\$1,274,140	\$ 294,040
Indicated Market Value of Development (Capitalize Net Operating Income at 8%)	\$15,926,750	\$3,675,500
Difference in Indicated Market Value		
\$12,251,250 or \$2,041,875 per acre.		
Loss of Ad Valorem Tax Revenue at the Tax Rate of \$2.43 per \$100 Valuation		
\$297,705 annually or \$49,618 per acre.		
Loss of Ad Valorem Tax Revenue over 20 years (Assuming No Increase in Market Value)		
\$5,954,100 or \$ 992,350 per acre.		
Assume the potential acreage in commercial sites inside the 15% impervious cover allowable SOS Ordinance Area is 600 acres. The SOS 15% area comprises approximately 25 square miles or 16,000 acres; 600 acres is only 3.75%, a conservative estimate of potential development area for a population of almost 1,000,000 in a city such as Austin.		
Total Potential Lost Ad Valorem Tax Revenue		
\$29,770,500 per year or		
\$595,410,000 over 20 years.		

Figure 5. Ad Valorem Tax Revenue Loss of SOS Ordinance²⁴⁰

²⁴⁰ Please see Appendix 3 for proof of the sole originality of this study's research; no one has published any academic peer-reviewed articles other than the author, Charles Porter in the Research in Business and Economics Journal, article 162390, of the Academic and Business Research Institute.

Figure 5 above is an analysis of the impact of impervious cover limitations on the after-development value a small typical commercial property (either retail or office) on only a six acre tract and over 600 acres of potential commercial developments in the SOS Ordinance area.²⁴¹ Over the first 20 years, \$1,225,125,000 in total market tax base valuation was lost due to impervious cover limitations of the ordinance. At the combined tax rate, the amount of tax revenue lost annually equals \$29,770,500. Considered over a 20 year period, the total minimum estimated ad valorem tax revenue loss is \$595,410,000. An average net operating income of \$20 is reasonable and realistic considering the location of the original 25 square miles of SOS jurisdiction. The following figure demonstrates the loss of ad valorem tax revenue from the worst to the best case scenario.

²⁴¹ The assumption of 600 acres is very conservative and equals a retail or commercial corridor or only 5 miles in length on both sides of the thoroughfare.

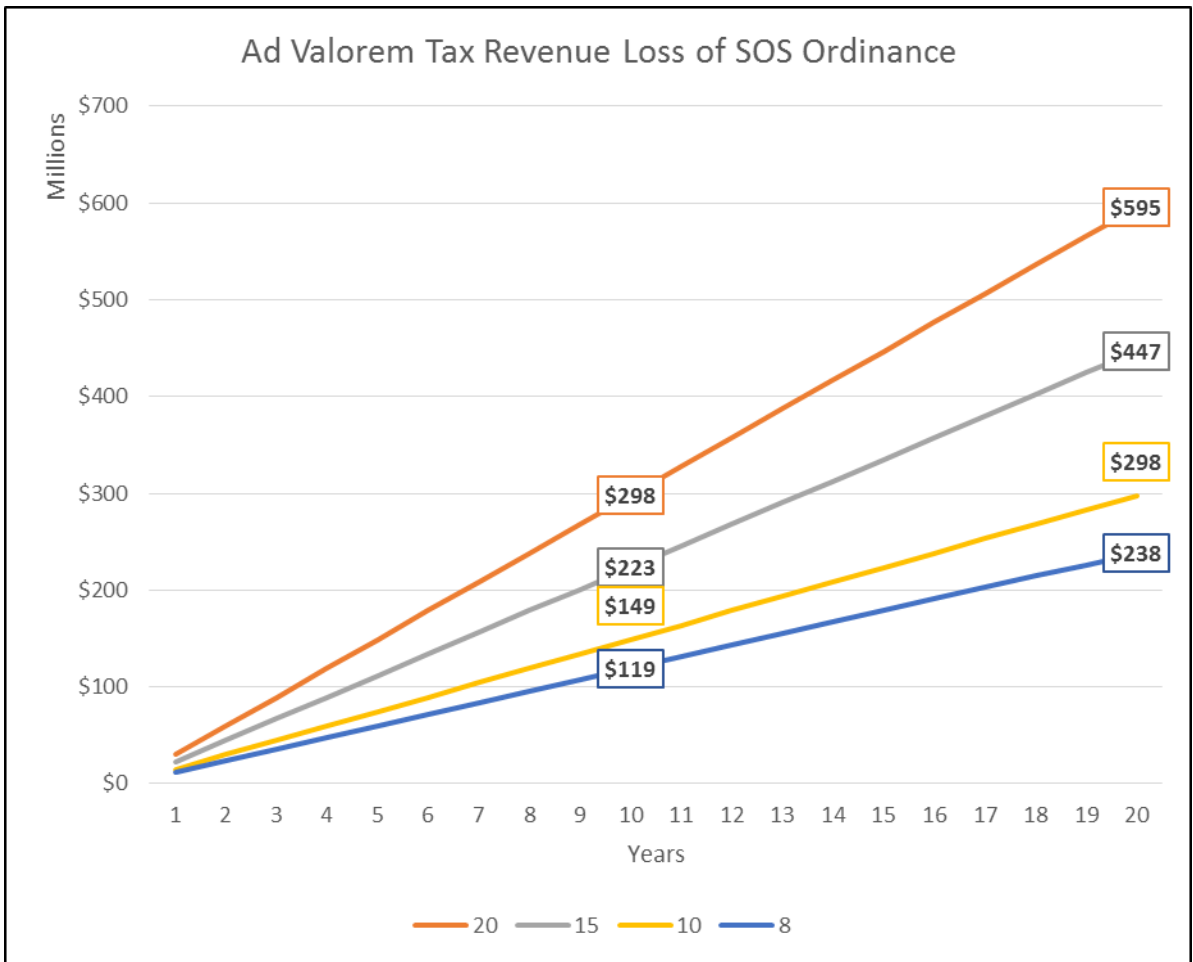


Figure 6. Ad Valorem Tax Revenue Loss at Various Levels of Average Net Operating Income per Square Foot

Figure 6 demonstrates the ad valorem tax revenue loss at varying levels of average net operating income per square levels ranging from an average of \$8 per square foot to \$20 per square foot. The \$20 per square foot average net operating income in Figure 5 is a best case scenario however, it is important to consider a range of scenarios that includes the worst case of average net operating income of \$8 per square foot. The result of these calculations provides a range of ad valorem tax revenue loss from \$238,000,000 to

\$595,000,000. Even the worst case scenario results in a substantial ad valorem tax revenue loss over 20 years.

The community and city council supported SOS and had every right to decide to choose that course. Sadly, the record shows that few Austinites fully realized the long term impact on tax revenue of this ordinance over a 20 year period. With today's technology, science could prove the effectiveness of the ordinance in protecting the springs and the community could have chosen the loss of ad valorem tax revenue as a reasonable price to pay for protection of the springs. The ordinance certainly has not helped the creeks and streams in the 15% ordinance area. The water class I wrote and have taught for 7 years at St. Edward's University (CULF 3331 - Global Water Challenges) has been shocked each semester when the students test water drawn from the area creeks. The results have been consistent - the water contains unacceptable coliform bacteria levels from leaking sewage lines and other pollutant sources.

Many people questioned then and still do today whether Barton Springs and its recharge zones were actually enhanced and protected by the ordinance.²⁴² In fact, in an August 3,

²⁴² Mayor Thom Farrell of the City of Rollingwood, a city surrounded by Austin and potentially impacted by Austin's extra territorial jurisdiction, told me Rollingwood ran tests into their SOS boundaries by inserting dye into the underground Karst-type aquifer recharge locations. The dye did not eventually emerge in Barton Springs, but in Deep Eddy, a spring across the Colorado River. Other groups fought the ordinance to no avail. Since under Texas law guaranteeing the police power of municipalities, zoning ordinances and zoning overlays

2012 interview, David Butts, a SOS campaign strategist and original supporter said:

Did we save Barton Springs? I think the jury is still out. I believe we gave Barton Springs and the aquifer a better chance of survival. The weakening of SOS and the accelerating rate of growth raises serious doubts, though.²⁴³

The ordinance did not stop or limit Austin's overall growth in the least. People continue to move to Austin in droves to enjoy its economy, its music, its festivals, and its strong reputation for respect of the environment.²⁴⁴ The developers met the demand for housing and commercial development by avoiding the Saves Our Springs' areas and simply "sprawled" out in all directions. The City Council of Austin, so concerned with impervious cover issues in 1992 later changed

are not considered "takings" by government in which "just compensation" would be due affected landowners. According to UT Law School Researchers Thomas McGarity, Sanford Levinson, Douglas Laycock, and Jordan Steiker interviewed at the time of the ordinance's birth for the Texas Water Research Institute's October 1992 newsletter, "... the SOS Ordinance is not a taking because it allows single family homes and other projects to be developed."

²⁴³ "Memoirs of a Movement". The Austin Chronicle, August 3, 2012. His comments on the "weakening" are highly prejudicial. I can testify to the consequences on property I owned on SH 71 in Oak Hill. One property in the SOS zone, 6 acres, which was zoned commercial, due to the SOS impervious limitation, was not large enough to even develop a badly needed emergency clinic of only 4,000 square feet. For a scholarly analysis of the SOS movement in Austin see William Scott Swearingen, Jr.'s *Environmental City: People, Place, Politics, and the Meaning of Modern Austin*. Austin: University of Texas Press, 2010. Scott is a friend of mine and faculty colleague at St. Edward's University. Greg McLauchlan reviewed his book for the "American Journal of Sociology, Vol. 116, No. 5, March 2011. McLauchlan said of Scott's conclusions "...largely absent are metrics or data that would allow readers to judge Austin's success as an "environmental" city." Again, I offer in this study and my previous published article the first and only research into the ad valorem tax revenue consequences of the Save Our Springs Ordinance. For a discussion of urban sustainability see Steven A. Moore's *Alternate Routes to the Sustainable City: Austin, Curitiba, and Frankfurt*. Lanham: Lexington Books, 2007.

²⁴⁴ Another unintended consequence of Austin's aggressive environmental positions is to actually have the opposite effect on population growth - it increased growth as much by reputation of a "special green" city.

its mind and decided a marked increase in new development downtown was desirable.

In 2007, the city council, in order to increase downtown development, took a position in the exact opposite direction of impervious cover limitations by increasing the impervious cover allowable to 100% by creating a new downtown geographical area zoning category, "Downtown Multi-Use" or DMU zoning.²⁴⁵ To say the least, the elected leaders succeeded in directing huge volumes of growth downtown,²⁴⁶ but along with it came the thorny issue of gentrification²⁴⁷ of near-town neighborhoods, especially those just east of downtown, traditionally African American and Latino/Mexican neighborhoods.²⁴⁸ The city used re-zoning to expand downtown because it was less expensive for the city to tie new developments into existing storm and sanitary sewage, electricity trunk lines, and other already in-place

²⁴⁵ Austin City Council C14-2015-0093 - November 12, 2015, "The DMU Zoning District allows 100% impervious cover."

²⁴⁶ Austin has had an explosion of multi-family high rise condominiums and apartment properties built downtown since the DMU zoning has been in place. Hotels, office buildings, retail - all accompany the millions of square feet of new development.

²⁴⁷ Webster defines gentrification as "the process of renewal and rebuilding accompanying the influx of middle-class or affluent people into deteriorating areas that often displaces poorer residents." Many inner city neighborhoods in Austin would strongly argue their neighborhood was not "deteriorating" and I agree.

²⁴⁸ See 2010 census of Austin, Texas.

infrastructure.²⁴⁹ Millions of square feet of mostly high rise condominium units have been built and sold in downtown Austin in the past 8 years thanks in a large degree to the change in the opposite direction about impervious cover restrictions downtown taken by city leaders 25 years after the SOS Ordinance.

Bunch's position during the time of the Save Our Springs debate was clear and exactly the opposite of his position in Brenham in 2012. Conservation then, at least in the proposed SOS area of Austin, would not be enough to protect the aquifer, hence the group's proposal to restrict growth. It was a very effective way to limit development, the SOS group's basic goal.²⁵⁰

Bunch and the SOS Alliance are not alone in this local approach of using water as a weapon of social control. SOS ideas likely influenced another central Texas group to use water as a weapon to control growth. For several years, various environmental groups proposed that the Edwards Aquifer Authority (EAA) limit all impervious cover across their jurisdictional boundaries to less than 20%; some even

²⁴⁹ I served as Chairman of the Board of the Austin Board of Realtors in 2007. City officials and professionals such as architects and engineers made it clear to me this was a major reason for the new DMU zoning.

²⁵⁰ "The SOS Ordinance Turns 20". The Austin Chronicle, August 3, 2012. "... green activists who crafted the SOS ordinance to limit the amount of development allowed within the Edwards Aquifer recharge and contributing zones."

to limit impervious to 15%.²⁵¹ The EAA is a special groundwater regulatory district whose jurisdiction covers 8,800 square miles²⁵² or 5,632,000 acres of the Edward's aquifer footprint in south central Texas. The EAA allocates groundwater withdrawals, requires meters on irrigation wells and registration of all wells including those classified as commercial or as domestic/livestock. According to an environmental group, the Greater Edwards Aquifer Alliance, their "Edwards Aquifer Protection Plan" included this exhibit, "Recommended Minimum Water Quality Regulations":

Impervious cover limitations are essential to preserve the natural quality, quantity, and timing of flow into streams and springs. We recommend an impervious cover limit of 10% of net site area in the recharge zone and 15% in the contributing zone.²⁵³

The vast majority of Texans agree that protecting groundwater sources in the state is desirable. However blanket limitations on growth and real estate development over 8,800 square miles without scientific support, thereby consciously ignoring the vast diversity of conditions in the aquifer recharge and contributing zones in the area, is unfair to

²⁵¹ "Reforms for Aquifer Protection". Aquifer Guardians in Urban Areas, San Antonio, Texas, August 7, 2005.

²⁵² www.edwardsaquifer.org. See Aquifer Education tab.

²⁵³ "Edwards Aquifer Protection Plan". The Greater Edwards Aquifer Alliance. Exhibit B. No date was shown on the document, but it is currently an active proposal. See aquiferguardians.org. Basically all of the 8,800 square miles of EAA jurisdiction are recharge or contributing zones.

existing landowners and unwise as public policy. A blanket approach such as this would have dramatic unintended consequences for generations of future Texans, negatively impacting public school education's general revenue for the mostly rural population living inside the EAA boundaries. Yet, no one seems to take the tax-based impact seriously, not even the impacted public school superintendents.

Bunch's unsupported misrepresentations at the Lone Star Water Forum, the SOS Ordinance in Austin, and the proposals of the groups attempting to protect the Edwards Aquifer, are examples of patterns of pressure through which society attempts to maintain social order and cohesion. The groups supporting the impervious cover limitations use persuasion through the normal political process in Texas and it is their right to do so.

However, they also used shame, coercion, force and restraint in the promotion of their position. Their overall message of shame is obviously clear as an underlying theme of all their rhetoric; shame on the development of "pristine" nature by "evil corporate developers."

This message of "shame on you" was directed to Jim Bob Moffett's Freeport-McMoRan Corporation in its proposed Barton Creek area 4,000 acre development in 1990. Beginning that year and lasting for the years after the SOS ordinance passed

into law, Moffett was personally vilified in the local, state, and national press and attacked continuously due to his development plans for the land his corporation owned.²⁵⁴ The groups such as the SOS Alliance and other citizens against the Barton Creek proposal used coercion and force as evidenced no more clearly than the day they trapped Moffett in a construction trailer on site. In the summer of 1992, the protesters physically tried to push the trailer off its foundation with Moffett inside.²⁵⁵ A comment typical of the attitude of many in the group supporting the SOS ordinance then was made by Nicolo Festa, a neighbor in the area: "Let Moffett and his like go peddle their **poisoned wares** elsewhere."²⁵⁶ The site plan of the proposed 4,000 acre Barton Creek Estates development included a golf course, clubhouse, and single family residential building sites of low-density (under 3 homes per acre) and the homes were planned to be offered for sale in the upper ranges of market prices at the time. Is it true and fair to characterize a golf course accompanying a low-density single family home development as "**poisoned wares**"?

²⁵⁴ "The SOS Ordinance Turns 20". The Austin Chronicle, August 3, 2012. A June 7, 1990 all-night City Council meeting in Austin included 900 people speaking against the development.

²⁵⁵ I personally witnessed the protest and physical attack on the construction trailer.

²⁵⁶ Jenny Rice. *Distant Publics: Rhetoric and the Subject of Development Crisis*. (Pittsburgh: University of Pittsburgh Press, 2012) 76.

Water as a weapon of "deceptive" social control is exemplified by the SOS Ordinance, a weapon based not upon on credible science but on speculation, emotion, and stereotypical attitudes. When one of the SOS' own original spokespersons some 20 years later declares "... the jury's still out" on whether his group saved Barton Springs, the true tactic of the SOS supporters was made clear - to use water as a weapon of social control to stop population growth. According to Robert F. Williams, Distinguished Professor of Law at Rutgers University Law School:

The motives of each of the actors in the Barton Springs affair are easily explained by the rapid growth Austin has undergone in the last ten years. Until the 1990's, Austin was a quiet town of approximately 500,000 citizens. The town's most prominent characteristics were its status as the home of the state capitol and the University of Texas. Many of the residents of Austin lived there because of the city's tranquil setting. The high technology boom of the 1990's changed Austin significantly. Austin became home to a large number of software companies, one of which was Dell Computer, and consequently saw a staggering amount of growth within a very short time. The original residents of Austin responded to the rapid growth negatively, and sought to obstruct it. City regulations became increasingly complex, reflecting an attitude among many in local government that "no development is good development."²⁵⁷

Professor Williams from far away Camden, New Jersey, only eight short years after the SOS Ordinance was passed in

²⁵⁷ Robert F. Williams. DEVELOPMENT IN STATE CONSTITUTIONAL LAW: 2000. Rutgers Law Journal, Summer, 2001, 32 Rutgers L. J. 1499-1500.

Austin, clearly supports the position of this study: that water was used as a weapon of social control in Austin to "obstruct" growth.

An even more direct use of water as a weapon of social control which I refer to as "destructive" social control has happened in Israel for decades and most recently in India.

"Destructive" Social Control in Israel and India

Perhaps the ultimate example of water policy as a means of "destructive" social control is the well-publicized long-term Israeli-Palestinian argument over access to water. More recently in February 2016, a major crisis in water occurred in India when the Jats closed the main canal providing water to Delhi putting ten million people without water resulting in riots and many deaths. A look at the situation in these countries exemplifies the concept of "destructive" social control. Please keep in mind that the intent of this book is not to propose a solution to these multi-faceted problems nor is it attempt to determine the true motivations by the parties involved. The message here is simple: water is the ultimate weapon of social control.

Long Term Israeli-Palestinian Water Policy

Over the past twenty years, volumes have been written about the hydropolitics between Israel and Palestine. The control of Palestinian water supplies by Israel is a long-

term example of “destructive” social control. Recall that the concise definition of hydropolitics I mentioned earlier in this book is “the authoritative allocation of values in society with respect to water.” The authoritative allocation of water can be accomplished by the due process of governments or their agencies or in the case of Israel and Palestine, by national policy determined not by diplomacy but by military control or force. It is common and accepted knowledge worldwide that Israel holds control and power over Palestinian access to water in the Gaza Strip and even more so in the West Bank, especially since the 1967 Israeli occupation. Yet an unbiased look at the facts show that **both sides** use water policy as a weapon for their attempts at social control. The debate between them is so polarized it is difficult to discern the truth of the situation. Faced with this challenge, an eyewitness report proves helpful.

To attempt to determine a better view of the actual water relationship between Israel and Palestine, Amani Mousa,²⁵⁸ a visiting West Bank Palestinian graduate student attending St. Edward’s University in Austin, was interviewed. During the interview, Amani did not display any vindictive or angry attitude about the water situation with the Israelis at

²⁵⁸ Live interview between the author and Amani Mousa on Sunday, November 8, 2015 in Austin, Texas.

her home in the West Bank. She approaches the difficulties with water at home with disappointment of course, but with an admirable degree of acceptance as well. She realizes fully that she lives in an occupied land. Her only real frustration was with the process it takes to accomplish routine tasks at home without oddly occurring delays or obstacles placed in the way of what we in America would consider everyday normal life. For example, Amani said there are reasons to enter into Jerusalem from time to time and sometimes she waits hours at one gate only to then enter and arrive at another gate that has closed for the day without any notice to the earlier gatekeepers.²⁵⁹ Each day seems to offer a new challenge to living a "normal" life. Her passport lists her as a person without any nationality, causing her delays and headaches in travel.

Amani has an inquiring mind, is dedicated to her education, and has exhibited servant leadership as a student in Austin's St. Edward's University community. Amani is a peer-reviewed academically published author writing in both her native language and in English. Her comments in the interview were credible and unbiased. Overall as to water availability, she anticipates little will change at her home

²⁵⁹ Ibid.

and that her family will continue to have limited access to water.²⁶⁰

Amani said her neighbors are all but entirely dependent on Israel's Mekorot²⁶¹ national water company for their daily water. There is little reliability for water deliveries - some days at home she had access to water, others none at all. In fact, sometimes water was not available to her for several days. She said her father manages the extended family cistern which he tries to keep full when he can when the Israeli provider makes water available. (Interestingly, her family shares the cistern with her uncles and cousins without a written agreement as to use or amount used. All users agree to follow her father as allocator of water to the families without dispute.) Responding to a question about new water wells as a potential source of water, Amani said permits to dig any water wells had to be obtained from both Palestinian and Israeli authorities. She indicated that it was almost impossible to gain both regulatory group's approval, a comment supported strongly by this author's research from other sources. Asked about the quality of the water her

²⁶⁰ Ibid.

²⁶¹ Per Wikipedia, Mekorot (Hebrew: מקורות, lit. "Sources") is the national water company of Israel and the country's top agency for water management.[1] Founded in 1937, it supplies Israel with 90% of its drinking water and operates a cross-country water supply network known as the National Water Carrier. Mekorot and its subsidiaries have partnered with numerous countries around the world in areas including desalination and water management.

family receives when they do get it, Amani said it varies; at times the water appears clean and pure and at other times it is a brownish liquid that they drink and use anyway. Her father pays the water bills so she was not sure of the cost and has no frame of reference for the price except that her father considers the price too high, yet he rarely complains. Amani's family lands were confiscated by the Israelis without compensation years ago - they had been farmers for as long as anyone could remember in her family history, farming their family owned lands.²⁶² Amani's comments are congruent with the literature of the Palestinians and many third party outside observers. Her comments were in diametric opposition to the water literature of the Israelis; the Israeli side as a whole praises and promotes the fine job Israel has done in providing pure water to the Palestinians reliably, on time, and in adequate quantities.

To seek the Israeli viewpoint from everyday life, a focus group was held with three PhD candidates in Engineering at the University of Texas at Austin. All three students are of the Jewish faith, two were born in Israel, the other, while born in Texas, had traveled extensively in Israel and studied the water situation there for years. Yuval Edrey was

²⁶² Ibid.

born in Haifa which is still his home. Yael Glazer was born in Israel but only lived there until she was three years old. Both of their perspectives help illuminate the Israeli side of the issue of water.

All three students made it clear that fresh water is above all else, **precious** to all Israelis. From elementary school onwards, all Israeli students are taught why water is important, how to conserve water, and to always remember water is to be respected and shared in common. All water is public property in Israel. Children are taught simple ideas about conservation such as, during the wait time for shower water to warm up, to place a bucket under the shower head to save the cold water for other use. They are taught not to allow the faucet to run while they are brushing their teeth. According to Yael, they are taught by cartoons that show not only techniques, but the one who wastes water is portrayed as a "villain" with a long curly moustache and an evil look on his face. Even though with desalination today most of Israel has no water shortage, since water conservation is a normal way of life, the preciousness of the water is still dear to everyone's heart.

Some of Amani's comments that can be summed up as an expression of "water insecurity" were shared with the group. "Water security" is, according to the UN Water the United

Nations inter-agency mechanism on all freshwater related issues, including sanitation,

... defined as the capacity of a population to safeguard sustainable access to adequate quantities of acceptable quality water for sustaining livelihoods, human well-being, and socio-economic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability.²⁶³

Water insecurity would be the antithesis to this definition.

A key to understanding the reasons why the extreme viewpoints of some Israelis and Palestinians on water as a weapon of social control can be found in the very word "security". As explained by the Israeli focus group, until recently, especially from Yuval's viewpoint, daily life even in his home in Haifa was simply not "secure" - a life lived never knowing if (or when) another random violent event would happen in your very neighborhood. The feeling of the focus group was that as young people, just like Amani, all they wanted was peace and to live a normal life.

The opinion of the focus group was that the extreme factions in Israel would likely use and have used water as a weapon of "destructive" social control, but on the other hand, they suspect the extreme Palestinian political control groups would just as soon continue to have water security not

²⁶³ <http://www.unwater.org/topics/water-security/en/>.

enter the normal lives of those living in the West Bank or Gaza and in this manner, these groups are equally as guilty of using water as a weapon of "destructive" social control.

Any possibility of "due process" social control was discussed, even having a chance someday to enter into the relationship between Israelis and Palestinians. Yuval opined that Palestinians were given the opportunity to become Israeli citizens and gain access to "due process" of law but chose not to do so. Until violence is no longer a part of the relationship between Israelis and Palestinians, "diplomatic" social control as a solution simply will not have a chance. Their comments were very enlightening as to the inquiry about a planned effort by Israel to make daily life so miserable that the Palestinians would move away. The group said, sadly, there was no place for the Palestinians to go; no one wanted them. The group discussed that life in the West Bank and in Gaza for the Palestinians was like living in a "little prison;" very restricted and uncomfortable. One member of the focus group even offered an understanding of the willingness of young extremists to commit suicide for the Palestinian cause because the focus group member would likely consider it if they had to live in Gaza. The focus group was unable to offer any workable solution to the many problems, but did say they felt more secure in Israel today. Yuval had

served his mandatory military tour before coming to the United States; he expressed how difficult it was, and discussed the arms and support the extremists in Palestine get from other countries like Lebanon and Syria as one of his frustrations with neighboring countries.

The consensus of the focus group was that the Israeli water company exerts social control over their water supply by pricing, but availability is no longer an issue. The group felt that the lack of a reliable water source Amani and her family faces may not only be blamed on Israeli policy or the Israeli water company, but they speculated there was a Palestinian group who acted as a "middleman" that could be equally culpable as well. Their opinion was that politics made the entire situation with water for the Palestinians what it is today, not the physical availability of water considering the new technologies.

Views of the Stakeholders and Experts

The geological containers of water in Israel and the occupied Palestinian territories are not only shared between them, but are also shared with Jordan.²⁶⁴ According to a United States-based non-profit, The Water Resources Action Project (WRAP):

²⁶⁴ The Jordan River is the main surface watercourse shared but there are also several shared aquifers as well. Israel claims ownership of the surface and groundwater much to the dismay of Palestine.

The primary sources of water in Israel, West Bank, and Jordan are a combination of surface water rivers and seas, groundwater reservoirs, and desalinization plants. Surface water accounts for 30% of Israel's supply, totaling 550 million m³/year (MCM/yr) [million cubic meters per year]. Major sources of surface water include the Sea of Galilee and the Jordan River. However, the Jordan River has become polluted and has lost 90% of its normal flow (Belt). Israel also sits on a series of major aquifers, which yield 850 MCM/yr. Furthermore, Israel has initiated a major project to develop several large desalination plants with the capacity to supply approximately 500 MCM/yr by 2015.²⁶⁵

Adding to that is the undeniable fact that worldwide humans damage water not only with fertilizer and herbicide runoff from agribusiness activities, storm water runoff from streets and pavement, and industrial pollution, but also with human waste, commonly referred to as "sanitary"²⁶⁶ sewage. The disposal of human waste is a serious point of contention between Israel and Palestine.

Israel's technological achievements in water earn and deserve worldwide praise. The Israelis consider water precious, exhibiting a starkly different attitude to water than many or maybe even most Americans do. The Israelis have maximized the use of both surface and groundwater, making the "desert bloom" for decades. A new book written by Seth M. Siegel, *Israel's Solution for a Water-starved World: Let*

²⁶⁵ WRAP. "A Comparative Study of Water Data Across Israel, West Bank and Jordan." December 2013.

²⁶⁶ "Sanitary" sewage – an English language oxymoron.

There Be Water, is a fine source for the history of Israel's water development from 1937 to 2015. In recent years according to Siegel,

In about ten years, beginning shortly after the new century, Israel went from scarcity of water and fear of drought to abundance and independence from climate conditions. This dramatic change was made possible by the seventy years that preceded it in which a cadre of often brilliant engineers, scientists, and policy makers developed Israel's water-related expertise, technology, and infrastructure.²⁶⁷

Israel's water programs succeed through the never ending pursuit of new ideas, use of up-to-date technologies, and establishment of water management and allocation policies that have enhanced Israeli citizens' access to water so successfully that Israel was able to declare itself, according to Siegel, "water independent from weather" in October 2013.²⁶⁸ The Palestinian view is that the only people whose water resource was enhanced were the Israelis.

Does Israel use water as a weapon of social control over the Palestinians? Absolutely, but a fairer answer gleaned from review of the myriad of articles written about the subject over the past 20 years is that **both** the Israelis and Palestinians consider water to be one of their most potent

²⁶⁷ Seth M. Siegel. *Israel's Solution for a Water-starved World: Let There Be Water*. (New York: St. Marten's Press, 2015) 235.

²⁶⁸ *Ibid.* ix-x. So far I have been unable to find the person or organization or agency in Israel that specifically made this declaration.

weapons in their attempts at social control. Israel holds the upper hand as far as the physical supply of water to Palestine at this time and has for decades. The two sides of the debate are diametrically opposed in their viewpoints of the water situation. Most of the arguments in this debate are conducted by truly credible experts of all disciplines from each side making it very difficult to determine the "whole truth, and nothing but the truth" in the Israeli-Palestinian water conflict.

Siegel, on the one hand, opines that,

One major impediment to resolving water issues between Israel and the Palestinians is that - after many years - the Palestinian Authority (PA) has decided to make use of water as a tool to reinforce political claims against Israel, rather than working with Israel to find pragmatic solutions to Palestinian water needs.²⁶⁹

Siegel thinks the rivalry between the Palestinian Authority, supposedly the governing body of the West Bank and Gaza Strip, and Hamas exacerbate the situation for all sides and may be a basic cause of the politicization of the water issue.²⁷⁰ Siegel's views coincide with the opinions of the Israeli focus group mentioned above.

²⁶⁹ Ibid. 175-176.

²⁷⁰ Ibid. Does Hamas' stance that Israel should not exist cause the PA to be confrontational with Israel over water? Do internal pressures between the PA and Hamas result in deliberate non-cooperation with Israel over water? Siegel asks very germane questions and opines that it is "a key area" of the PA's choice to not cooperate.

The viewpoint of Professor Haim Gvirtzman of the Hebrew of Jerusalem aligns with Siegel also. His executive summary in a paper he wrote published by the Begin-Sadat Center for Strategic Studies represents an accurate summary of the basic Israeli position on the water dispute:

Water shortages in the Palestinian Authority are the result of Palestinian policies that deliberately waste water and destroy the regional water ecology. The Palestinians refuse to develop their own significant underground water resources, build a seawater desalination plant, fix massive leakage from their municipal water pipes, build sewage treatment plants, irrigate land with treated sewage effluents or modern water-saving devices, or bill their own citizens for consumer water usage, leading to enormous waste. At the same time, they drill illegally into Israel's water resources, and send their sewage flowing into the valleys and streams of central Israel. **In short, the Palestinian Authority is using water as a weapon against the State of Israel** [emphasis added]. It is not interested in practical solutions to solve the Palestinian people's water shortages, but rather perpetuation of the shortages and the besmirching of Israel.²⁷¹

Further in his report, Prof. Gvirtzman writes, "The Palestinians live in the shadow of the State of Israel, a world superpower in terms of water technologies.

Consequently, the Palestinians enjoy a *relative Garden of Eden* [emphasis added]."²⁷² Amani gave no indication

²⁷¹ Prof. Haimi Gvirtzman. "The Truth Behind the Palestinian Water Libels". BESA Center Perspectives Paper No. 238, February 24, 2014. Published by the Begin-Sadat Center for Strategic Studies and found at <http://besacenter.org/perspectives-papers/truth-behind-palestinian-water-libels/>.

²⁷² Ibid. 5.

whatsoever that she would at all agree that the West Bank was a *Garden of Eden* due to Israel's fair water policies.

On the other hand, according to the Palestine Liberation Organization Negotiations Affairs Department (PLONAD) in direct disagreement with Siegel and Prof. Gvirtzman:

Since its 1967 occupation of the oPt [occupied Palestinian territories], Israel has completely controlled our water resources and deprived us of access to a sufficient share of water, in violation of international law. Instead, Israel has used our water resources for its illegal settlements and its own population, forcing our communities to purchase water from Israeli companies at high commercial prices.²⁷³

The PLONAD claims the Israelis use 86% of the available fresh water resources and keep the Palestinians from developing water resources in their own territories which results in only 60 liters per capita per day for a Palestinian, well under the 100 liters per capita per day recommended by the World Health Organization.²⁷⁴ Keep in mind that Israel occupies the Palestinian territories, and as occupiers, have all the power.

According to Mark Zeitoun of the University of East Anglia in his book *Power and Water in the Middle East: The Hidden Politics of the Palestinian-Israeli Water Conflict*,

²⁷³ <http://nad-plo.org/ctemplate.php?id=179&more=1#1>.

²⁷⁴ Ibid.

power is the key to control of water between the parties. Of Israeli control, Zeitoun concludes:

... while their [Israel's] control was contested in the decades following 1948, it was essentially beyond contention after 1967. It evolved following the 1995 Oslo II Agreement into a pervasive and hegemonic form that endures today, with distinct forms of power enabling each stage in the evolution of Israel's dominance.²⁷⁵

Zeitoun's and PLONAD's opinions do coincide exactly with Amani's eyewitness experience at her home in the West Bank. One expert outsider's viewpoint helps further illuminate the situation.

Elisabeth Koek author of "Water for One People Only: Discriminatory Access and 'Water Apartheid' in the OPT" provides this opinion:

Since 1967, Israel has exerted considerable military and political efforts, including the establishment of settlements, to illegally exercise sovereign rights over Palestinian water resources... This integration was significantly advanced in 1982 by the transfer of ownership of Palestinian water infrastructure in the West Bank to Israel's national water company 'Mekorot' which has forced Palestinians to rely on the company to meet their annual water needs... 'Mekorot' routinely reduces Palestinian supply - sometimes by as much as 50 per cent - during the summer months in order to meet consumption needs in the [Israeli] settlements.²⁷⁶

²⁷⁵ Mark Zeitoun. *Power and Water in the Middle East: The Hidden Politics of the Palestinian-Israel Water Conflict*. (London: I.B. Tauris & Co Ltd, 2012). 2.

²⁷⁶ Elisabeth Koek. "Water for One People Only: Discriminatory Access and 'Water Apartheid' in the OPT". (Ramallah – West Bank – Palestine: Al-Haq) 2013. 16-17. Elisabeth Koek is a Legal Researcher with Al-Haq and holds an LLM in Public International Law from King's College London and an LLM in Corporate Law from the University of Leiden.

Ms. Koek's paper supports Amani's eyewitness report to me as well.

As to the future of the conflict, Koek sees hope for a fair conclusion only if the parties follow international legal norms since Israel will continue to dominate Palestine at the negotiating table.²⁷⁷ Zeitoun sums up his book with the opinion that the only hope for Palestinians, especially in the West Bank, is to rely on **privately owned desalination units** for reliable water. Yet, how can any Palestinian owned company find financing for the project, assuming it could gain the needed permits to build and operate a desalination plant? Equally as difficult as finding financing would be thought not impossible, this question arises. Could the Palestinian people afford the cost of the infrastructure and the ongoing operation and maintenance of a desalination system? They would face the same problem as the Israelis in that as important as environmental sustainability is to any new water system, especially a desalination plant with its headaches of disposing of the briny by product of filtering out salts, a new water system must be **financially sustainable** as well. The users of the water system must be able to pay for installation, maintenance, and operation of the system.

²⁷⁷ Ibid. 20.

Zeitoun's dire prediction is that the Palestinian agricultural sector will "dry up slowly, as whatever good water remaining is devoted to the cities. The intensity of the water conflict will increase along with the inequity... ." ²⁷⁸ The power imbalance will probably remain in favor of Israel.

As a certified and experienced mediator in Texas real estate and family law disputes for over 25 years, it is my opinion that unless the power imbalance between the Israelis and the Palestinians is somehow mitigated, a mediated settlement (any treaty is basically a mediated or negotiated settlement, a settlement in which the disputants own and make the decisions) is all but impossible to reach. Since there is no applicable and effective *supra-legal* authority other than that of Israel with jurisdiction over the dispute, unless the parties agree and appoint an outside authority that has the courage, power, and will to enforce any such agreement, it appears that the parties are hopelessly deadlocked. Yet with the many publicized predictions that the Palestinian population will grow at a faster rate than the Israeli population, a serious and terrible collision filled with more

²⁷⁸ Zeitoun. 164.

human tragedy looms with the water dispute as the proximate cause.²⁷⁹

A Recent Event in India

Recently, a new example of “destructive” social control using water as the weapon occurred in India, in and around the city of Delhi. Delhi – whose current population in 2016 is 18,686,902²⁸⁰ – is the fifth most populous city in the world. Almost 60% of the water supply for Delhi is drawn from a surface water canal, the Munak, diverting water from the Yamuna River. According to several news reports, on the weekend of February 13th, a group of local upstreamers, known as the Jats, a rural caste of northern India and Pakistan, closed the sluice gate to stop water flow into the Munak canal. In addition, they deliberately damaged a portion of

²⁷⁹ <http://www.ibtimes.co.uk/will-palestinians-outnumber-israeli-jews-by-2016-1481628> . Quoting from this article, “Professor Arnon Soffer from the geography department at the University of Haifa told the Jerusalem Post that ‘today the percentage of Jews is 52% and in 2024 it will be just 48%’. Another academic, Professor Sergio DellaPergola of Hebrew University, said that ‘the unquestionably documented fact is that the Arab population in our area is growing and will continue to grow for several years at a pace faster than the Jewish population’. In 2011, DellaPergola argued that the Jewish population would no longer be a majority around 2015.” Earlier in the article, the authors opined, “The worst nightmare for Zionists and nationalists – that of an Israeli state where an ethnic minority rules over a majority, raising echoes of Apartheid-like system – seems to be approaching at an unrelenting pace.” Even the demographics are in dispute as other sources disagree as to the rate of growth. Even if the rate of population growth is as one-sided in favor of the Palestinians as some claim, by 2050 I find no projection that does not keep the Israelis in at least the majority even though the gap would be closed to 55% Israeli and 45% Palestinian. “Proximate cause” is defined by the State Bar of Texas as: 1. A proximate cause is a substantial factor, that [in a natural and continuous sequence,] brings about an event and without which the event would not have occurred; and 2. A proximate cause is foreseeable. “Foreseeable” means that a person using ordinary care would have reasonably anticipated that his acts or failure to act would have caused the event or some similar event. There may be more than one proximate cause of an event.

²⁸⁰ <http://www.indiaonlinepages.com/population/delhi-population.html>

the canal itself.²⁸¹ This action caused over 10,000,000 people in Delhi to lose access to water. In the aftermath of the resulting riots, nineteen (19) people lost their lives.²⁸² With the deaths and rioting, the Jats' actions clearly demonstrate their use of water as a weapon of "destructive" social control; people lost their lives, and the lives of 10,000,000 people in Delhi were disrupted. Among the many reasons for the drastic action of the Jats, Delhi's geography and water resources coupled with the caste system still present in Indian politics are the most significant.

Delhi's water resources come from the upper Yamuna River via the Munak Canal, 60%, from the city's ancient appurtenance to the Yamuna River now badly polluted, 12%, and the balance of which comes from groundwater. In centuries past, a now-polluted 13th century water storage tank, the Hauz Khas, or "royal lake or tank", which was at one time 123.6 acres in size, also contributed to Delhi's water supply. Hauz Khas was dug in order to catch stormwater runoff during the annual monsoons. As Delhi grew in the 1960s and 1970s, development moved westward away from the city's original adjacency to the Yamuna River. The Munak Canal stemmed from

²⁸¹ <http://www.bbc.com/news/world/asia/india> . The photographs show massive damage to a portion of the concrete-lined section of the canal.

²⁸² Different news reports proclaimed sixteen (16) people were killed in the riots.

a 1996 agreement with the Haryana. The canal construction project began in 2003, at first designed as only dirt-bottomed. Later, the canal was lined with concrete due to seepage losses that some claimed to be up to 80 million gallons per day.²⁸³ For over a decade, the states of Delhi and Haryana have disputed the amount of flow Haryana committed to provide Delhi in the original 1996 agreement. Notwithstanding the ongoing dispute over flow, the Jats of Haryana used water as a weapon to enact their anger over new job caste rulings by the Indian central government.

The Jat is a rural caste of four million people in Pakistan; the Jat in India include six million people.²⁸⁴ Some of the Jats live in the once-Indian state of Punjab, the area aforementioned in this book of the Indus River dispute of 1948-1960 and beyond. The Jats came into existence as a political group in the 17th century and established a military kingdom in Punjab and its surrounds. Haryana's Jats are a

²⁸³ <https://www.kent.co.in/pdf/news/Annexure-1.pdf>. Also, A similar condition occurred in the United States in the 1930's era All America Canal, the lifeblood for Imperial Valley farming in Southern California. In a 1944 treaty agreement with Mexico, the shared waters of the Colorado River fed the canal which began as a dirt-bottomed canal. Seepage losses up to 67,000 acre-feet of water per year caused the United States to line 23 miles of the canal. The unintended consequences of this seemingly proper conservation project was to eliminate much of the seepage into the Mexi-Cali Aquifer that Mexican farmers relied upon for over 60 years. The United States always provided the 1.5 million acre-feet of water to Mexico per the treaty, hence the seepage was over and above the agreed upon amount to Mexico, hence the United States opined they had every right to line the canal no matter the consequence to the MexiCali farmers. The United States did not agree or disagree, but passed on the lawsuit under a lack of jurisdiction ruling, a ruling clearly that stated treaties and only treaties ruled in disputes among nations.

²⁸⁴ <http://www.cnn.com/2016/02/22/asia/india-unrest-water-crisis/>

"rural but relatively well-off caste"²⁸⁵ What is the caste system? According to Cable News Network,

For centuries, India's complex caste system has dictated a Hindu's lot in life, elevating some to positions as priests and labeling others as "untouchables." But caste discrimination was legally abolished in India's 1949 constitution, and the state later introduced a national quota system of government jobs and a university system as a kind of affirmative action for former lower caste. By 1990, 49% of quota-related jobs and admissions had been set aside for people from tribes and lower social groups.²⁸⁶

The Jats in Haryana are upset over job quotas that do not recognize their caste as "economically disadvantaged" which they claim denies them access to many jobs. Since February 2016 negotiations have been underway to discover a remedy for the Jats' concerns.

The violent actions of the Jats in closing the canal and other protests such as blocking highways and railroad tracks are a prime example of "destructive" social control. Rather than rely upon the "due process" type of social control via the Indian Parliament, the Jats chose to use water as a weapon to promote their political agenda over job subsidies. Their use of water as a weapon gained immediate, almost instantaneous reactions; their "voice" in politics was heard

²⁸⁵ Ibid.

²⁸⁶ Ibid.

within a few hours by ten million residents of Delhi. The issue was not about water or water rights at all; there was no argument about the long term agreement to divert water into the canal from their area. But the Jats used the most effective weapon at hand, the blocking of the major source of water to one of the largest cities on the globe.

The Israelis' control over the water supply of the Palestinian territories and the recent Jat "rebellion" demonstrate the power of water as a weapon of "destructive" social control. These examples hopefully will not be noticed by other powerful groups desiring social control over some other group. The dire predictions daily in worldwide news reports and scientific studies foretell disasters in nature's allocation of water due to climate change; the displacement of millions could result. As water resources become more stressed worldwide, it is doubtless but unfortunate that some groups will use water as their most immediate weapon of social control.

The third hypothesis, that the three pillars of society can be controlled by promulgating formal and informal water policies as weapons to control dissident behavior or to protest other government policies proves true as well. From the "deceptive" social control examples as outlined here that have occurred in Austin, Texas, to the "destructive" social

control of Israelis over Palestinian water and the Jats protest over unrelated public policy decisions, indicate that few more powerful and ultimate weapons of social control can be contemplated than that of public water policies.

Chapter Seven

Conclusion

Defining social control briefly as the study of patterns of pressure through which society maintains order and cohesion, water proves to be one of the most effective, and possibly dastardly, weapons of social control worldwide. From Austin, Texas to Israel to New Delhi, water policy used as an emotional tool to accomplish other veiled agendas or direct actions are quite often the ultimate weapon to control societal behavior. At times, the emotional power of the issue creates unrealized basic value conflicts as illustrated in Austin's SOS Ordinance. No reasonably thinking person wants water to be short in quantity, bad in quality, or its marvelous attributes such as natural springs, creeks, and rivers to be contaminated by human growth or activity. However, emotions must be eliminated and hidden agendas must be made transparent and forthrightly debated so as to avoid unintended terrible consequences. Deliberate efforts by any dominant group to suppress a people, using water policy as a weapon, are not only inhumane but in the long term, likely detrimental to the dominant society - if in no other way than

to earn them a reputation worldwide as unfair and even despicable in the eyes of the reasonably thinking and behaving world. In a globalized economy, interconnected today and apparently in our foreseeable future as never before in history, no nation can hope to thrive or maybe even survive with that kind of reputation.

Public water policies are absolutely the ultimate weapons of social control. Public water policies absolutely form the foundation for the three pillars of any society, the environment, the economy, and human relationships.

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FARM BUREAU FEDERATION, CALIFORNIA CATTLEMEN’S

ASSOCIATION, CALIFORNIA BUILDING INDUSTRY ASSOCIATION,

BUILDING INDUSTRY LEGAL DEFENSE FOUNDATION, & CALIFORNIA

BUSINESS PROPERTIES ASSOCIATION AS AMICI CURIAE IN SUPPORT OF

RESPONDENTS ————— PETER PROWS Counsel of Record BRISCOE

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Speeches and Presentations of Charles Porter on Water Issues from 2007– Spring 2016

2016 Presenter at **Spain’s Encounter with the New World Symposium** by the Bexar County Inaugural Symposium of ***San Antonio’s Tricentennial Celebration*** on May 7, 2016. The Bexar County Historical Commission and Dr. Felix D. Almaraz, Jr., PhD, Knight of Spain, Tricentennial Chair to write and speak at the. My paper and presentation is titled “***The Expansive Geography of Texas: Liabilities and Assets.***” I am one of only 5 academics asked to present at this 300th anniversary of the founding of the 7th largest city in the United States.

2016 Presenter at the 26th Annual Land Conference, Texas A&M University, San Antonio, April 28. “***Texas Water Law: A Historical Perspective.***”

2016 Presenter at the Kozmetsky Center’s Migration and Displacement Symposium, Austin, Texas, “***A Perspective of Displacement on the Texas Border with Mexico.***”

2016 Presenter at an international academic conference, the Academic and Business Research Institute conference in San Antonio, March, 2016. My topic title was “***Water as the Ultimate Weapon of International Social Control.***” The Chairman of the Conference in Florida asked me for an encore presentation in San Antonio as their guest lecturer.

2016 Presenter at an international academic conference, the Academic and Business Research Institute conference in Orlando, Florida January 7 – 9, 2016. My topic title is “***Water as the Ultimate Weapon of International Social Control.***”

2016 Presented at the Texas State Historical Association’s Annual Conference in Irving, Texas on March 3, 2016 by invitation. My presentation is “***Chaos, Change, Yet Triumph: Mexican-American Community Formation in 19th Century Texas.***”

2016 Presenter and panel organizer at The University of Texas Energy Week, 2016. My topic is “***The Nexus of Water Policy and Energy in Texas.***”

2015 Keynote speaker at the October 16 New Braunfels Chamber of Commerce Natural Resources Committee Water Strategies #2. My presentation is titled “***Water Policy for Texas: Past and Present Strategies.***”

2015 Featured speaker at the Texas Water Law Conference in Austin on October 6. I am a member of the faculty of this conference which provides continuing education credit for attorneys. We expect 400 attendees. My peer-reviewed and published paper is titled: “***Of Urgent Concern” - What Prompted House Bill 162, the Groundwater Conservation Act of 1949.***”

2015 Organizer and moderator/presenter at the **Lone Star Water Forum** in Brenham, Texas October 3. I selected the topic question: “***Deslination in Texas: The Ultimate Solution?***”

- 2015 Presenter at the **East Texas Historical Association's Annual Conference** in Nacogdoches, Texas on October 8. I will present my paper, ***"A Want-to-be General in a Fog: Drought and Sibley's New Mexico Campaign."***
- 2015 Special Presentation for Independence Title Buda, Texas, my presentation was titled ***"Water Policy Issues in Texas: What Real Estate Agents Need to Know."***
- 2015 Featured speaker and moderator at the Austin Board of Realtors Water Forum in Austin on May 27, attended by 400 people.
- 2015 Keynote speaker at Blinn College in Brenham, Texas on June 17, ***"Water Challenges in Central Texas,"*** attended by 127 people.
- 2015 Keynote speaker at a luncheon held by the Texas Rural Water Association in Austin on June 24, ***"Water Policies in Texas."***
- 2015 Keynote speaker at the Texas Economic Development Council's Legislative Update in Austin, title of my presentation was ***"Water Implications in Drought-Ridden Rapidly Growing Texas."***
- 2015 Featured speaker at the International Right of Way Association 2015 Seminar in Grapevine, Texas, the title of my presentation was ***"An Update on Water Rights in the 84th Texas Legislative Session."***
- 2015 Keynote speaker for international extremism experts at the Kozmetsky Center for Excellence in Global Finance, title of my presentation was ***"Ongoing and Continuing Violent "Extremism " in Texas: Not Promulgated by Texan Militias or other Groups, but ...Mexico-based Drug "Cartels" and/or Gangs."***
- 2015 Keynote speaker at the World History Association of Texas Academic Conference, title of my presentation was ***"Protecting the Borders of the Past: UNESCO World Heritage and the San Antonio Franciscan Mission: by Charles Porter Member of the National Parks Service World Heritage International Experts Committee for the United States of America Nomination of the San Antonio Missions to the UNESCO World Heritage List."***
- 2015 Keynote speaker at the South Central Texas Board of Realtor's luncheon, title of my presentation was ***"Agents' Duties in Texas Water Policy."***
- 2015 Keynote speaker at the luncheon at Blinn College, title of my presentation was ***"Enduring Women for Lifetime L E A R N I N G in Brenham, Texas."***
- 2015 Keynote speaker at the San Marcos Rotary Club luncheons (2) and South Austin Rotary Club luncheon, title of my presentation was ***"Updates on Water Policy Issues of the 84th Texas Legislature."***

2015 Featured speaker at the 2015 Texas Master Gardner Conference in Belton, Texas attended by 600, title of my presentation was ***“Sharing the Common Pool: Water Rights in the Everyday Lives of Texans.”***

2015 Featured speaker at the 16th Annual Changing Face of Water Rights State Bar of Texas San Antonio, February 26-27, 2015, title of my presentation was ***“What You Think You Know About the History of Texas Water . . . But Don’t.”***

2015 Kickoff and keynote speaker at the Texas A & M University Center for Heritage Conservation Symposium on Preservation of the Alamo, my presentation was titled ***“180 Years of Heritage Preservation: The Contribution of Blas Herrera and His Descendants to the Story of the Alamo and 19th Century Tejano Architecture And A Tribute to the San Antonio Conservation Society ,The SACS Historic Farm and Ranch Complexes Committee Kay Hindes, Pat Ezell, Patsy Castanon, Joanne Parrish, Fran Gale and Evie Herrera Patton.”***

2014 Keynote Speaker at the First Texas Hill Country Water Summit, title of my presentation was ***“Strategies for Short and Long Term Challenges.”***

2014 ***“A Perspective on Realistic and Sustainable Water Policy: Workable Solutions for a Bright Future”*** presented at the 6th Annual Lone Star Water Forum. October 4. Brenham.

2014 Organizer and moderator at the 6th Annual Lone Star Water Conference in Brenham, Texas attended by 200 sponsored by Texas A&M University, Texas Parks and Wildlife, Texas AgriLife Center Texas A&M University, the City of Brenham – topic a 6 hour presentation and community debate ***“What is Water Worth to You? Solutions.”*** October. Porter organized and solicited the speakers: Senator Craig Estes, House of Representative Member Doug Miller, Former Mayor of Houston Bill White, and James Murphy Counsel and Operating Manager of the Bexar-Brazos River Authority.

2014 ***“65 Years of Groundwater Conservation Districts in Texas: Still Undisclosed in Section 5.008 of the Texas Property Code”*** published and presented at the 24th Annual Superconference Texas Water Law. CLE Water Law Institute. September 22. Austin.

2014 ***“Moot Mediations in Global Transboundary Water Disputes: Teaching Peaceful Problem-Solving in International Water Relations”*** presented at the World Council for Curriculum and Instruction 16th World Conference on Education Integrating Education for a Lasting Culture of Peace and Care of Planet Earth. August 22. San Diego.

2014 ***“Texas Out of Water”*** Summer Scholar Series, St. Edward’s University. Austin.

2014 ***“Sharing the Common Pool: Water Rights in the Everyday Lives of Texans”*** webinar for the Texas Land Title Association. Austin.

2014 Texas Alliance of Groundwater Districts Quarterly Meeting, opening speaker, ***“Unrealized and Undisclosed: Groundwater Conservation Districts in Texas.”*** Austin.

2014 ***“Water Rights 101: Unrealized and Undisclosed”*** published and presented at the South Texas College of Law 29th Annual Real Estate Law Conference June 6, Houston.

2014 Invited panel member for presentation of the Texas A & M University Bush School graduate students Capstone Report on Water Uses in the Eagleford Shale to Railroad Commissioner Christie Craddick and representatives of the Texas Water Development Board, the Texas Commission on Environmental Quality, the Attorney General’s Office and other state officials in Craddick’s office April.

2014 Panel Chair and Presenter at the World History Association of Texas Conference, March 1. Paper presented – ***“Barbed Wire in War: Physical and Social Enclosure in World War I.”***

2014 Interview by the Austin Chamber of Commerce official Drew Scheberle, Senior Vice President Federal/State Advocacy & Education/Talent Development on water issues in Austin.

2014 “General Information on Groundwater Districts for ABOR's Risk Reduction Committee” published by the Austin Board of Realtors and also the Texas Association of Realtors Public Policy Infrastructure and Utilities Subcommittee. June, 2014. Austin.

2014 ***“Water Rights in Texas”*** lecturer at University of Texas School of Law for the Edward Clark Centennial Professor Jane Cohen’s class titled WATER LAW AND POLICY: THE INTRODUCTORY COURSE. Austin.

2014 ***“Who Owns the Water: Sharing the Common Pool – Water Rights in the Everyday Lives of Texans.”*** Webinar for the Texas Wildlife Association. Austin.

2014 Presentation to State Senator Craig Estes – ***“A Summary of the Lone Star Water Conference”*** held in Brenham, Texas October, 2013, January.

2014 Organizer and Chair of the Water Rights Roundtable made up of a dozen active water rights attorneys and personnel of Groundwater Conservation Districts to determine legislative agendas for the upcoming 84th Session of the Texas Legislature, February.

2013 Keynote speaker at the Bosque County Hay Show in Meridian, Texas – title ***“Urban vs. Rural: Which lifestyle do Texans choose?”*** October.

2013 Organizer and moderator at the 5th Annual Lone Star Water Conference in Brenham, Texas attended by 200 sponsored by Texas A&M University, Texas Parks and Wildlife, Texas AgriLife Center Texas A&M University, the City of Brenham – topic a 6 hour presentation and community debate ***“Should Washington County Have a Groundwater Conservation District”*** October. Porter selected the presenting attorneys and hydrogeologist and reviewed/edited their presentations. Porter also presented “A History of

Groundwater Conservation Districts in Texas.”

2013 **“Prelude to Community: Water Development in Spanish Colonial Texas”** for Dr. William Doolittle at the Collegium of the University of Texas Geography Department.

2013 **“Sharing the Common Pool: Water Rights in the Everyday Lives of Texans”** webinar for the Texas Association of Realtors. Austin.

2013 Moderator of the Panel - **“Financing the Solution”** at the Texas Capitol Auditorium, a panel discussion of the new bills to finance the State Water Plan of 2012 with Senator Troy Fraser, Chair of the Senate Natural Resources Committee, Representative Allan Ritter, Chair of the House Natural Resources Committee, and Lewis McMahan, Board Member of the Texas Water Development Board. January.

2013 Quest Lectures – University of Texas Division of Continuing and Innovative Education at the Thompson Conference Center – Series “Texas Water: It’s Past, Present, and Future” – Porter’s lecture: **“The History of Texas Water Law, Policy, and Management”** October 3.

2013 Sage Lectures CE 140001I– University of Texas Division of Continuing and Innovative Education at the Thompson Conference Center – Series “Water in Texas: Good to the Last Drop”– Porter taught 2 of the 6 lectures to an audience of 150. Porter’s topic CE 14001Ia – **“Water in Texas: The Common Denominator of Life”** and Porter’s topic CE 14001Ic – **“Sharing the Common Pool: Water Rights in the Everyday Lives of Texans”** September 16 and September 30.

2013 Moderator of the Legal Update Panel for The Texas Groundwater Summit attended by 500 at the San Marcos Convention Center, August.

2013 City of Sunset Valley City Council invited guest speaker on groundwater permits versus the existing City of Austin water contract, July.

2013 Presenter and Emcee of the opening of the **Enduring Women** exhibit at the Bullock Texas State History Museum. The exhibit is the product of a class Porter created with Dr. Mary Brantl and co-taught at St. Edward's University to fulfill the collaborative contract between St. Edward's University and the Bullock Texas State History Museum. February.

2013 Moderator of the Panel - **“Groundwater Management and Allocation: Groundwater Allocation after Guita and Day”** Charles Porter, Presenter and Moderator, J.D. Head presenter, Tim Brown presenter, and Ed McCarthy presenter. At the Texas Water Law Conference “Water for the Future: Texas at the Crossroads” a conference sponsored by the Texas Rural Water Association and the Texas Water Conservation Association. January.

2012 Sole Lecturer - Austin Board of Realtors Managing Broker Forum on Ethical Practices **“The Fiduciary Duties of Texas Real Estate Licensees: An Explanation of the License Act and the Rules of the Texas Real Estate Commission including Texas Common Law Duties”** December.

2012 Lone Star Water Law Conference. Brenham. Lecturer. "***Water Rights Primer***" October.

2012 "***The Big Read***" – Brenham – Adult Education – Emcee and presenter for a community read of Elmer Kelton and his famous book *The Time It Never Rained*. The event was attended by 250 people. October.

2012 Guest lecturer at Blinn College, Brenham, 2 classes "**Water Rights and Agribusiness in Texas**" October.

2012 National Parks Service. San Antonio. Guest Editor/Reviewer. "Application by the National Parks Service San Antonio River Missions for World Heritage Nomination by UNESCO: for ICOMOS United States and International" as a member of the International Expert's Committee of the National Parks Service. October

2012 Texas Turfgrass Association Convention. San Antonio. Presenter "**300 Years of Water Management in Texas: How Regulations and Drought Will Impact the Business of Golf**" October.

2012 Sons of the Texas Revolution. Austin. Presenter. "***Sharing the Common Pool: The History of Water Rights in Texas***" October.

2012 Austin Executives Association Wednesday Luncheon Speaker's Series. Guest Speaker. "***Water Rights in Texas Today***" October.

2012 Bell County Water Symposium. Belton, Texas. Presenter. "***From Viceroy to GCDs: 300 Years of Groundwater Management***" October.

2012 Austin Board of Realtors. "New Member Orientation" – Lecturer. "The National Association of Realtors Code of Ethics: Relationships to Texas Law" October.

2012 Faculty Member and Presenter at the Texas Water Law Superconference, "***Water Rights and Everyday Real Estate Transactions***" for continuing education credit for attorneys. September.

2012 Keynote Speaker for the Texas Groundwater Summit, "***300 Years of Water Management in Texas: From Viceroy to GCDs***" Austin, Texas A conference sponsored by the Texas Alliance of Groundwater Districts. August.

2012 World History Association Annual National Convention. Albuquerque. Presenter. "***Bells and Belfries: Control or Comfort for the Indians of the San Antonio Missions***" June.

2012 Webinar, Austin Board of Realtors attended by up to 10,000 people over the past 6 months. ***“Groundwater in the 21st Century: A Discussion with Charles Porter and Kirk Holland”*** August.

2012 Webinar, Texas Association of Realtors attended by 700+ people. Expert and sole presenter. ***“Water Rights in Texas”*** July.

2012 Oak Hill Professional Business Club Luncheon Speaker Series. Guest Speaker. ***“Update on Water Rights in Texas”*** June.

2012 Sons of the American Revolution. Austin. Presenter. ***“Sharing the Common Pool: The History of Water Rights in Texas”*** – September.

2012 Panelist and Guest Speaker for Senator Kirk Watson’s and the Austin Board of Realtors’ ***“Water for Central Texas: Solving the Problem.”*** Panelists include: Texas House of Representative Member Paul Workman, Dr. Robert Mace, Deputy Executive Administrator of the Texas Water Development Board, Becky Motal, General Manager of the Lower Colorado River Authority, Laura Huffman, Director of The Nature Conservancy of Texas, Charles Porter Author and St. Edward’s University Assistant Professor and Texas Water Rights Expert. March.

2012 Guest Speaker, International Right of Way Association, Arlington, Texas, ***“Right of Way for Interbasin Water Lines.”*** April.

2012 Invited expert and attendee at the International Expert’s Meeting of the National Parks Service in San Antonio to discuss the draft of the application of San Antonio’s Franciscan Missions as a UNESCO World Heritage site. March.

2012 Texas State Historical Association Convention, Commentator, ***“Private Libraries and Collections,”*** Houston, March.

2012 Guest Speaker, Querencia Study Group, Austin, Texas ***“Sharing the Common Pool”*** March.

2012 Guest Speaker in the Speaker Series of the State of Texas Archives Library ***“The Next Texas Water War.”*** March.

2012 Attendee and participant in the Austin Bar Association’s Real Estate Committee Breakfast – ***“Water in Texas After Day McDaniel.”*** March.

2012 Guest Lecturer at Fran Gale’s University of Texas Graduate Architectural Materials Lab class in the field at the Blas Hererra Historic Home in Bexar County, Texas. ***“An Overview of Land Classifications, Irrigation, and Land Transfer in Spanish Colonial Texas.”*** February.

2012 Presenter at the World History Association Conference, ***“The Marriage of Interdependent Irrigation Technologies in New Spain: Prelude to Formation of a Spanish***

Community, Villa San Fernando,” February.

2012 Guest Speaker at the University of Texas LAMP (Learning Activities for Mature People) Series, ***“How Texas Water Law and Water Rights Shaped Texas and the Perception of Texas Today,”*** January and April.

2011 Expert Lecturer, Co-Designer, and Co-Organizer of 7 Water Workshops for CULF 3330 and CULF 3331, St. Edward’s University, overseer of 110 moot mediations of international river basin disputes, teaching 16 student intern mediation techniques along with over 600 student participants. Fall.

2011 Organizer, Water Workshops Texas Water Policy Panel, with, Amy Hardberger, Texas Tech Law School, November.

2011 Co-Host of Joseph Treaster, Woodrow Wilson Visiting Fellow with St. Edward’s University Kozmetsky Center for Excellence in Global Finance.

2011 Co-Host of Dr. Diana Liverman, Oxford and University of Arizona with St. Edward’s University Kozmetsky Center For Excellence in Global Finance.

2011 El Camino Real de los Tejas, Past & Present, Austin Opening, ***“Hard Bottomed Fords on the La Bahia Road: Connecting the Dots,”*** or ***“Early Development in Texas.”*** St. Edward’s University Kozmetsky Center for Excellence in Global Finance, Sponsored by the Consulate General of Spain, the National Parks Service Historic Trails Association, and The Texas Historical Commission. September 20.

2011 Guest Speaker for the San Marcos Board of Realtors at Water Rights Update Luncheon in conjunction with Karl Dreher, GM of the Edwards Aquifer Authority

2011 San Antonio Conservation Society, ***“Analysis of Daub Sample from Blas Herrera Colonial Period Jacal,”*** with Fran Gale, Director of the University of Texas Architectural Department Conservation Lab, September 17.

2011 Luncheon host and Emcee on Climate Change and Water in Texas with Dr. Diana Liverman of Oxford University including participants Mark Strama, Member of the Texas House of Representatives, Paul Workman, Member of the Texas House of Representatives, Dr. Patrick Cox, Board Member of the Pedernales Electric Co-Op in conjunction with the Kozmetsky Center for Excellence in Global Finance of St. Edward’s University.

2011 International Right of Way Association, San Marcos, ***“The Impact of Private Water Pipelines on Right of Way Acquisition,”*** September 9.

2011 United States Geological Society Texas Water Science Center, San Antonio, ***“The Pivot Point for Texas Water Rights: San Antonio,”*** June 24.

2011 San Antonio Conservation Society, ***“Eyewitness Perspectives of a Village in Transition on the Far Frontier, San Antonio, 1810-1855,”*** June 4.

2011 Lecturer at the Sons of the American Revolution, Austin Chapter, topic, ***“A Biographical Sketch of General Nathaniel Greene, George Washington’s Favorite General (and my Great, Great, Great, Great, Great Grandfather),”*** April 16.

2011 Sole Lecturer - Austin Board of Realtors Managing Broker’s Forum – ***“Negligence and Civil Liability: How the TREC Code of Ethics and the Occupations Code Link to Damages,”*** April.

2011 Water policy discussion with the Lt. Governor’s General Counsel, Carmen Cernosek. March 27.

2011 Sole lecturer at Texas House of Representatives Member Paul Workman’s ***“Water Rights and Texas (featuring water rights expert, Charles R. Porter, Jr.)”*** – Invited guests - the Freshmen Members of the Texas House of Representatives, held March 9, 2011

2011 Acceptance Speech for Book Award, San Antonio Conservation Society, ***“The Financial Impact of the Work of the San Antonio Conservation Society,”*** March 25.

2011 Speaker at the Professional Tour Guides of San Antonio Spring Education series, topic, ***“The History of San Antonio Water Rights,”*** March 23.

2011 Speaker at the International Right of Way Association’s luncheon speaker series in Austin, Texas, topic, ***“Right of Way in Texas Water and Real Estate: Perspectives from an Expert Witness,”*** March 8.

2011 Presenter at the World History Association of Texas Conference: Innovations in Teaching and Research, topic, ***“A Class Mediation Exercise for Understanding Global Water Disputes,”*** held February 19, 2011.

2011 Lecturer and organizer (with Texas House Representative Mark Strama) of a Primer of Water Rights for Representatives Miller, Lucio, Workman, and Strama, breakfast hosted by Charles Porter and held at the Austin Club February 16, 2011.

2011 Organizer/lecturer at the Historic Research Training Workshop, San Antonio Conservation Society, at the San Antonio Public Library, January 22, 2011 in San Antonio, Texas

2011 Keynote speaker at the Groundwater District Manager’s Association (national trade association), held January 13, 2011 in San Antonio, Texas. The conference was named ***“Unintended Consequences”*** for Porter’s presentation.

2011 Organizer/lecturer at the Oral History Training Workshop, San Antonio Conservation Society, at the River House, November 13, 2010, in San Antonio, Texas.

- 2010 ***“Negligence and Civil Damages Risks for Broker Managers,”*** Realty Round Up, Austin, October.
- 2010 Poster presentation at the Teaching Excellence Showcase, St. Edward’s University, ***“The World’s First Ever 100 Word History Conference,”*** August.
- 2010 Lecturer by invitation at the Edwards Aquifer Authority lunch speaker series in San Antonio, in the boardroom, topic, ***“Tales from the Common Pool: Unintended Consequences,”*** August.
- 2010 Lecturer by invitation at the United States Geological Service lunch speaker series in Austin webcast statewide, topic, ***“Decisions and Consequences in the Common Pool,”*** May.
- 2010 Lecturer by invitation at the Texas Alliance of Groundwater Districts’ Quarterly Meeting in Austin, Texas, topic, ***“Unintended Consequences: A Trilogy of Tales From the Common Pool,”*** March.
- 2010 Presenter at the MLA Symposium, MLA Alumni Meeting, topic, ***“Tales from the Common Pool: Values, Obligations, and Consequences,”*** April.
- 2010 Presenter at the World History Association of Texas Conference – ***“The Convergence and Divergence of Agricultural Ideas Between Spaniards and Jumano Indians Along the Rio Grande,”*** February.
- 2010 Presenter and organizer of the panel at the Texas State Historical Association’s Convention in Dallas, Texas, topic ***“The Beginnings of Spanish Settlement in the El Paso District Revisited,”*** March.
- 2010 Presenter, by invitation, at the Adjunct Orientation for the Spring semester, St. Edward’s University, January.
- 2010 Lecturer, by invitation, for all sections of American Experience, CULF 1320, St. Edward’s University, University Programs, early-semester focus on colonizers to the New World, topic, ***“The First Missionaries in the New World: Saviors or Agents of Directed Cultural Change?”*** January.
- 2010 Lecturer for all American Experience students, St. Edward’s University, ***“The First Missionaries in the New World: Saviors or Agents of Directed Cultural Change.”***
- 2010 Guest Lecturer in Freshman Studies, St. Edward’s University, ***“Water: Unintended Consequences: Values, Obligations, and Consequences.”***
- 2010 Lecturer St. Edward’s University Graduate School, Master of Liberal Arts, “Perspectives of Time,” also in 2006, 2007, 2008, 2009, 2010, 2011,2012.

- 2010 Lecturer St. Edward's University Graduate School, Master of Liberal Arts, *"Americans, A Sense of Place,"* also in 2007, 2009.
- 2010 Lecturer in Ann Strong's "American Dilemmas," St. Edward's University, additionally in 2009, *"Water: The Common Denominator."*
- 2009 Lecturer in Steve Rodenborn's Religious Studies Class, St. Edward's University, *"The History of the First Missionary College in the New World, Querétaro."*
- 2009 Lecturer at Blinn University, Undergraduate School of History, *"Water in 19th Century Texas: Spanish Roots in Law and Practice."*
- 2009 Lecturer at six Water Workshops at St. Edward's University attended by 700 + students and faculty over 4 months, fall 2009. The water workshops were required for all students to meet the requirements of Cultural Foundations in University Programs.
- 2009 Presenter at the World History Association of Texas Conference – *"Spanish Roots in Texas Water Law: Three Hundred Years of Connections and Consequences."*
- 2009 Panelist and lecturer at the Austin Board of Realtors/Austin Home Builders Association Economic Forecast, 1,100 attendees
- 2008 Presenter at St. Edward's University MLA Symposium – *"From Acequias to the San Antonio Water Company: Sharing and Managing Water in San Antonio from Colonial Bexar to the Gilded Age."*
- 2007 Lecturer at Concordia University Undergraduate School for the *"Ethical Dilemmas and Decisions in Criminal Justice."*
- 2007 Lecturer St. Edward's University Business Graduate School, Master of Arts in Human Services, *"My Experiences as a Chairman of the Board of Directors with Board Governance Policy Concepts."*
- 2007 Presenter and organizer at the Texas State Historical Association's convention session titled *"Water Rights in Texas From the Gilded Age to Ike"*, Dr. Paula Mitchell Marks, Chairman, along with Texas State Representative Mark Strama, presenter, and Dr. Thomas Glick, Boston University, presenter.
- 2007 Presenter and Emcee of the Most Worthy Citizen Award to Coach Jody Conratt of the University of Texas Women's Basketball Team.

Appendix 1

Focus Groups Held by Charles Porter (2016 only)

Date	Participants	Topic
Feb. 16, 2016	Jason T. Hill ²⁸⁷	Jurisprudence in Texas timeliness
	Timothy L. Brown ²⁸⁸	Jurisprudence in Texas timeliness
May 10, 2016	Carlos Rubinstein ²⁸⁹	Interbasin water transfer
	Herman Settemeyer ²⁹⁰	Interbasin water transfer
	Timothy L. Brown	Interbasin water transfer
May 20, 2016	Edmond J. McCarthy, Jr. ²⁹¹	Water fair market value

²⁸⁷ Jason T. Hill is a water law attorney in Austin, Texas. He has earned the ranking of Super Lawyer in Texas and Best Lawyers. He has extensive experience in representing clients in contested case hearings before the State Office of Administrative Hearings, the Railroad Commission of Texas, and many other political subdivisions.

²⁸⁸ Tim Brown has practiced water law in Texas for over 40 years. His early career was with the Texas Water Rights Commission as one of the first regulatory agency officers for promulgation of the 1967 Texas Water Rights Adjudication Act. As the Texas Water Rights Commission morphed into the Texas Commission on Environmental Quality, Tim became General Counsel for the agency. He also served as a Texas Assistant Attorney General, as Chief of the Environmental Protection Division of the Texas Attorney General's Office. He has entered private practice with Sledge Law in Austin, Texas.

²⁸⁹ Carlos Rubinstein is a licensed civil engineer, past Rio Grande Watermaster for the State of Texas, past Commissioner of the Texas Commission on Environmental Quality, past Chairman of the Texas Water Development Board and a leading expert in water law and permitting both at the state and federal levels. He is a partner in RSAH20 a consulting firm in Austin, Texas.

²⁹⁰ Herman Settemeyer is a licensed professional engineer with 40 years of experience in water regulation in Texas working for the Texas Commission on Environmental Quality. He was the TCEQ representative in interstate river compact administration, international treaty compliance officer, was involved in the adjudication of surface water rights in Texas under the 1967 Water Rights Adjudication Act, and permitted and enforced water rights and management policies in Texas. He is one of the foremost experts on Texas surface water permitting. He is a partner in RSAH20 a consulting firm in Austin, Texas.

²⁹¹ Ed McCarthy joined the Law Firm of Jackson, Sjoberg, McCarthy & Wilson, L.L.P. as a Partner in May 2003. After graduating from St. Mary's Law School in May 1981, Ed served as a Briefing Attorney on the Supreme Court of Texas. During his tenure with the Court, Ed was assigned to former Texas Supreme Court Justices James Denton (deceased) and Ruby Kless Sondock. Following his service on the Court, Ed served as a Captain in the Judge Advocate General's Corps, United States Army. During his tour of active duty, Ed was a

May 25, 2016	Robert Mace ²⁹²	Artesian pressure aquifers
	Timothy L. Brown	Artesian pressure aquifers
June 2, 2016	Carlos Rubinstein	Water permits Texas
	Herman Settemeyer	Water permits Texas
	Timothy L. Brown	Water permits Texas
June 7, 2016	Yuval Edrey ²⁹³	Israel Palestine water
	Yael Glazer ²⁹⁴	Israel Palestine water
	Andrew Reimers ²⁹⁵	Israel Palestine water

member of the United States Army Government Appellate Division, and represented the United States in appellate matters before the United States Court of Military Appeals and the United States Army Court of Military Review. In 1985, Ed joined McGinnis, Lochridge & Kilgore L.L.P., and became a Partner with the law firm in January 1989, where he practiced until 2003.

²⁹² Dr. Robert E. Mace is the Deputy Executive Administrator of the Water Science and Conservation section of the Texas Water Development Board (TWDB). Dr. Mace leads a department of 70 scientists, engineers, and specialists dedicated to better understanding groundwater and surface water sources in Texas. He has been at the TWDB since 1999. Prior to working at the TWDB, Dr. Mace worked 9 years at the Bureau of Economic Geology at the University of Texas at Austin.

²⁹³ Yuval Edrey is from Israel and a PhD candidate at the University of Texas at Austin College of Engineering.

²⁹⁴ Yael Glazer is from Israel and a PhD candidate at the University of Texas at Austin College of Engineering.

²⁹⁵ Andrew Reimers is a Texan and a PhD candidate at the University of Texas at Austin College of Engineering. Andrew has been a coordinator for three years of the University of Texas Energy Week, a seminar about energy in Texas sponsored by the UT College of Engineering. He has special expertise in the water/energy nexus.

Appendix 2

A Brief Glossary of Other Water Related Terms

Agriculture means any of the following activities:

- (A) cultivating the soil to produce crops for human food, animal feed, or planting seed or for the production of fibers;
- (B) the practice of floriculture, viticulture, silviculture, and horticulture, including the cultivation of plants in containers or non-soil media, by a nursery grower;
- (C) raising, feeding, or keeping animals for breeding purposes or for the production of food or fiber, leather, pelts, or other tangible products having a commercial value;
- (D) raising or keeping equine animals;
- (E) wildlife management; and
- (F) planting cover crops, including cover crops cultivated for transplantation, or leaving land idle for the purpose of participating in any governmental program or normal crop or livestock rotation procedure.

Agricultural use means any use or activity involving agriculture, including irrigation.

Appropriator means a person who has made beneficial use of any water in a lawful manner under the provisions of any act of the legislature before the enactment of Chapter 171, General Laws, Acts of the 33rd Legislature, 1913, as amended, and who has filed with the State Board of Water Engineers a record of his appropriation as required by the 1913 Act, as amended, or a person who makes or has made beneficial use of any water within the limitations of a permit lawfully issued by the commission or one of its predecessors.

Appurtenant means belonging to; accessing or incident to; adjunct, appended, or annexed to.

Beneficial use means use of the amount of water that is economically necessary for a purpose authorized in Chapter 11 of the Texas Water Code, when reasonable intelligence and reasonable diligence are used in applying the water to that purpose and shall include conserved water. In Chapter 36, "Use for a beneficial purpose" means use for

- (A) agricultural, gardening, domestic, stock raising, municipal, mining, manufacturing, industrial, commercial, recreational, or pleasure purposes;
- (B) exploring for, producing, handling, or treating oil, gas, sulphur, or other minerals; or

(C) any other purpose that is useful and beneficial to the user.

Best management practices means those voluntary efficiency measures developed by the commission [TCEQ] that save a quantifiable amount of water, either directly or indirectly, and that can be implemented within a specified time frame.

Conjunctive means joined together, combined so that changes in one directly results in changes to the other.

Conjunctive use means the combined use of groundwater and surface water sources that optimizes the beneficial characteristics of each source.

Conservation means:

- (A) the development of water resources; and
- (B) those practices, techniques, and technologies that will reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water, or increase the recycling and reuse of water so that a water supply is made available for future or alternative uses.

Conserved water means that amount of water saved by a holder of an existing permit, certified filing, or certificate of adjudication through practices, techniques, and technologies that would otherwise be irretrievably lost to all consumptive beneficial uses arising from storage, transportation, distribution, or application.

Correlative means having a reciprocal relationship in that the existence of one relationship normally implies the existence of the other. In the law governing water rights in many western states but not Texas, the correlative rights doctrine gives the individual owners of land overlying a strata of percolating waters limited rights to use the water reasonably when there is not enough water to meet the needs of everyone in the area.

Evidence of historic or existing use means evidence that is material and relevant to a determination of the amount of groundwater beneficially used without waste by a permit applicant during the relevant time period set by district rule that regulates groundwater based on historic use. Evidence in the form of oral or written testimony shall be subject to cross-examination. The Texas Rules of Evidence govern the admissibility and introduction of evidence of

historic or existing use, except that evidence not admissible under the Texas Rules of Evidence may be admitted if it is of the type commonly relied upon by reasonably prudent persons in the conduct of their affairs.

Groundwater means water percolating below the surface of the earth.

Groundwater reservoir means a specific subsurface water-bearing reservoir having ascertainable boundaries containing groundwater.

Managed or modeled available groundwater means the amount of water that may be permitted by a district for beneficial use in accordance with the desired future condition of the aquifer as determined under Section 36.108 of the Texas Water Code.

Priority groundwater management area means an area designated and delineated by the commission [TCEQ] under Chapter 35 of the Texas Water Code as an area experiencing or expected to experience critical groundwater problems.

Public water supply well means, for purposes of a district governed by Chapter 36, Texas Water Code, a well that produces the majority of its water for use by a public water system.

Recharge means the amount of water that infiltrates to the water table of an aquifer.

Riparian means adjacency of land to a river, stream, or creek.

River basin means a river or coastal basin designated as a river basin under Section 16.051 of the Texas Water Code. The term does not include waters originating in the bays or arms of the Gulf of Mexico.

Subsidence means the lowering in elevation of the land surface caused by withdrawal of groundwater.

Total aquifer storage means the total calculated volume of groundwater that an aquifer is capable of producing.

Waste means any one or more of the following:

(A) withdrawal of groundwater from a groundwater reservoir at a rate and in an amount that causes or threatens to cause intrusion into the reservoir of water unsuitable for agricultural, gardening, domestic, or stock raising purposes;

(B) the flowing or producing of wells from a groundwater reservoir if the water produced is not used for a beneficial purpose;

(C) escape of groundwater from a groundwater reservoir to any other reservoir or geologic strata that does not contain groundwater;

(D) pollution or harmful alteration of groundwater in a groundwater reservoir by saltwater or by other deleterious matter admitted from another stratum or from the surface of the ground;

(E) willfully or negligently causing, suffering, or allowing groundwater to escape into any river, creek, natural watercourse, depression, lake, reservoir, drain, sewer, street, highway, road, or road ditch, or onto any land other than that of the owner of the well unless such discharge is authorized by permit, rule, or order issued by the commission under Chapter 26;

(F) groundwater pumped for irrigation that escapes as irrigation tailwater onto land other than that of the

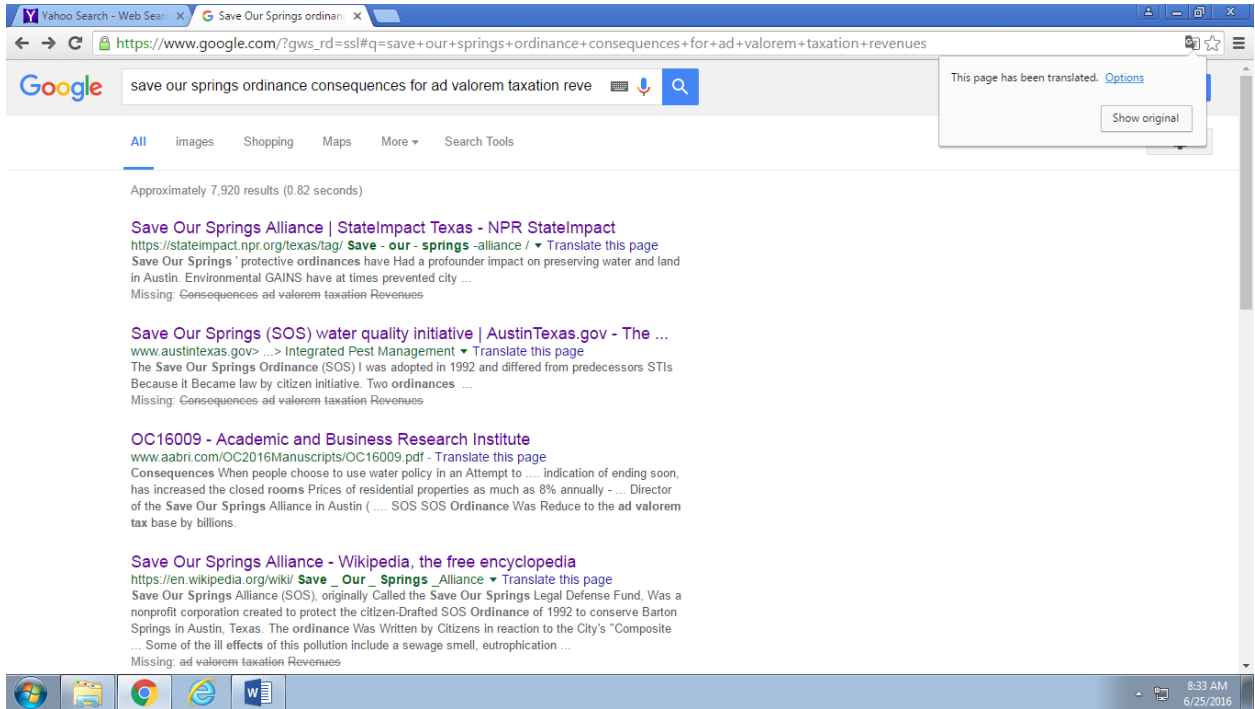
owner of the well unless permission has been granted by the occupant of the land receiving the discharge; or

(G) for water produced from an artesian well, "waste" has the meaning assigned by Section 11.205.

Water right means a right acquired under the laws of this state to impound, divert, or use state water. A more thorough definition of a "water right" is a right or group of rights designed to protect the use, enjoyment, and in some cases, ownership of water that travels in streams, rivers, lakes, and ponds, gathers on the surface of the earth, or collects underground

Appendix 3

Proof of the Originality Porter's Conclusions on the Consequences of the Save Our Springs Ordinance for Ad Valorem Tax Revenues



Google only search for consequences of Save Our Springs Ordinance - see the only academic article ever written is mine OC16009 in the Academic and Business Research Institute Orlando Conference Papers

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Articles Consell: Cerca només resultats en català. Podeu especificar l'idioma de cerca a Configuració de Google Acadèmic.

La meva biblioteca Preserving biodiversity: challenges for planners
T Beatley - Journal of the American Planning Association, 2000 - Taylor & Francis
... black-tailed prairie dog, currently under consideration for federal listing as a **consequence** of precipitous ... that it's hurting not only the salmon but the health of our whole region. ... areas oth-erwise protected (ie, areas off limits under the City's comprehensive watersheds **ordinance**). ...
Citat per 142 Articles relacionats Cita Desa Més

En qualsevol moment Des de 2016 Des de 2015 Des de 2012 Interval específic...

Orderna per rellevància Orderna per data

patents incloses inclou cites

Creu una alerta

On empire's shore: free and unfree workers in Galveston, Texas, 1840-1860 [PDF] de csuohio.edu
RS Shelton - Journal of social history, 2007 - muse.jhu.edu
... he became trapped in a sunken vessel despite the efforts of several slaves and other white men also working the salvage to **save** him ... Many of our most prominent ... Refine results with the filtering options on the left side of the Advanced Search page or on your search results page ...
Citat per 2 Articles relacionats Totes les 11 versions Cita Desa

Potential barriers to affordable housing for immigration of lower-income residents in land use plans of suburban towns in the Austin MSA [PDF] de utexas.edu
JA Carrillo - 2015 - repositories.lib.utexas.edu
... matching rental supply and demand, and also states that "the old axiom in the rental business is if you've hit 95 percent you should be raising **your** rents" (**Austin** American- ... land use regulation and its negative **effects** on housing, "Not in **My** Back Yard": ... in our Community? ...
Articles relacionats Totes les 3 versions Cita Desa

[LLIBRE] A Financial History of Texas [HTML] de google.com
ET Miller - 1916 - books.google.com
... revision of the customs law was done primarily to safeguard the col-**Ordinances** and Decrees ... In their report on November 27, 1835, the committee on financa said: "**Your** committee have ... This **ordinance** was entitled an '**Ordinance** and decree for the better accommodation of the ...
Citat per 51 Articles relacionats Totes les 6 versions Cita Desa Més

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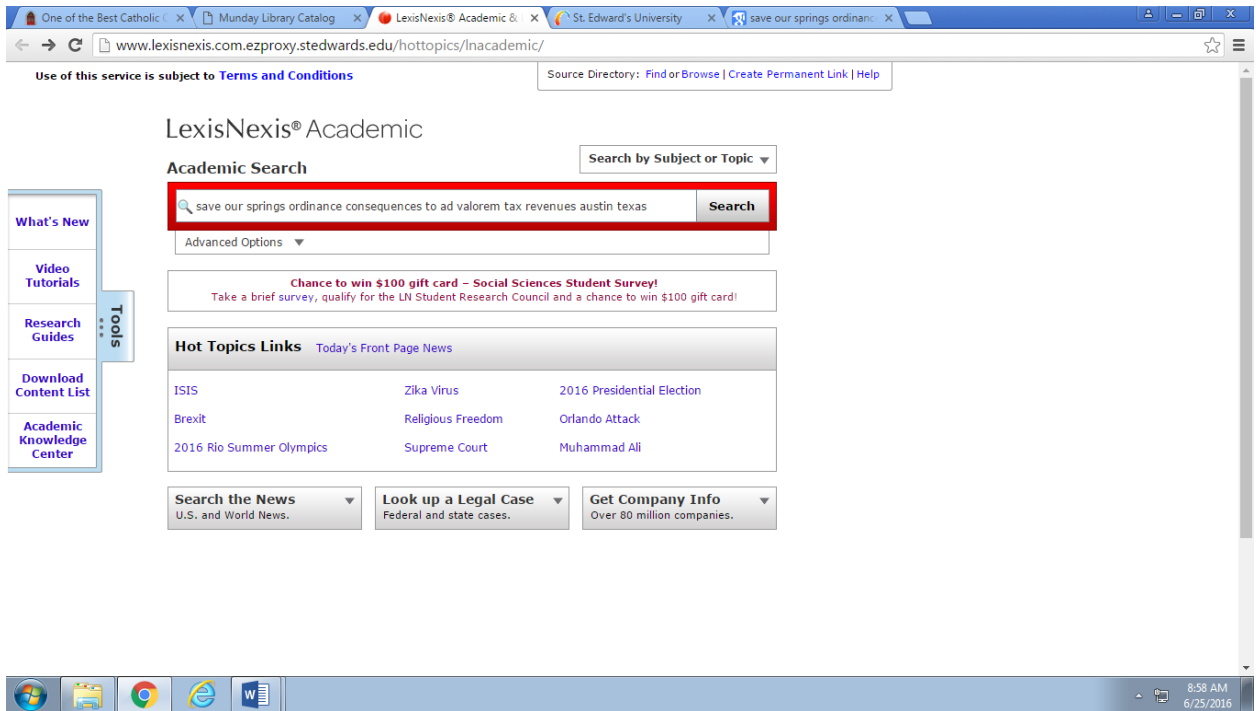
Results

- In re Save Our Springs (S.O.S.) Alliance, Inc., Case No. 07-10642-CAG, Chapter 11, UNITED STATES BANKRUPTCY COURT FOR THE WESTERN DISTRICT OF TEXAS, AUSTIN DIVISION, 388 B.R. 202; 2008 Bankr. LEXIS 2358, April 11, 2008, Decided, Affirmed by In re Save Our Springs Alliance, Inc., 2009 U.S. Dist. LEXIS 121177 (W.D. Tex., Sept. 29, 2009)
- Copyright (c) 2007 The School of Law Texas Tech University Texas Tech Administrative Law Journal, Spring, 2007, 8 Tex. Tech. Admin. L. J. 1, 25170 words, ARTICLE: CASE LAW UPDATE, by Bryce Benjet,*, Amanda Taylor,**, Patrick Pearsall,***, David DuBose,**** and Alessandra Beavers*****
- Copyright (c) 2012 The School of Law Texas Tech University Texas Tech Administrative Law Journal, Fall, 2012, Texas Tech Administrative Law Journal, 14 Tex. Tech. Admin. L. J. 1, 26027 words, EXECUTIVE BOARD NOTE: ADMINISTRATIVE CASE LAW UPDATE, Contributing Authors: Joseph Behnke, Rhys Carson, Neha Casturi, Velissa Chapa, Ry Ellison, Dan Martin Fergus III, Jonathan Groves, Kalin Harvard, Manuel H. Hernandez, Stephen Humeniuk, Eva Hung, Craig Oglesby, Luke Reeves, Christopher Schulte, Taylor Spalla, Taylor Tomanka Advisor: Laurie Ratliff*
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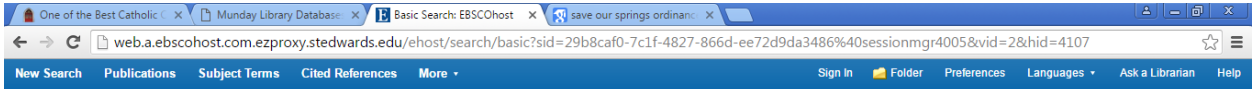
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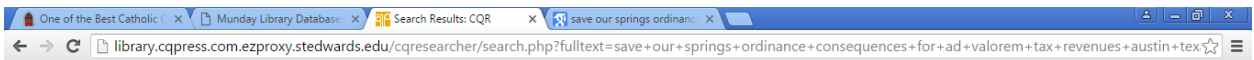
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FEEDBACK



CQ Researcher yielded no articles at all about the Save Our Springs Ordinance.

The screenshot shows a web browser window with the JSTOR search results page. The search query is "save our springs ordinance" and the results are sorted by relevance. Three articles are listed:

- Review**: *Environmental City: People, Place, Politics, and the Meaning of Modern Austin* by William Scott Swearingen. Reviewed by Greg McLaughlin. *American Journal of Sociology*, Vol. 116, No. 5 (March 2011), pp. 1677-1690. [Journal]
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- A New Species of Perennibranchiate Salamander (Eurycea: Plethodontidae) from Austin, Texas**. Paul T. Chippindale, Andrew H. Price, David M. Hillis. *Herpetologica*, Vol. 49, No. 2 (Jun. 1993), pp. 248-259. [Journal]
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- God Meets Gaia in Austin, Texas: A Case Study of Environmentalism as Implicit Religion**. John P. Bartkowski, W. Scott Swearingen. *Review of Religious Research*, Vol. 38, No. 4 (Jun. 1997), pp. 308-324. [Journal]
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JSTOR yielded 3 articles, none of which have any financial analysis of the Save Our Springs Ordinance.



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EBSCO ERIC yielded no articles at all about the Save Our Springs Ordinance.

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Dr. Russell Baker, Executive Director

May 23, 2016

Charles Porter
St. Edward's University

Re: Manuscript 162390

Dear Dr. Porter,

Congratulations, based on peer review and editorial review to verify compliance with submission requirements, your manuscript entitled "Public Water Policies: The Ultimate Weapons of Social Control" has been accepted for publication in the *Research in Business and Economics Journal*.

Through submission of the manuscript for review you grant the Academic and Business Research Institute (AABRI) permission to publish the manuscript and place it on our website. Submission of your manuscript also certifies that the document is your (and your coauthors') original work and has not been previously copyrighted (excluding cited quotations) or, if copyrighted, the submitter has permission to republish. As a condition of acceptance of a submission in consideration for publication in an AABRI journal, all submitting authors agree to become reviewers on two manuscripts submitted by other authors for publication consideration. Please complete and submit the Reviewer Information Form if you have not already done so <http://www.aabri.com/reviewerform.html>.

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Dr. Barry Thornton
Editor, *Research in Business and Economics Journal*



Approval letter for publication of the only peer-reviewed academic journal article, written by the author of this study that includes the analysis of the consequences of the SOS

Ordinance on ad valorem tax revenues. The article appeared in the journal on June 1, 2016.