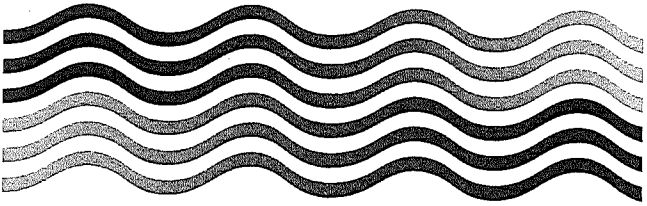
SPANISH WATER, ANGLO WATER



Early Development in San Antonio

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INTRODUCTION

> Water helped ancient man learn those first difficult lessons about the rights of others and responsibility to a larger society. Even the most rudimentary irrigation system required organization, discipline, cooperation, and a measure of social cohesion. Mutual need begets mutual aid. Notions of sharing, of equity, of compromise, and of the common good first floated precariously on this liquid foundation to be later cemented in philosophical thought and codified law.
>
> MICHAEL C. MEYER, *Water in the Hispanic Southwest*

San Antonio, the seventh largest city in the United States, has thrived on its "liquid foundation" of water, the San Antonio River.[1] Today the river, through its famed Riverwalk alone, contributes $1 billion to the economy annually.[2] A large portion of the tourism and convention trade is based around the Riverwalk area, and the hospitality industry's economic impact on the city was estimated to be $7.2 billion in 2006.[3] San Antonio's water has always been a significant factor in the city's economy, and San Antonio itself has long been central in Texas history. "It has been said that every Texan has two cities: his own and San Antonio. The history of Texas for a century and a half was largely the history of San Antonio."[4] These apt words were written in 1949 by prolific local historian and observer Boyce House.

The Spanish chose the location of San Antonio to settle in 1718 because of its fresh water resources and its strategic position between the Rio Grande and their settlements in East Texas, the sole purpose of which was to defend Spanish lands from French incursions. Above all else, San Antonio owes its first century and a half of existence to the copious amount of pure water easily available to its earliest settlers from several major springs.[5] The abundance of fresh water in itself did not ensure the establishment of a viable and lasting community; of equal importance was Spanish technological expertise in irrigation and water distribution systems, accompanied by fair management

practices along with the basic legal concept that the water was to be used in common by all settlers. From the very beginning of the settlement, the Spanish put into place water management systems that established methods of sharing the precious resource, which enabled the community to grow from an isolated frontier outpost with a tenuous foothold in a dangerous land into the largest city in Texas by 1920. The Spanish had a legal concept that water, while owned by the king, was held by the crown in trust for the benefit of all citizens and indigenous peoples with "justice." This concept has been carried on, in part, into current Texas laws.

My study of water in San Antonio is about life in the city using water as a mirror to reflect its history. The framework is in the historical perspective; the story is told through the lens of history. This overall historical perspective is informed by studying water sharing and management from the various disciplines of geography, engineering and technology, law, agriculture, sociology, religion, economics, politics, water conservation, the environment, and real estate transfer practices.

I have grouped the discussion into four major sections. Part One is a detailed description of the water sources and waters of San Antonio. There are two hundred years of eyewitness reports on the springs and water; it is important to understand the early settlers' wonder at this sparkling, clear, living water as we can never see it. Part Two analyzes management and sharing of the water under Spanish control from 1718 to 1836; water was shared for the benefit of everyone. Part Three examines water under Anglo control from 1836 to 1902: a private concept of ownership for the benefit of those who could afford it. An epilogue provides a summary of my observations and conclusions.

The year 1718 is an obvious date with which to begin the study of water in San Antonio as it is the first year of settlement by any Europeans on the San Antonio River and marks the beginning of sharing and management of the precious resource of water among the settlers.

The ending date of 1902 was chosen because it is the date of the publication of the single most important valuation of the first privately owned water company in San Antonio, the San Antonio Water Works Company. Beginning in 1878, the San Antonio Water Works Company was granted exclusive responsibility for the sharing and management of the municipal water resource under skittish and inconsistent direction of various city councils. After

almost twenty-five years of daily wrangling between the water company and the city council, in 1902 the parties had finally reached a mutual agreement that the city would purchase the water company intact. The only disagreement between the parties, after so many years of what seemed like nonagreement on everything, was a fair price. The basic question of public or private ownership of the water system was decided in 1902; the water system would become owned and operated by the city exclusively. There would be no more threats of the city competing with the water company by building their own system or taking the system via their condemnation rights under eminent domain.

Why is the study of water in San Antonio important? First, nothing is more basic to successful human urban settlement than the management and sharing of scarce fresh water resources. As Nelson M. Blake, chairman of the history department of Syracuse University, said of water and cities in 1956, "Without it, cities simply could not exist."[6] Second, San Antonio is the product of one of diminutive Spain's most successful colonizing attempts. Little Iberian Spain settled vast areas indeed; its culture still dominates the lives of hundreds of millions of people in the Western Hemisphere. San Antonio's first century reflects the culmination of hundreds of years of Spanish legal and technological expertise in colonization. In fact, San Antonio is arguably one of Spain's two most successful settlements north of Mexico City, the other being Los Angeles, California. The key to Spain's successful colonization of San Antonio was undeniably based upon its wise water management system, which required the settlers to share and conserve the water resources to benefit everyone.

Of additional importance, the study of water in San Antonio illuminates Spanish legal concepts that form the theoretical basis of important portions of Texas laws still in effect today. The early Spanish legal concepts are alive in Texas law, especially concerning water; water was owned by the crown but shared by the public for the benefit of the public. Spanish law recognized flowing surface water as public; underground water and water collected on private land was owned in private. This concept still prevails in Texas law. Even the infamous "rule of capture," which entered Texas case law in 1904 based upon a set of decisions in *W. A. East v. Houston and Texas Central Railway Company,* could have been supported by Spanish law.[7] Under the rule of capture the landowner can generally take all the underground water to use and sell with

no limit, regardless of the impact on neighbors. Even if the neighbor's drinking water well dries up, the rule of capture declares that the neighbor has no claim for remedy or compensation. The colonial Spanish law stated that groundwater was *propiedad perfecta,* the property of the landowner.[8] Spanish judges, if confronted with a complaint about groundwater, would more than likely have decided as the *Sieta Partidas,* Partida 3, Titulo 28, Ley 1 states: "man has the power to do as he sees fit with those things that belong to him according to the laws of God and man."[9]

My purpose is to describe water sharing and management in San Antonio as the community emerged from being an isolated frontier outpost in 1718 to become an important national urban center by the early twentieth century. I devote little time to the wars and battles in San Antonio, of which there were many. Instead, I focus on water as it related to the daily lives of the inhabitants. The work is intended for historians, readers with a desire to understand the history of water management in Texas, and governmental entities and their appointed or elected representatives. My aim is to inform the audience that the water management and sharing practices developed, learned, and implemented in the early years of San Antonio constitute the foundation of present Texas water law. In order to make prudent policy on water issues, it is imperative that the public gain an understanding of how the legal concepts of water management developed in Texas over time. Although the Spanish colonial founders of San Antonio constructed the first municipal water distribution system in Texas, and the Spanish sharing and management practices comprised the first water conservation plan in the state, the Spanish are rarely given the credit they deserve for their far-reaching impact on Texas life today.

From 1718 to 1902, water was the deliverer of life itself to individual citizens, the provider of much of their livelihood, the transporter to them of death by disease and flood, the designer of much of their social and spatial organization, and the grantor of political power.

I

DROUGHTS AND DELUGES

From the perspective of climate, San Antonio is best described as semi-arid with a tendency to long-term drought followed by short-term deluges; the only reliable trait of the rainfall is its unpredictability. The prevailing wind is from the southeast out of the Gulf of Mexico, carrying moisture and creating the discomfort of humidity almost year round.

Geographically, the city is positioned at the bottom or southern base of the Balcones Escarpment, on the dividing line between humid subtropical East and Gulf Coast Texas and semiarid Central and West Texas. As to geographic regions, portions of San Antonio are in the Edwards Plateau, the Rio Grande Plain, and even a finger of the Prairies and Cross Timbers.[1] Like a border town on a political boundary, where people from both sides mix, San Antonio is a border town between geographical regions; as a result of the mixture it enjoys—and at times suffers from—the climatic conditions, topography, fauna, and flora of each region. As James F. Peterson of the Department of Geography at Texas State University has observed: "San Antonio's existence on the boundary between arid and humid zones does not necessarily mean that the city enjoys moderate weather and a balance between these climate types. In one year San Antonio may experience desert-like conditions and in the next year receive a deluge of precipitation."[2]

Relying on published annual averages and means of temperature, rainfall, and frost days can be deceptive in San Antonio. Mean monthly temperatures range from 50°F in winter to 80° in summer, but these statistics mask extremes by averaging daily highs and overnight lows.[3] People who have visited San Antonio even for a short time in August would attest that 80° would not describe their memories of the outdoor temperature and humidity in summer.

As another example of misleading statistics on temperature, weather charts

say San Antonio averages 111 days a year with temperatures of 90°F or higher, seemingly usual for anywhere in the southern United States. In the modern air-conditioned era, hot weather is uncomfortable, but going indoors usually brings relief. Modern San Antonians do not drastically change their activities to adjust to the heat. However, in the eighteenth and nineteenth centuries there was little relief from heat and humidity. Cold weather was rare; there were "cold snaps," but the discomfort people dreaded in San Antonio was the heat. The activity of daily life before air conditioning was arranged around the heat.

San Antonio's semiarid climate, simply put, is volatile, with recurring periods of drought often followed by extended periods of excessive rainfall. Weather extremes noticeable today merely as an inconvenience could be settlement-threatening events in the initial years, dramatically impacting the early settlers of San Antonio in the 1700s and 1800s. Bad weather at the wrong time wiped out food supplies, flooded large areas of the settlement, and caused hardship that threatened its viability from time to time.

Figure 1 shows the severity of drought in the San Antonio area from 1700

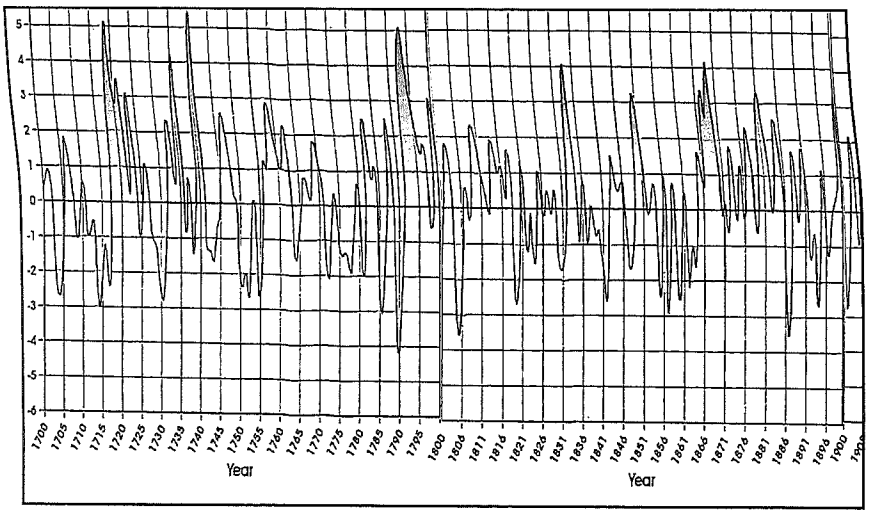

Figure 1. *Drought severity in San Antonio, 1700 to 1900. Zero is considered normal, and all points below it constitute drought (–0.50 to –0.99 = incipient drought; –1.00 to –1.99 = mild drought; –2.00 to –2.99 = moderate drought; –3.00 to –3.99 = severe drought; ≤ –4.00 = extreme drought). Based on data from Mauldin,* Exploring Drought in the San Antonio Area.

to 1900 based upon the Palmer Drought Severity Index (PDSI).[4] The graph reveals that during the focal period of this study, there were times when it simply did not rain. The length of severe shortages in rainfall made dry-land farming or farming without irrigation risky at best and, during many periods, all but impossible as a reliable source of food for congregate human living.

Alexander Edwin Sweet traveled through the San Antonio area in the 1880s, more than likely sometime in 1887.[5] Co-author of *On a Mexican Mustang through Texas,* a compilation of articles he wrote in *Texas Siftings,* he commented about the current drought and an earlier one:

> We started from Luling at six o'clock in the morning. By eleven it was so hot that we were compelled to seek shade and rest. There had been no rain for six weeks; and the natives were beginning to predict that this would be as bad a year as 1857, the dry year in Western Texas. In that year, the drought killed all the crops; and there was nothing to be raised, not even an umbrella, during the whole season. One man told us that we were bound to have rain sooner or later; and, when it did come, it would be a deluge, and there would be no telling when it would quit raining,—that it would be like unto a great dam broken loose. There had been many damns breaking loose from the exasperated farmer, he said; but they had no perceptible effect on the meteorological condition of Western Texas.[6]

The keystone to fixed human settlement is stabilized farming, which simply cannot succeed over the long run without steady, predictable, and timely moisture—or irrigation. The prolonged periods of drought in San Antonio and its surrounds made sedentary living difficult, risky, and sometimes miserable. Dry-land farming inevitably fails at times around San Antonio, not only because of lack of rainfall but also due to too much rain at the wrong time.[7] Even if rains are ideal, a late spring frost or an early summer hailstorm can destroy the best crop.

Water is the only strategic weapon to use against aridity; irrigation is the only tactical application of that weapon to stabilize agriculture to allow any population to expand.[8] Even today, farming in the San Antonio area is still only given a chance to be successful when irrigation is practiced.[9] The Spanish

colonizers understood the importance of farming and sought for settlement only the lands that could be irrigated.[10]

Spain's Climate Similar to San Antonio

San Antonio's climate and weather are similar to the weather in parts of Spain, so the Spanish settlers were well equipped to meet the area's moisture challenges. In the words of Betty Eakle Dobkins in *The Spanish Element in Texas Water Law,* "Drawn from Roman, Moorish, and Gothic sources, this body of [Spanish] law reflected its diverse origins, but it also showed the mark of the Spaniard himself, in whose bone was bred respect for water."[11]

Dobkins's source for this idea was Edwin P. Arneson. An exact quote from Arneson is even more interesting: "The conquistadores, who exploited the Spanish Main, were, for the most part, recruited from that central plateau of Spain, endeared to the readers of Don Quixote as 'La Mancha.' 'La Mancha' means the Blot. It is an extremely dry country which is able to support its population only when the utmost care is exercised in the conservation and use of the scanty rainfall. *Respect for water is bred in the bone of the Spaniard,*

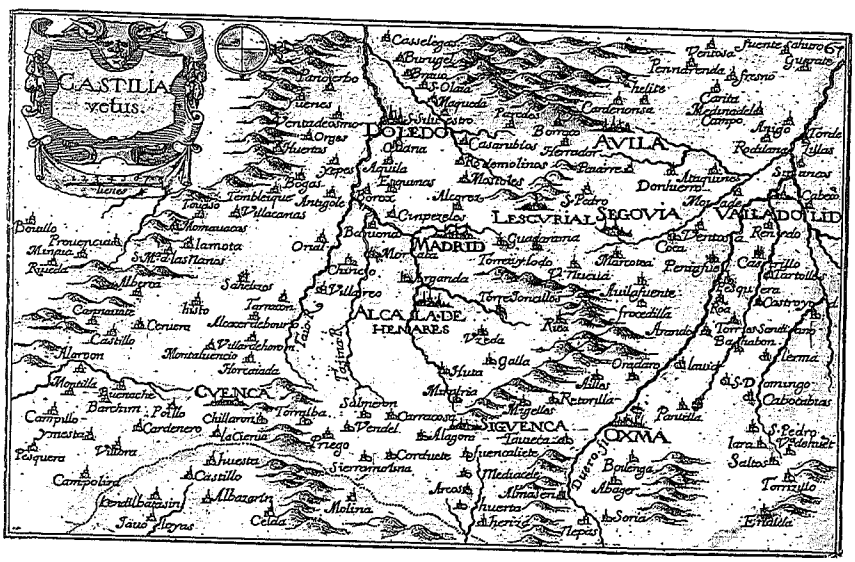

Figure 2. *Map of Spain by Ortelius, 1588. "La Mancha," or "the Blot," is around Madrid. Original map in the private collection of the author.*

and, while his profession may have been arms abroad, his occupation at home was agriculture" (emphasis added).[12]

The Spanish learned from the ancient conquerors of their own Iberian Peninsula how to use scarce water resources to irrigate their fields and distribute water, and from that education, regulations and laws developed to govern the use in common of water resources. As Arneson appropriately notes of Spaniards, their base occupation was farming. This also aptly describes the occupation of the Spanish in San Antonio for over a century and a half. Spanish settlers and friars sought water first, and their prayers were answered in San Antonio.

5

ACEQUIA TECHNOLOGY

> Irrigation is man's response to drought; by this means he reduces radically the uncertainty that nature presents to human settlement in an inhospitable environment.
>
> ARTHUR MAAS AND RAYMOND L. ANDERSON, . . .
> *and the Desert Shall Rejoice*

The initial act of social cooperation in water management and distribution in San Antonio was the construction of the first irrigation ditch by settlers, soldiers, missionaries, and Indians, commencing in January 1719. Its construction was essential to the survival of all. The effort was typical of work at any new Spanish community in that before permanent structures were built, an initial acequia was completed.[1] Confirming that this practice was the standard across New Spain, Michael C. Meyer wrote: "With amazing regularity, the construction of an irrigation system for the new communities of the north began even before the houses, public buildings, and churches were finished. Prior to the completion of the ditches, water had to be conveyed by *aquadores,* who carried heavy buckets hanging from yokes across their shoulders."[2]

The Spanish had learned from the ancient conquerors of their own Iberian Peninsula how to use scarce water resources to irrigate crops. From that education, technology and practices developed to share and distribute in common any available water resources. Areas of Spain have been irrigated for more than two thousand years. The Romans and the Visigoths established new irrigation practices, and these practices were modified and improved by the Moors who entered Spain in the eighth century.[3] S. P. Scott commented on the transformational power of irrigation in his *History of the Moorish Em-*

pire in Europe: "A considerable portion [of Spain] which had never been subjected to tillage because of its aridity became suddenly metamorphosed, as if by the wand of an enchanter. . . . In districts where, according to ancient tradition, no water had ever been seen, now flowed noisy rivulets and broad canals."[4]

The innovative Moors used every known device to water the land: reservoirs, wells, sluices, tunnels, siphons, and aqueducts. They improved the irrigation methods of the Egyptians; from the Persians they learned the use of a wheel with rows of jars to pump water to lands higher than the irrigation ditches.[5] In Spanish these waterwheels were called *norias.* Since San Antonio's climate is similar to that of Spain, the Spaniards who settled there understood the potential of the land if water were applied via an irrigation system.

San Antonio would have never have become a major community without its irrigation system to distribute the water resources; the system allowed the Spanish settlers to establish their precarious foothold in the wilderness. When the Spanish arrived on the San Antonio River to settle in 1718, their irrigation systems had been implemented and adapted for more than two hundred years to meet the harsh conditions in northern New Spain and Mexico. An integral aspect of their irrigation technology were the social and political organizations they developed to manage and conserve the precious water resources.

From an engineering perspective, Spanish expertise and experience in irrigation systems created the opportunity for settlers to live together to defend themselves better from hostile attack; the distribution system of the abundant waters of the San Antonio area allowed a larger more defensible and self-sustainable village to spring up virtually overnight from 1718.

In the landmark Texas case *San Antonio River Authority v. G. Garrett Lewis et al.* in 1962, Texas Supreme Court Chief Justice Robert W. Calvert described concisely the typical acequia system's basic elements: "Water was diverted from the river by a dam, built in the bed of the river, which raised the water level and permitted water to enter the ditch by gravity flow through a headgate. Water from the river was thus made available to the mission and for irrigation of lands adjacent to the ditch."[6] Eventually the Spanish in San Antonio built a lasting gravity flow irrigation system of over fifty miles. The water distribution system was built by the hand labor of mission Indians, citizen-soldiers, and other settlers. Most of the construction of the system was supervised by Franciscan missionaries who have historically been understood

to have had little or no formal training in irrigation technology; that supposition is examined in this chapter.

As the missions proved often in eighteenth-century San Antonio, when water was used with diligence and hard work, crop surpluses could be generated to fill the granaries and storehouses, providing stability during the inevitable hard times. Yet even with an irrigation system that reliably delivered fresh water, other problems in farming make it a risky enterprise. Crops can fail due to rodent attacks, insect swarms, late freezes, hail storms, too much rain at the wrong times, and a myriad of other nightmares that keep farmers awake at night.[7] Irrigation at least eliminates the risk of too little water, and water is the only weapon against aridity.[8]

Indian Labor Builds Mission *Acequias*

The mission acequias that made up the bulk of the fifty-mile system in San Antonio were built mainly by the hand labor of the Indians, always under the supervision of missionary friars.[9] Sometimes the Indians volunteered to dig the ditches, and sometimes they were forced to, but at all times they worked under guard (fig. 9). Indicative of the attitude of the friars toward Indians and their labor on acequias, on October 17, 1750, while planning a system on the San Gabriel River, Fray Mariano gave orders "to send to each mission daily 'enough soldiers to cause respect' and to set the Indians at work at the proper time and keep them at it . . . that the soldiers keep guard at night to prevent nocturnal flights. When buffalo should appear in sight, soldiers must go with the Indians to pursue them, to insure the return of the Indians. Finally, the soldiers must be required to instruct the Indians in their work."[10]

The Indians must have been confused and resentful at times. In the friars' determination to succeed in their work, it seems they acted contrary to the lessons of love taught by their savior, Jesus Christ. Although its romanticized subjects are portrayed in stereotypical dress, the message of the drawing shown in figure 9, Indians digging the mission acequia under guard by Spanish soldiers, is sound; armed soldiers did oversee and/or guard the Indians at work on mission acequias. Soldiers guarded the Indians in the fields and at any other work or activity. The Indians were guarded for protection but also to keep them from fleeing. Even when the Indians were at church services, armed guards were on hand.

Figure 9. *Indians working on an acequia at Mission San José under the guard of soldiers as they would have looked in 1720–30. Engraving by Welcker, 1883, captioned "Indians digging irrigation ditches," from Alexander E. Sweet and J. Armory Knox,* On a Mexican Mustang through Texas, *London, 1905. Private collection of the author.*

The missions absolutely required Indian labor; without working Indians, the mission could not be self-sustaining. A working acequia system was labor intensive. It had to be tended to on a daily basis. Gates had to be opened and closed, and lateral ditches to the fields had to be prepared every time water was sent to them, or the water would not get to the plants. Not only did it take strength and time to prepare a field; for the irrigation system to be effective, it also took both skill to coordinate gate openings and continual modification of the water's path once in the field. Irrigating large fields required teamwork by many hands working together so as to distribute the water evenly. It is an art to irrigate a field of any size so that all plants can enjoy the moisture without some being overwatered while others are underwatered.

Due to the death of neophyte Indians from epidemic diseases, the problem of Indians fleeing back to their old homes, and a lack of willing recruits from the remaining hostile tribes once Coahuiltecan sources were exhausted,

the missionaries were sincerely worried in 1787 that their work in San Antonio was in jeopardy.

The Indians who did survive and those who remained to work at the mission were subject to punishment for any disobedience to the missionary. Instruction No. 82 in the 1787 *Guidelines for a Texas Mission* said: "The missionary must so conduct himself towards the Indians that all will show him respect, submission, and obedience. He must punish the disobedient, the rebellious, and the arrogant without losing his usual gentleness, affability, and prudence in governing."[11] The instructions use the word "must," and the missionaries considered punishment of wayward Indians a duty. There is little evidence in the record of extreme punishment for disobedient Indians in the San Antonio missions, perhaps due to the general prosperity of the missions

Figure 10. *San Elazario in El Paso, Texas, home of the first irrigation activity in Texas around 1680. This photo suggests the bounty of irrigation when the acequias flowed in San Antonio, where the Espada acequia still flows but no fields are under cultivation at present. Photo by author.*

6

DERECHO INDIANO—LAW WITH JUSTICE

> The cornerstone of Spain's colonial regime was a legal system rooted in medieval European tradition and modified by New World circumstances that provided the basis for the political and social ordering of the Indies... . . many in the eighteenth-century Hispanic world held dear the traditional notion that, above all else, the prime function of the monarchy was to dispense justice.
>
> CHARLES R. CUTTER, *The Legal Culture of Northern New Spain*

The combination of the fresh, living water and the wise Spanish concept of *derecho,* "right" or "justice," formed the basic underpinnings of the new community in San Antonio.[1] *Derecho* has no exact equivalent word in English; "justice" comes closest.[2] The legal system of Spain that was applicable to its colonies was designed to be flexible to fit local needs, and therefore when adapted and modified it is referred to as *derecho vulgar,* and is a "legitimate expression of local self-government."[3] Justice was considered in court first, not law. According to Charles Cutter, "one rarely argued that the *ley,* law, was on his or her side; instead a litigant approached the court seeking one's justice or "su derecho." Justice was found by the written law, local custom, and *equidad,* or a locally defined sense of fairness. Cutter writes: "Local usage and long-standing practice also carried the weight of authority under the Hispanic system."[4] Today's concept of estoppel in the laws of the United States is similar; estoppel is the legal theory that no matter what written terms outline conduct between parties in a contract, if the parties act contrary to

the written conduct for a long period of time, the actual behavior between the parties overrules the written document; long-standing practice became the law. As Cutter goes on to say, "This respect for local particularism, even when *contra legem,* contrary to the law, has been perhaps the most overlooked dimension of the Spanish colonial legal system."[5]

The Laws of the Indies from inception said all the water in the New World was for everyone's use, which also protected the native people's rights. The Spanish concept of *derecho vulgar* allowed local regulations to be developed to meet local customs and to match the unique needs of a local population.[6] From the arrival of the earliest settlers, rulings about water sharing in the new settlement were based on the admirable Spanish concept that water was to be used in common by everyone in the community.[7] This idea is an example of the overall fairness in the legal and administrative system of the Spanish, for which they are rarely given due credit.

Mutual dependence upon shared water forged a sense of community in the people; the methods they practiced in sharing this water formed one of the most basic principles in Texas community water law as we know it today; *water is to be protected for community use and benefit and is to be shared fairly by all.* From a legal perspective, Spanish ideas that water was a common resource to be used *by* everyone and administered with justice *for* everyone constituted an ethical cornerstone for development of the community in San Antonio. These just ideas, established almost three hundred years ago, live today in much of the water law in Texas. As Andrés Tijerina has said, "The public nature of water ownership is probably the most pervasive of the Hispanic traditions in Texas water law."[8]

The Spanish understood from hundreds of years of Iberian experience that "irrigation implies not only a sedentary existence but subjection to more stringent measures of social control."[9] The managerial expertise and legal ideas of sharing, which had been learned and practiced for centuries in Iberian Spain and throughout the New World and which were put in place for public water distribution in San Antonio, were a prelude to the establishment of community life.

However, competition for water was present from earliest settlement, and long-term settlement over the entire river basin was successful only because Spanish laws and concepts forced the competing groups of inhabitants to

Brackenridge, a lawsuit over groundwater use was filed in Denison, Texas. The Texas Supreme Court ruling in the case of *W. A. East v. Houston and Texas Central Railway* in 1904 established the still valid rule of capture in Texas groundwater law. Thereafter the rule of capture decision caused the "legitimate" death of springs, household water wells, aquifers, and creeks all over the state. The ruling in the *East* case went unnoticed by the general public until 1991, when the notorious "catfish farm" water well was drilled in Bexar County; the enormous amount of groundwater produced by that well was lawful based upon the precedent set in the *East* case. The amount of water harvested legally from this one well finally shocked the public and politicians into awareness of the impact of the rule of capture.

In other areas of the state that had not enjoyed the kind of prolific abundance the San Antonio River offered, by 1904 there had been sixty years of hot dispute over claims of rights to use the surface or flowing water of rivers for irrigation purposes. The surface water disputes were caused by the Republic of Texas' decision to honor simultaneously the pre-Independence irrigation rights deriving from Spanish and Republic of Mexico law and grants while also recognizing English Common Law as the basis for the new country's legal system.[2]

English Common Law and Spanish Civil Law, Texas Style

In its exercise, "Spanish water law, if not representing the triumph of reason over will, was an ingenious system that provided the moral mechanism for bridging the gap between the self-interest of the individual and the larger concerns of society. It combined the reasonableness of private property with the justice of serving the common good."[3]

The Congress of the Republic of Texas decreed the common law of England effective as the law of the land on March 16, 1840. Water rights under English common law were different than under the civil law of Spain and the Republic of Mexico. From 1840 to the mid-1960s the Texas Legislature and the courts struggled with the conflict between the two legal systems over the rights to water of riparian lands, or lands adjacent to flowing water in rivers and streams. Under English common law, riparian landowners had the right to take water from flowing streams for irrigation based solely upon their adjacency to the water. That system is commonly referred to as a riparian system.

Under Spanish and Republic of Mexico law, water could not be taken from a river or stream for irrigation without an *explicit* grant from the sovereign. The Spanish and Mexican system is commonly referred to as an appropriative system. San Antonio was not the first place within today's Texas geographical boundaries where the Spanish dug acequias; the area south of El Paso was home to the first irrigation system in 1680. However, San Antonio was the first city in which Spain granted irrigation rights officially to flowing waters both in the river and from the acequias. Since 1840 the courts in Texas have relied upon the customary practices and application of Spanish laws in early San Antonio to support their rulings and set legal precedents on water issues.

The laws relating to water rights in Texas, due to their confusing nature in the past, still send many attorneys and more than a few judges scurrying for cover even today. Federal Judge James V. Allred, former attorney general and governor of Texas, declared in 1955:

> 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 difficult . . . ; that the Board [Texas State Board of Water Engineers] has granted permits on many streams in the state, very few of which have been cancelled, in such numbers and for such quantities, that if riparian rights are given the full effect, practically every drop of water, normal flow or flood, is "bespoken."[4]

There have been and continue to be logic-defying and seemingly unfair judicial rulings on water issues in Texas. The same holds true for guidance from the legislatures. The *lack* of legislation on various important water issues stands out most noticeably. The two most controversial and confusing issues involving Texas water are rights to irrigate from a flowing stream and use of large volumes of groundwater in such quantity that neighboring water wells, springs, and creeks go dry. A primer in water uses and the types of legal "geological containers" in which water is held under the law helps to separate the issues that are in dispute.

There are three basic ways Texas water is used under the law: for households

and livestock, for irrigation, and for industry. There are three types of water containers under the law: surface water in streams and rivers; groundwater or water underground in aquifers or streams; and "diffused" surface water, or water runoff from rains that does not flow in a stream with a defined bed. Spanish, Republic of Mexico, and Texas law have always concurred on protection of household and livestock use of any type of water; on this there has been no dispute. The heated disputes have always been over irrigation use, whether from surface water or groundwater. Why?

Irrigation of land requires huge amounts of water. For example, irrigation today accounts for almost two thirds of all groundwater use in Texas. Until the late nineteenth century, most irrigation water came from rivers and streams. By the end of the first decade of the new century, claims were made for more water than flowed in most of the rivers of Texas, even during periods of non-drought flow conditions. With late nineteenth-century technology in which deep drilling and large-scale pumping equipment were developed, irrigation by groundwater became increasingly popular. Groundwater irrigation began to deplete aquifers and streams all around the state during times of drought. A strong argument can be made that Brackenridge's first deep well drilled at the site of today's Arneson River Theater on the Riverwalk helped to bring on the modern era of exploitation of aquifers and groundwater in Texas.

Since the law in Texas officially recognizes the mixed heritage of the state, the blending of our Spanish and Republic of Mexico legal heritage with English common law has caused confusion and frustration over irrigation water and riparian rights to use it. In fact it was not until the fine clarifying work of Justice Jack Pope in the *State of Texas v. Valmont Plantations* case in 1962 and the subsequent Water Rights Adjudication Act of 1967 that the issue of riparian irrigation rights was settled in Texas.

The basic cause of the confusion and conflict was the application and misunderstanding of riparian rights under the blended legal concepts. "In its wisdom," wrote water rights expert Garland F. Smith, "the Legislature adopted the Common Law of England, and the courts (with the aid of the Bar) for over a century tried to adapt the non-consumptive riparian doctrine to the consumptive use of irrigation."[5] As noted, the word *riparian* simply means adjacent to a flowing river or stream. However, *riparian rights* under English common law are made up of a bundle of rights, which include the right to flow [for industries such as mills], to fish, to navigate, and to use the

water for irrigation and for domestic purposes.[6] Irrigation is but one right in this package of rights, but is a highly consumptive use of water and certainly the most controversial in arid climates.

In England and on the eastern coast of the United States, naturally well-watered lands with ample rainfall, riparian rights are rarely controversial; there is generally plenty of water for everyone. This is not true in the arid West, and especially in the western half of Texas, which includes the San Antonio area. Riparian rights of irrigation in Texas created serious water shortages during the recurring and, at times, lengthy periods of drought across the state. When water is ample, few disputes arise, but when it becomes scarce due to drought or excessive use by one party over another, conflict explodes.

In his opinion in the case of the *San Juan Ditch Company v. Cassin et al.* on November 15, 1911, Justice Cobbs of the Court of Civil Appeals of Texas wrote: "This controversy would, perhaps, never have arisen but for the lessened flow of the San Antonio River in the last few years, and its failure to provide a sufficient flow to fill the ditches."[7] The obvious reason the San Antonio River had "lessened flow" in 1911 was the number of deep water wells that had been successfully drilled into the aquifer since Brackenridge's wells in the 1890s.

The significance of Spanish impact on Texas law is indicated by the large amount of land held under Spanish and Republic of Mexico grants to this day. Grants to some 26.3 million acres of the total Texas land area of 172.7 million acres, or 15.5 percent of the state, were made by the Crown of Spain or the Republic of Mexico.[8] The water rights attached to these grants are critical elements of their value. As Hans W. Baade observed in 1986 in a *St. Mary's Law Journal* article on the historical background of Texas water law: "Therefore, while Spanish and Mexican water *law* is entirely unrelated to the substantive contents of the Texas Water Code, water *rights* based on the law of the pre-Independence sovereigns of Texas [Spain and the Republic of Mexico] not only continued to be valid, but indeed had to be ascertained, whenever and wherever there were Spanish or Mexican land grants within a stream or stream segment to be adjudicated."[9]

Baade continued: "Water rights arising under Spanish and Mexican era grants had to be ascertained, even at this late date [1967], in terms of the water law of Spain and Mexico at the time and place of the grant."[10] A key precedent for the legal recognition of Spanish water laws in Texas was written

in 1877 by Chief Justice of the Texas Supreme Court Oran Milo Roberts, who said it was the duty of the court "to know and follow the law existing in any part of the present limits of this State, at the time, and under which, a title to land was acquired."[11] Texas law has traditionally honored and continues to honor the prior real property rights associated with and appurtenant to land tracing its roots to pre-Independence grants.

After 120 years of disputes in the courts, legislature, and government agencies statewide, the Texas Legislature enacted the Water Rights Adjudication Act of 1967; it required that all claims to surface water for irrigation purposes had to be presented to the Texas Water Rights Commission for adjudication between July, 1967, and July, 1969. The goal was to verify the true claims with a certificate of adjudication to settle the years of costly conflict between parties claiming surface water rights. Another goal was to allocate the finite amount of Texas surface water fairly and responsibly.

Since title to almost one sixth of all the land in the state was traced to valid pre-Independence grants, the question of the water rights associated with these claims was not merely one of historical interest but was and still is critical to the livelihood of the landowners and also to the market value of the property for both the owners and the various government taxing authorities, such as school districts. Some ten thousand claims were presented during this time, and most claims were adjudicated as confirmed or denied, but even today a few remain in dispute.[12]

Texas struggled for more than a century with the dual system of Anglo and Hispanic concepts of riparian rights. To make matters worse, controversial court rulings that began in Denison in 1902 over the use of groundwater further confused and frustrated the citizenry. While it is generally accepted that the adjudication of claims between 1967 and 1969 settled riparian irrigation issues around the state, groundwater issues are still as a whole unresolved after more than a century.

San Antonio Water in the Twentieth Century

The history of water in San Antonio in the twentieth century, the subject of the forthcoming second volume of this book and highlighted in this section, is found in the conflicting and confusing legislation, agency regulations, and judicial rulings made in attempts to find equilibrium and resolution to

Paleo-Indian Angostura sites in the world, dating to around 6,800 B.C. Fortunately for archaeology and anthropology, the site was saved by the failure of the reservoir project. The land now is being protected as a permanent reserve. An exploration of the history of the Medina River projects and their relationship to water in San Antonio is another topic to be addressed in depth in the follow-up volume, covering land ownership, irrigation, water rights, and public finance issues.

Water truly does render land its value and, as the state grows over the next fifty years, vast changes in Texas laws and relationship to water will occur—but not without great consternation, pain, and controversy. San Antonio's long water history will continue to provide one of the key foundational sources of water law in Texas, and the city and its agencies will set the pace for water development statewide for years to come. What happens in water in San Antonio is noticed by and is a major influence on all of Texas.

Fond Remembrances of Spanish and Simpler Times

In summary, state ownership of all flowing streams with provision for explicit grants for use of the water, and allowing sale of those rights severed from the land itself, are but two of the Spanish concepts that survive today. Spanish law recognized and Texas law recognizes underground water, springs, and runoff water (or diffused surface water that does not flow in a stream or defined bed) as being owned by the private landowner. Spanish water law and current Texas law allow riparians to take water for irrigation from a publicly owned stream or river *only by specific grant;* there exists no automatic right to the water just because of proximity, as under typical English common law. The Texas courts still uphold these basic concepts, and the justices have used and will continue to use the history of colonial Spanish law in San Antonio to inform their decisions, with much of their legal research coming from documents held in the Bexar Archives.

The flexible adaptability of the Spanish legal concepts *derecho Indiano* and *derecho vulgar* in local administration allowed settlers in far away new villages, such as San Antonio, to place into law locally designed regulations fitting their needs. The king served to be sure justice was done in his kingdom, an idea not found in most kingdoms in history, yet one the Spanish kings took as a their duty.

The Spanish acequia systems were designed to follow the ancient Roman concept that "water runs and ought to run as it used to run." All water that did not soak into the fields in the irrigation system was returned to the river or creek, an example of what we would refer to today as "environmental flows." Even the dams they designed were weir dams that captured only a portion of the flow of the river or creek, allowing most of the natural flow to continue.

It is impossible even to imagine the huge amount of spring water the uppermost section of the San Antonio River valley produced naturally when first seen by the early Spanish friars and soldiers. It may have been the largest grouping of springs in the world at that time. The eyewitness reports of visitors and settlers give only a tiny glimpse of what the glory of nature must have been like in eighteenth-century San Antonio.

In 1984 Del Weniger of Our Lady of the Lake University in San Antonio wrote:

> This valley probably had as many springs as any place in the world. The city has always had to cope with these springs in the places where it has chosen, come hell or high water, to build its buildings. On the site of the Federal Land Bank there was a spring which flowed up through the slab of the building, and which it is reported it took six pumps six months to pump out. There was once a warm sulphur spring to which many used to come to get water, on the site of the Alameda Theatre, and under the National Theatre is a spring which has always required pumping out. There is a spring under Joske's downtown store, and another under the new Hyatt Hotel. After a recent extremely wet year, one of these long-forgotten springs reasserted itself in the basement of a large Alamo Heights home, and the water, to the amount of hundreds of gallons an hour, had to be pumped out for months.[24]

A local real estate broker who is land manager of one of the oldest lumber companies in San Antonio said that during the 1920s and 1930s, when the Alamo Heights and Terrell Hills subdivisions were being built, it was standard practice for builders to pour concrete down the smaller springs so that new homes could be built over them.[25]