WATER, WATER EVERYWHERE,
BUT WHERE’S MINE?

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At the beginning of the nineteenth century, all heavy items or items of any quantity moved over water. Because the movement of commerce was by water, Americans of 1801 were constantly thinking about water.***

Rivers dominated Jefferson’s thinking about North America. For the immediate future, he was determined to get control of New Orleans. Beyond that, he sought an all-water route through the unexplored western two-thirds of the continent.***

Jefferson wanted to tie the two coasts together, using the Missouri-Columbia waterway to form the knot, in order to create a continent-wide empire for the United States.¹

The Louisiana Purchase was remarkable not only for the vastness of its lands, but also for the many waterways within it. The rivers and streams were of prime importance; they provided mobility and the means for discovery and exploration. This immense land mass was one of the few remaining unexplored regions of the world, and there were visions that it held the key to the search for a river-based connection to the Pacific. For many years after the Purchase, as for centuries before, waterways anchored the settlement, commercialization, and essentially all other aspects of the new lands.

Pioneer ambition and ingenuity quickly changed the face of the West, along with the uses and exploitation of its water resources. While transportation continued to be of prime importance, other opportunities also arose. Much of the new land was arid, and its transformation for agricultural purposes required water. Extensive irrigation projects and facilities were conceived, designed and built. Harnessing the potential benefits from natural water courses also required man-made impoundments, and a network of dams and reservoirs was established. These public works – some massive, like the Hoover Dam, but many small, like man-made lakes and related improvements – allowed Westerners to control and use the flood waters, and to generate and distribute electric power to a growing population. And the growth in population, with its attendant demand for more and more water, continues unabated to the present. This, together with our evolving environmental awareness and shifting political priorities, has resulted in increasing water shortages and conflicting claims.

The purpose of this paper is to consider how water, the environment, and our American heritage of entrepreneurship and economic expansion are interacting to produce new and different

forms of distress for lawyers and others dealing with real estate. It is a view from 30,000 feet, to look at a sampling of current trends and issues. In Section I, a few basic principles and concepts of water law are summarized. Section II sets forth some recent examples of conflict and distress, and Section III highlights the increasing efforts to plan for and resolve these conflicts. A few selected issues that may arise in lending transactions are discussed in Section IV.

I. WATER LAW FUNDAMENTALS

A quick review of several essential facts and concepts will help set the stage. First, one must recognize and keep in mind the “30 inch” rule. A north-south line divides this country between the eastern areas that receive more than 30 inches of annual rainfall, and the western areas that receive less than 30 inches. This line roughly parallels Interstate Highway 35, from far south Texas to far north Minnesota. In eastern areas, there is generally an ample water supply. Western areas, on the other hand, regularly experience varying degrees of water shortages and drought conditions. As a result, eastern water law significantly differs from western water law.

Eastern water law is largely the law of surface waters, and is modeled on the English riparian system that assumes there is enough water for all. Its general approach is to require “reasonable use” – a phrase with no clear-cut definition – with special attention to the rights of land owners whose property abuts the water. To the extent that the Eastern system deals with shortages (for instance, during extended droughts), it begins with the assumption that pro-rata sharing among available supplies should be the rule.

West of the 30 inch line, water shortages are to be expected, at least over any reasonable planning horizon. The water law rules that have developed in the American West are based on the concept of the state as the “owner” (whether outright or in trust for the public) of its waters, and allow anyone to establish a right to “use” some of the water by putting it to a beneficial use. Anyone who does so thereby establishes rights that will be protected against later users. This system is generally referred to as the “prior appropriation doctrine”, and has led to a state-administered permit process that incorporates the “first-in-time is first-in-right” concept. However, prior appropriation water rights generally entitle the holder only to the use, not to outright unrestricted ownership, of the water.

Localized idiosyncrasies have developed and still exist. In Texas, for example, surface water and underground water (“ground water”) are governed by entirely separate legal principles. With respect to surface water, the initially adopted riparian right system has been succeeded in more recent times by a prior appropriation regulatory system. For groundwater, an early Texas court decision adopted the English common law “rule of capture”, which continues in large part to apply today.
The appropriative system is based on appropriation permits that specify the particular use authorized, the amount and purpose of the appropriation, and where the water is to be obtained (or “diverted”) and used. In times of shortage, the “first-in-time, first-in-right” concept applies, so that permits based on earlier water use have preference over permits reflecting later use. The holder of a permit must actually apply the water right for a “beneficial use” as contemplated in the permit; because the right is a license for use, it may eventually be lost through nonuse over an extended period.

Although other western states have generally adopted the appropriative system with respect to groundwater rights, Texas has not done so. The Texas Supreme Court, at a time when groundwater use was relatively insignificant, adopted the English common law rule of capture, which allows the owner of the overlying land to pump essentially unlimited quantities of water from under the land. Thus groundwater, even where it is hydrologically connected to surface water, is considered the property of the owner of the surface estate and is treated much like minerals. A recent decision, coupled with numerous recent legislative changes, suggests that Texas is moving away from this approach and may in the future employ a permit-based appropriative system – albeit a “Texas-style” one.

Water law encompasses several important related issues, especially in western states, that are receiving increased attention and spawning new water wars. Water development projects are a major theme in the history of surface water law. Massive dam and reservoir construction undertaken during the middle decades of the 1900s greatly increased the total stored surface water capacity. With most suitable reservoir sites already developed, and with environmental concerns pervasive and often controlling, this construction boom has now largely stopped. Thus it is unlikely that new surface water reservoirs will be able to satisfy this country's ever-increasing water needs.

Interbasin transfers – moving water from a watershed where supplies are plentiful to a different watershed that is impoverished – is another controversial issue. Historically interbasin

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2 *Houston & Texas Central Railway Co. v. East*, 81 S.W. 279 (Tex. 1904).

3 *Sipriano v. Great Spring Waters of Am., Inc.*, 1 S.W. 3d 475 (Tex. 1999).


5 See, generally, Tex. Water Code Ann. § 11.301, *et seq.* Texas groundwater is now regulated in many areas by groundwater districts. Most areas of the state are now, or in the future will be, within the boundaries of a groundwater district, with varying authority over the drilling, completion, and pumping of groundwater wells.
transfers have been permitted and have been extensively utilized throughout the West. Embedded in the decision-making process regarding proposed interbasin transfers are many of the tough issues facing lawyers, planners and policy makers: what are the appropriate use priorities when there is not enough water; where and under what conditions can water be transported for use outside the basin of origin; how to measure and how to gauge the importance of downstream quantity and quality resulting from upstream diversions, both within, and to points outside, the basin of origin; should water policies and decisions rest with local, state, or federal authorities; and, finally, how much significance should be given to economic analyses and free-market forces? As our country’s population grows, and droughts and shortages occur more frequently in all regions – even those east of the 30 inch line – the consideration and resolution of these questions becomes increasingly important.

II. RECENT EXAMPLES OF CONFLICT AND DISTRESS

The problem is clear – there is a finite supply of fresh water in our country, while, like our population, the need for fresh water is ever-growing and increasingly exceeds available supplies. Even where supplies are, or could be, available, problems of delivery and affordability abound. Moreover, environmental concerns and priorities may override other considerations, thereby complicating or even eliminating otherwise practical solutions. Water is a basic natural resource essential to almost every facet of human economic and ecological activity, but we just do not have enough at all the right locations. Welcome to “Distress City!”

A. What’s mine is mine. Water reuse is a bedrock principle of most water plans and planning efforts. Most uses do not “consume” the water, and most users return most of the water they appropriate to the waterway from which it was taken. A ready example is water used for domestic and commercial purposes – it is first diverted and treated, then distributed and used by customers, and finally returned as wastewater, treated, and discharged to a receiving water body. Downstream users count on these return flows, and use and reuse of the same water occurs along the entire length of a waterway. As water shortages have become more common, and as projections indicate that such shortages will be more frequent and severe in the immediate future, the traditional approach to reuse is being reconsidered. Several users, including some “500 pound gorillas”, are asserting a continuing right to use “their” water after it has been returned to a receiving stream, and to do so at places far from the point of return. The proceedings discussed below are Texas-based, but similar situations exist throughout the country with, I suspect, similar controversies also arising in many other locales.

1. San Marcos River. A waterway serves, of course, as a conduit for moving water from upstream areas to downstream locations. From this natural phenomenon has arisen the notion that a water rights holder should be able to place its water in the stream, allow it to mix with the preexisting stream flows and proceed downstream,
and reclaim it at a downstream diversion point. The idea is readily analogous to the rules governing a pipeline or open channel. Because water is fungible, the analysis recognizes that in a free-flowing stream the water is not necessarily the same water that the user placed in the stream, but rather is an equivalent amount of water. In Texas, a so-called “bed and banks” permit may be sought to allow this practice.

The City of San Marcos obtains municipal water supplies from a large underground aquifer that surfaces at San Marcos Springs and contributes to the headwaters for the San Marcos River. The city has traditionally returned its treated wastewater to the river. In 1995 it applied for a permit to use the bed and banks of the river for its discharged wastewater and to allow it to divert for city use a similar amount of water several miles downstream. Because the effluent originated as groundwater, the city claimed that it owned the water until and unless it gave up its ownership, which it did not intend to do. Downstream users and environmental groups raised concerns about the effect of the proposed diversion on the quantity and quality of the water remaining in the river, claiming that the wastewater became “state water” upon its discharge and mixture with the natural flow of the river. The Texas regulatory agency concluded that the effluent remained privately-owned groundwater even after its discharge since it derived from private groundwater and the owner intended at the time it was discharged to the river to continue ownership and to reuse it. This determination was upheld in the district court, and an appeal is pending in the Texas court of appeals.6

2. **Trinity River.** A similar bed and banks application has been filed by the water supplier (a water district) for the Fort Worth region, this time involving wastewater return flows that originate from surface water. The water district diverts surface water from the Trinity River pursuant to a diversion permit, and historically has returned its effluent to the river. The application requests an amendment to the permit to allow the district to reclaim and divert for district use a portion of its return flows a short distance downstream from the point of discharge. Although no decision has been issued, the regulatory agency has proposed an order that would grant the permit. The staff reports and analysis frame the request as a new appropriation – in other words, return flows after discharge to a natural stream no longer belong to the

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District and are waters of the state – and indicate that granting the permit will not affect the reliability of existing water rights.\textsuperscript{7}

3. \textbf{Colorado River (Texas).} The City of Austin has now weighed in with an application to divert nearly all of its return flows for various city and non-city purposes, with several proposed new diversion points as far as several hundred miles away from Austin. Pursuant to various permits, the City now diverts surface water from the Colorado River— which, with almost 600 miles within the state border, is the longest river located entirely in Texas— and returning its wastewater effluent to the river. Its application requests the right to use the bed of the river to “transport” its effluent for use for, among others things, several city-owned electric generating facilities and maintenance of instream flows in the river and freshwater inflows for bays and estuaries at the mouth of the river (in the Gulf of Mexico) some two hundred miles downstream. In this instance, the river authority with jurisdiction over the Colorado both above and below Austin is vigorously contesting the application, contending that granting the permit would have far-reaching and long-lasting adverse impacts on upstream and downstream water rights, instream flows, freshwater inflows to the bays and estuaries, and long-range water planning. The application is currently being reviewed for administrative completeness, which is required before the agency may begin its administrative process.\textsuperscript{8}

4. \textbf{Groundwater Fights.} For decades, groundwater sources have comprised more than half of the total water used in Texas, and agricultural uses have predominated.\textsuperscript{9} Projections indicate that groundwater supplies and agricultural uses in Texas will sharply decline in coming decades, and these trends similarly apply in other western states that are experiencing rapid population growth and economic expansion. The projections also make clear that as groundwater supplies dwindle and rural uses decline, the big winners will be municipal and industrial users in metropolitan areas.

\textsuperscript{7} Tarrant Regional Water District Application to Amend Certificates of Adjudication Nos. 08-4976 and 08-5035, Texas Commission on Environmental Quality, Final Draft Amendment 5/23/2003.

\textsuperscript{8} City of Austin Application for Bed and Banks Permit to the Texas Natural Resources Conservation Commission (now called the Texas Commission on Environmental Quality), April 5, 2002.

\textsuperscript{9} Texas Water Development Board, \textit{Water for Texas Today and Tomorrow}, (January 1997) at 4. The website for the Board (www.twdb.state.tx.us) includes excellent source material and links regarding water issues.
Inevitably, water resources will have to be taken away from rural locations and agricultural users and redeployed in major cities. Not surprisingly, this transition is encountering substantial opposition. A real donnybrook is getting underway between the historical users and those who want to acquire and sell water to the next generation of users, who are willing to pay substantially more for the water than the historical users.\(^\text{10}\)

B. What's Yours May Be Mine. Often, looming over these individual and parochial battles are “public interest” considerations, with claims that private rights and disputes must yield to broader community needs. Such considerations are asserted not only by environmental organizations, but also by a variety of governmental agencies. Moreover, a wide variety of federal laws, including the Federal Water Pollution Control Act (Clean Water Act or CWA)\(^\text{11}\) and the Endangered Species Act (ESA)\(^\text{12}\) affect water rights and the ability to use water, and can have enormous impact. As with the changes being advocated with respect to basic water law principles, public interest issues may produce far-reaching and long-lasting consequences.

1. SMRF. A non-profit environmental group, the San Marcos River Foundation (SMRF) recently submitted an application seeking appropriation of all beneficial non-consumptive instream surface water from the Guadalupe River and its tributary, the San Marcos River, for beneficial non-consumptive instream flow protection and to maintain freshwater inflows to the Guadalupe River estuary. The local river authority and user groups quickly called “foul” and opposed the permit as a disguised effort to impose a “no growth” agenda on the 6,000 square mile watershed drained by the 250-mile long river system. They claimed that if the permit were granted, there would be no water available for the expansion of communities such as San Antonio (almost 1.5 million people, and growing rapidly), and other communities along the San Antonio-Austin corridor. It was also asserted that control of this essential resource should remain in public hands, and not be privatized by a single-issue group. The state regulatory agency concluded that it lacked the authority to

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\(^{10}\) For a recent interesting commentary, see Joe Nick Patoski, “Boone Pickens Wants to Sell You His Water,” Texas Monthly August 2001, at 118; and “Priceless: a Survey of Water,” The Economist (July 19, 2003).


\(^{12}\) 16 U.S.C §§ 1531-1544 (1999)
issue the permit and, accordingly, denied it. In doing so, the agency emphasized that protection of instream uses and bays and estuaries has become of vital importance, with recent legislation now requiring the agency to consider and provide for such uses.

2. Endangered Species and the Edwards Aquifer. The Edwards Aquifer and its catchment area, located generally in the region surrounding San Antonio, cover 8,000 square miles and encompass all or part of 13 south central Texas counties. For centuries, the aquifer has provided not only drinking water for the populace of this region, but also irrigation water for a thriving agricultural industry and recreation destinations in the form of its major spring openings at San Marcos and New Braunfels. In 1975, it was the first aquifer in the country to receive sole-source designation by the Environmental Protection Agency. Despite concerns about over-pumping, urbanization and contamination, and fears that the draw-down of the aquifer would allow “bad water” to intrude, withdrawals from the aquifer remained largely unregulated until endangered species dependent on the aquifer and protected by the ESA were identified. After torturous and lengthy litigation in both state and federal courts, and numerous legislative enactments by the Texas legislature, a groundwater authority was created to manage the aquifer, and it promptly began efforts to protect the aquifer and its spring flows by regulating withdrawals. It is now clear that the aquifer cannot supply the existing, much less the future, water needs of the region, and that other water resources will have to be identified and obtained. The search for alternatives is proceeding apace, with not unexpected resistance and objections from those who may be affected.

III. LONG RANGE PLANNING TO THE RESCUE

Water, more than any other natural resource, will determine Texas’ future in the decades to come. *** Today, increasing relative scarcity and competition for water, the high cost of new water supply development, and heightened environmental concerns make it difficult to marshal the public support needed to bring major new water development projects to fruition. Against this backdrop, the Texas population is projected to double over the next 50 years, and


the water needs of its cities and industries are expected to correspondingly increase.\textsuperscript{15}

Water is the backbone of our economy - safe and adequate supplies of water are vital for agriculture, industry, recreation and human consumption. While our supply of water today is largely safe and adequate, we as a nation face increasing water supply challenges in the form of extended droughts, water demand growth due to population increases, more-stringent health-based regulations, and competing demands from a variety of users.\textsuperscript{16}

To this point, this article has mainly utilized information and proceedings from Texas to illustrate the increasingly critical issues involving both legal and policy considerations relating to water. The sheer size of the state, and the diversity of conditions found there, suggest that it is a good case study for other regions of the country. Indeed, according to a recent report prepared by the Department of the Interior (DOI), the “state of water,” and the challenges arising therefrom, are much the same throughout the United States as in Texas.\textsuperscript{17} This report states that the nation's existing water supplies that are suitable for human consumption and use are a fixed-quantity resource essentially fully-developed and committed, while population increases and economic expansion are creating greater demand and a need for significantly more usable water. And to make matters worse, Mother Nature is not helping, as the country continues to experience a widespread, multi-year drought. Worse still, global climate changes may mean greater variability in rainfall and run-off in coming years as well as greater likelihood of salt water intrusion in coastal areas where sea levels are rising. The study repeatedly emphasizes that there is no “silver bullet” solution to the nation’s future water challenges. All this is causing distress now, and greater distress lies just around the corner.

A. The Texas Experience. Not unlike federal authorities and government officials in other states, Texas officials are worrying about these challenges. Periodic preparation of a state water plan is required under Texas law to guide the orderly development of its water

\textsuperscript{15} Supra note 9, at 1.

\textsuperscript{16} United States Department of Interior, Bureau of Reclamation, Sandia National Laboratories, \textit{Desalination and Water Purification Technology Roadmap, Desalination & Water Purification Research & Development Program Report #95} (January 2003), Executive Summary.

\textsuperscript{17} Id. at Appendix A.
resources. The plan's goal is to identify policies and actions necessary to meet short and long-term (50-year) water needs, based on projected demands for water, affordable water supply availability, and conservation of natural resources. Legislation enacted in 1997 updated the planning process for the plan scheduled to be issued in 2002, and devised a “bottom-up” approach utilizing regional planning groups that included hundreds of citizen members, allowing for extensive public input and participation. A number of basic policy issues were identified and dealt with, and implementation strategies and financing needs and mechanisms were explored and recommended. The 2002 Plan was finalized and issued in January 2002. As a planning effort, both the process and the plan itself appear to have been remarkably successful. The plan relies heavily on localized solutions and implementation efforts, and encourages continuing work by the regional groups to update and adjust the plan elements as appropriate. And it celebrates the fact that the planning process facilitated cooperation and actual agreement among warring factions, thus turning conflicts into opportunities for win-win outcomes. Undoubtedly there will be future disagreements and “water fights,” but there is now a good road map and process for airing such disputes and finding solutions.

B. National Efforts. Similar activities are afoot at the national level, as exemplified by the DOI study. The DOI report is almost desperate in its assessment of the water issues facing the nation – more “distress” – and is most insistent in its call for a national focus on increasing the supply of water, ensuring its affordability and continued quality, and mitigating the environmental impacts of water use and production. It notes that the nation's water issues can be divided into three broad areas – water institutions, water use, and water availability (both quantity and quality) – and acknowledges that the work summarized in the report is aimed primarily at increasing water availability. While desalination and water purification are the particular topics covered in the report, other means of increasing water availability also are identified in the report: water transfers, dam and diversion, conservation and efficiency, and water reuse and recycling. These very same concepts are embedded in the Texas planning process and the 2002 Plan, and can be expected to give rise to competing

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18 See generally supra note 9, at 1-2.


20 See, e.g., Sharing Resources: More Water For the Colorado Basin, More Water For the San Antonio Region, Lower Colorado River Authority (July 24, 2000); Environmental Protection: The Key to a Sensible Water Plan, Lower Colorado River Authority (July 24, 2000). The LCRA website (www.lcra.org) also contains extensive information and links regarding water information and issues.

21 See supra note 16, at 1-4, 47-53.
and conflicting interests and thorny issues that will have to be dealt with throughout the country, just as has been the recent experience in Texas.

IV. SOME LENDING ABCs

Water is important to all of us, regardless of our particular location or livelihood. Because of the supply/demand imbalance, both present and future, and the rise in influence of environmental and other interest groups, the continued availability of sufficient fresh water, even for existing uses and projects, should not be taken for granted. Like everyone else, real estate lenders must ensure that water issues are appropriately handled in their due diligence activities and loan documents.

A. Authority. In seeking loans, borrowers often provide assurances that their projects have all the necessary permits and commitments for all essential components of their projects, including water. Nonetheless, lenders and their counsel should take particular care to review the legal entitlements for the project's water needs. The first step will be to obtain the permits and approvals that grant water service. A careful review of the terms of the permit—especially any conditions or limits on quantity, duration or transferability—will be important. Beyond that, it may also be appropriate to inquire into the basis on which the water service provider obtains its water supplies. Because the legal and regulatory framework for surface water and groundwater may be different, it will be important first to ascertain the existing legal structure, and then to examine its effects on the documentation for the water supply source. Finally, lender’s counsel should verify what “appurtenances” may be essential to obtaining and using the water source, and take appropriate steps so that they will be available for the project, both initially and upon any foreclosure or other transfer. For example, easements may be necessary for the project’s water infrastructure, such as the pipes leading to the project and the real estate where a diversion of surface water or a well for groundwater is located.

B. Basics. As with any other real estate loan, the ownership of the project's water permits and commitments must be checked and verified. Again, there may be important distinctions between surface water and groundwater, and the due diligence required should be tailored to the particular water source. In many instances there will be a threshold need to establish the ownership of the regulatory permit under which water service is to be obtained, and of any essential appurtenances. A prudent lender will check the records of the permitting authority, as well as perform a traditional title search of the real property and personal property records to determine if such things as a well or diversion site, easements, or equipment are part of the water supply package. The loan documents will need to be crafted to cover all elements of the package, and will likely include not just a mortgage but also appropriate assignments, security agreements, UCC filings, and title insurance policies.
C. **Concerns.** In some jurisdictions, such as Texas, the authorities regulating water commitments do not monitor liens or provide any mechanism for noting a lender's lien position in the regulatory record. It may be useful, however, to notify the regulatory authority of the existence of the loan, and to have the borrower join the lender in a request to the agency that no transfer be allowed without lender consent and that all communications be copied to the lender. It might be prudent to obtain from the borrower signed transfer documents and power of attorney authorization to act for the borrower, for use in connection with any default or foreclosure. As noted above, the water supply package may include offsite real estate, facilities, or equipment, and care will be needed both to identify all essential components of the package and to appropriately include them as collateral in the security instruments.

V. **CONCLUSION**

What Mark Twain observed more than a century ago still holds true today: “Whiskey is for drinking; water is for fighting.” The implications of the changing face of water law for all of us – land owners, developers, businesses, and just plain citizens – are enormous. Imagine what might happen if your community was unable to obtain a commitment for the water supplies essential to serve some important commercial or residential development. Imagine too your community’s response if current water supplies were significantly curtailed during the next dry spell as a result of shortages in available supplies or because water transfers had been made to other areas. All of these scenarios not only are possible, but are likely to occur given the country’s population and economic growth and the concomitant increase in water demands.

In advising clients, policy makers, and other parties dealing with real estate ownership and investments, lawyers and other professionals have traditionally focused on applicable regulations such as zoning, subdivision, and construction, engineering and environmental codes. This complex network of laws and regulations now has an additional, and as yet undefined, element – an evolving, dynamic reconsideration of basic water rights law and water policy. In all probability, this evolution will impose new restrictions and risks on land ownership, development and use. The ramifications of all this are just beginning to surface, and the playing field and competing interests that will shape both the debate and its outcome are as yet unsettled. Tough questions will undoubtedly be asked and will have to be addressed, involving both technical issues – such as what additional governmental permits and approvals will be needed and economic considerations – such as the cost of compliance and the inevitable uncertainties and delays incident with new rules. Consequently, everyone involved in real estate matters should be aware of, and should quickly find a way to participate in, the new “fight” for water. The uninformed and uninvolved will lose.