RIVERBEDS AND BANKS: TITLE AND REGULATORY ISSUES

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Abstract: This article discusses how Texas law allocates public and private property rights in and along inland waters and identifies regulatory considerations applicable to projects in and along navigable rivers and streams.

I. Introduction[1]

Riverfront property is prized. Yet the joy of owning a slice of heaven contains some fine print. Where riverbeds and banks are concerned, the public, the state, and other landowners may share certain property rights. Moreover, special laws and regulations restrict use of riverside property. This article addresses the rights of riverbed and bank owners relative to their neighbors, the state, and the public. It discusses the Texas Supreme Court decision in *Texas Parks and Wildlife Department v. Sawyer Trust*, 354 S.W.3d 384 (Tex. 2011), which clarified how a landowner can challenge the state's assertion of a property right arising from the presence of a navigable stream. Finally, it identifies statutes and regulations that may apply to activities in and along navigable streams.

II. Navigability and Public Rights in Watercourses and Their Beds[2]

Navigable waters are reserved for public use. The Texas Supreme Court has stated that "[f]rom its earliest history this state has announced its public policy that lands underlying navigable waters are held in trust by the state for the use and benefit of all the people."[3] The Texas Constitution recognizes "navigation of . . . inland and coastal waters" as a public right.[4] Recognized rights within navigable streams include boating, fishing, swimming, walking, and wading.[5] A 1956 Attorney General Opinion found that the public has the right to walk on the dry bed of a navigable stream, in that case the Salt

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[1] This article represents the views of its author and not necessarily those of the Texas Parks and Wildlife Department. The author thanks Hannah Vahl, who helped extensively in the research and writing of this article. Also, this article relies to a large degree on the excellent articles by Boyd Kennedy, *If a River Runs Through It, What Law Applies?*, 32 TEXAS PROSECUTOR 20, 22 (2002) (hereinafter "Kennedy"), and Joe Riddell, *Texas Stream Navigation Laws* (hereinafter "Riddell"). This is an updated version of an article that was previously presented in several Continuing Legal Education seminars, most recently the "Changing Face of Water Rights" seminar in February 2015.

[2] The scope of this article is limited to lands underlying fresh waters, and does not include a discussion of the public and private rights relating to lands under or adjacent to tidally influenced waters. Somewhat different boundary and public use issues apply to tidally influenced waters. *See, e.g.*, Kenedy Mem'l Found. v. Dewhurst, 90 S.W.3d 268, 270 (Tex. 2002) (establishing shoreline boundary at the "mean daily higher high water levels"); Severance v. Patterson, 2012 WL 1059341 (Tex. 2012) (avulsive event causes beach easement to be lost to the public trust).

[3] State v. Bradford, 50 S.W.2d 1065, 1070 (Tex. 1932); *accord* Selman v. Wolfe, 27 Tex. 68, 71 (1863); *see also* TEX. PARKS & WILD. CODE § 1.011(c) (West 2016) ("All the beds and bottoms and the products of the beds and bottoms of the public rivers, bayous, lagoons, creeks, lakes, bays, and inlets in this state . . . are the property of this state. The state may permit the use of the waters and bottoms and the taking of the products of the bottoms and waters.").

[4] Tex. Const. Art. XVI § 59 (West 2016); *accord* TEX. WATER CODE § 1.003(5) (West 2016).

[5] Kennedy, *supra* note 1, at footnote 17.

Fork of the Brazos River in Kent County.[6]

Obstruction of a navigable waterway is a violation of the Penal Code and the Texas Parks and Wildlife Code.[7] Operating a motor vehicle within a navigable waterway is generally prohibited, although there are numerous exceptions to this rule.[8] Lands under navigable waterways are unique in that they are not dedicated to the management of any individual state agency, unlike (for example) the University of Texas campus or a Texas state park. Instead, management of the lands under navigable waterways remains the responsibility of the Texas legislature, generally speaking.[9]

While the public may not cross private property to reach a navigable waterway,[10] the right to use a navigable waterway may include the ability to scout hazards or portage. The law on this issue in Texas is not clear; however, other states have stated that the right of use of a navigable waterway necessarily encompasses these rights.[11] In addition, a Texas statute seems to imply that this right exists.[12] The question of scouting and portage rights was specifically left open by the Texas Supreme Court in *Diversion Lake Club v. Heath*.[13]

A. The Tests of Navigability

Texas state law governs ownership of property and property rights in and along freshwater watercourses and relies on two different tests: "navigable by statute" and "navigable in fact." Moreover, perennial streams within Spanish and Mexican land grants are governed by the Spanish or Mexican legal principles that were in effect at the time those grants were made. The federal law of navigability does not control riverbed property rights under Texas law, although it does apply in Texas for the purpose of establishing federal jurisdictional boundaries.[14] The substantial federal jurisprudence concerning state property rights within navigable riverbeds, such as was applied in *PPL Montana LLC v. Montana*, 132 S. Ct. 1215 (2012), has virtually no applicability to Texas rivers. Under the "equal footing" doctrine, states when they entered the Union succeeded to the property rights of the United States in the beds of

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[6] Tex. Att'y Gen. Op. No. S-208 (1956).

[7] TEX. PENAL CODE § 42.03 (West 2016); TEX PARKS & WILD. CODE § 90.008(a) (West 2016). *See also* TEX. WATER CODE § 11.096 (West 2016) (forbidding the obstruction of a stream that can be navigated by steamboats, keelboats, or flatboats by cutting or felling trees or by building a dike, milldam, bridge, or other obstruction on or across the stream); Burr's Ferry v. Allen, 164 S.W. 878 (Tex. App.—Galveston 1914, writ ref'd).

[8] TEX. PARKS & WILD. CODE ch. 90 (West 2016).

[9] *See generally* Bob Sweeney, *Driven to Act: Senate Bill 155 Lightens Traffic on Texas Riverbeds*, 35 ST. B. TEX. ENVTL. L. J. 153 (2005).

[10] This could constitute criminal trespass. *See* Kennedy, *supra* note 1, at footnote 18.

[11] *See, e.g.,* Adirondack League Club, Inc. v. Sierra Club, 706 N.E.2d 1192, 1197 (N.Y. 1998) (stating that since obstructions of a river do not destroy navigability, it follows that the right to navigate includes "the incidental privilege to make use, when absolutely necessary, of the bed and banks, including the right to portage on riparian land"); *see also* Kennedy, *supra* note 1, at footnote 3 (stating that there is no clear authority in Texas on the right of portage and that the issue "implicates the criminal trespass statute, and possibly the defense of necessity.").

[12] *See* TEX. PARKS & WILD. CODE § 90.007 (West 2016) (portage around barriers and scouting obstructions shall not create a prescriptive easement over private property).

[13] Diversion Lake Club v. Heath, 86 S.W.2d 441, 447 (Tex. 1935) ("[N]o opinion is intended to be expressed as to what use may be made in an emergency, or in other circumstances, of the banks of navigable streams by persons engaged in commercial navigation").

[14] *See, e.g.,* 33 U.S.C. § 1 (River and Harbor Act of 1894) (federal jurisdiction for purposes of regulating navigation extends to the "ordinary high water mark").

navigable streams.[15] In most cases, the state's property ownership of riverbeds turns on whether the river was navigable in fact at the time of statehood. *PPL Montana LLC*, 132 S. Ct. at 1228. Texas, however, was a separate nation prior to statehood with established principles of public rights in riverbeds, and the United States did not have property rights in the beds of Texas navigable streams when Texas entered the Union.[16] Texas retained its preexisting property rights when it became a state. Accordingly, riverbed property rights in Texas are unique among the fifty states, and federal navigability jurisprudence has limited value.

Moreover, "navigability" under Texas law is not equivalent to fee-simple state ownership of the bed of the watercourse. While all state-owned watercourses are navigable, not all navigable watercourses are state-owned. This distinction, and its implications, is explained in more detail in section II.B of this article.

"Nonnavigable" does not mean "nonregulated." Some examples: For water rights purposes, the jurisdiction of the Texas Commission on Environmental Quality (TCEQ), extends to all "water of the state" (meaning all water in watercourses, no matter how small the watercourse may be).[17] TCEQ's water quality jurisdiction extends to all "water in the state," including all bodies of surface water, "navigable or nonnavigable, and including the beds and banks of all watercourses."[18]

1. Navigable by Statute

In 1837, the Republic of Texas passed a law declaring streams that are an average of thirty feet wide to be navigable.[19] Also, this law prohibited surveyors from drawing survey lines across navigable streams. This hoary statute has stayed on the books to this day virtually unchanged and is now in the Texas Natural Resources Code.[20] Several cases and Attorney General Opinions have interpreted this provision. For a stream to be statutorily navigable, it need not contain water at all times.[21] If a navigable stream is dammed, the public has the right to use the contiguous surface waters.[22] By contrast, damming of a nonnavigable stream does not create a public right of use of the surface waters even if the impoundment measures more than thirty feet wide.[23]

The statute does not specify how or where the thirty-foot width is to be measured. Some cases

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[15] U.S. v. Oregon, 295 U.S. 1 (1935).

[16] *See generally* Wallace Hawkins, *Title to River Beds in Texas and Their Boundaries,* 7 TEX. L. REV. 493 (1929).

[17] TEX. WATER CODE § 11.021(a) (West 2016); Hoefs v. Short, 273 S.W. 785 (Tex. 1925); Domel v. City of Georgetown, 6 S.W.3d 349, 354-55 (Tex. App.—Austin 1999, pet. denied). The State of Texas also claims, as property of the state, water imported from outside the state that is transported through the beds of any navigable stream within the state. TEX. WATER CODE § 11.021(b) (West 2016).

[18] TEX. WATER CODE § 26.001(5) (West 2016).

[19] 3 TEX. PRAC., LAND TITLES AND TITLE EXAMINATION § 6.4 (3d ed. 2011).

[20] TEX. NAT. RES. CODE ANN. § 21.001(3) (West 2016).

[21] *See* Tex. River Barges v. City of San Antonio, 21 S.W.3d 347 (Tex. App.—San Antonio 2000, pet. denied) (holding that the San Antonio River was navigable under state statute even though its base flow within San Antonio city limits could not support navigation of any kind "except during periods of extraordinary rainfall"); Tex. Att'y Gen. Op. No. S-208 (1956).

[22] Diversion Lake Club v. Heath, 86 S.W.2d 441 (Tex. 1935); Hix v. Robertson, 211 S.W.2d 423 (Tex. App.—Waco 2006, pet. denied).

[23] Taylor Fishing Club v. Hammett, 88 S.W.2d 127 (Tex. 1935).

have found that nonexpert testimony is admissible in deciding whether a watercourse is navigable.[24] The method of determining the precise boundary between the public riverbed and the private uplands is the "gradient boundary" test enunciated in *Motl v. Boyd*,[25] which is discussed further in section II.A, below.

2. Navigable in Fact

Some Texas cases take the view that a stream is navigable "in fact" if it is capable of being used for commerce. This definition is derived from the definition of navigable waterways for purposes of federal law.[26] This view of navigability has resulted in a somewhat restricted view of what bodies of water count as navigable.[27]

But other courts have evaluated navigability "in fact" by looking at public use, which has resulted in a broader definition. For example, in *Welder v. State*,[28] the Austin Appeals Court declared that navigability "in fact" should consider public utility, not commercial usability:

> Behind all definitions of navigable waters lies the idea of public utility. Waters, which in their natural state are useful to the public for a considerable portion of the year are navigable. Boats are mentioned in the decisions because boats are the usual means by which waters are utilized by the public, and commerce is usually mentioned because carrying produce and merchandise is the usual public demand for such waters. But floating logs has frequently been held to be navigation, and hunting and fishing, and even pleasure boating, has been held to be proper public uses.[29]

B. "Small Bill" Streams

The general rule that the State of Texas owns the beds of navigable streams is subject to a caveat. In the nineteenth and early twentieth centuries, survey lines had been drawn that improperly included navigable waterways. A 1929 statute called the "Small Bill" addressed this situation by relinquishing title to the beds of navigable streams that had been improperly crossed by survey lines.[30] This undoubtedly pleased private landowners, who kept their interest in the oil and gas under these navigable waterways.

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[24] *See, e.g., Robertson*, 211 S.W.3d at 427 (disagreeing with petitioner that the gradient boundary method had to be used); *In re* Adjudication of Upper Guadalupe Segment of Guadalupe River Basin, 625 S.W.2d 353, 362-63 (Tex. App.—San Antonio 1981), *aff'd*, 642 S.W.2d 438 (Tex. 1982).

[25] Motl v. Boyd, 286 S.W. 458, 468 (Tex. 1926).

[26] *See, e.g.*, The Montello, 87 U.S. 430, 431 (1874) (stating that navigability depends on whether a river "affords a channel for useful commerce").

[27] *See, e.g., Taylor Fishing Club*, 88 S.W.2d at 130 (holding that a lake was not navigable because, while large enough to float a boat, it was not "wide enough or long enough to provide a practical route for the transportation of commodities in any direction and does not connect any points between which it would be useful as a practical route for navigation").

[28] Welder v. State, 196 S.W. 868 (Tex. App.—Austin 1917, writ ref'd).

[29] *Id.* at 873 (internal citations omitted). For a similar definition of "navigable in fact," *see* Orange Lumber Co. v. Thompson, 126 S.W. 604, 606 (Tex. Civ. App.—Galveston 1910, no writ) (adopting the rule that a waterway is navigable if it is "capable in its natural state of being used for the purposes of commerce, no matter in what mode the commerce may be conducted" and including as an example the floating of logs).

[30] TEX. REV. CIV. STAT. Arts. 5414a & 5414a-1 (validating patents and deeds of acquittance on lands lying across or partly across the beds of navigable streams); State v. Bradford, 50 S.W.2d 1065, 1076-77 (Tex. 1932) (upholding constitutionality of Small Bill). *See* TEXAS NAT. RES. CODE § 21.012(b) ("A navigable stream may not be crossed by the lines of a survey.").

On the other hand, the Small Bill reserved for the public the rights of use and enjoyment of those navigable waters and retained for the state the authority to manage the sand and gravel in the riverbed.[31]

The practical effect of the Small Bill today is that riverside landowners have deeds that show they own across riverbeds or to the middle of riverbeds, and may claim to be paying property taxes on this land. These landowners might not necessarily own the riverbed, inasmuch as the Small Bill provides that the riverbed was conveyed only if the acreage within it was necessary to make up the acreage granted in the original patent or deed of acquittance.[32] Assuming that these landowners do have title to the bed, they do not have the right to exclude the public or to excavate the sand and gravel.[33] Some riverside landowners consider these rights to be fairly significant omissions from their "bundle of sticks" of property ownership—public use of riverbeds seems to increase as Texas grows in population, and not all river users behave appropriately. On the other hand, riverside landowners whose businesses include rental of tubes or other watercraft, or who cater to tourists, depend on the navigability of some Small Bill streams.

C. Perennial Streams Within Spanish and Mexican Land Grants

When Texas was part of Spain and then Mexico, the land grants that were issued to private individuals generally reserved to the sovereign the beds of perennial streams. After Texas became independent, these grants were validated. Accordingly, the Republic of Texas succeeded to the rights of the previous sovereign and maintained those rights upon becoming a state. The public rights to the beds of perennial streams under Spanish and Mexican land grants are functionally equivalent to the rights of the public to navigable streams. Note that the T-1 form exception (4.a) in the Owner's Policy of Title Insurance excepts from coverage "lands comprising the shores or beds of navigable *or perennial* rivers and streams" (emphasis added). Moreover, the Small Bill provides: "All of the provisions of this Act shall apply equally to all Spanish and Mexican land grants and titles issued by the Spanish or Mexican Governments prior to the Texas Revolution of 1836, which have subsequently been recognized by the Republic of Texas, or by the State of Texas as valid."[34] While beds could be granted to individuals, the Texas Supreme Court has stated it will presume that the title remains with the state unless there is "direct and certain evidence."[35]

D. Sawyer Trust—Navigability and its Discontents

What if a landowner believes that the state will assert that a stream is navigable, but the landowner disagrees? That was the situation in *Texas Parks & Wildlife Dep't v. Sawyer Trust,* 354 S.W.3d 384 (Tex. 2011). The Sawyer Trust, a landowner in Donley County whose property is crossed by the Salt Fork of the Red River, wished to sell sand and gravel from the streambed but was worried that the state would claim ownership of the gravel on the grounds that the stream was navigable. Reversing both the trial court and the Amarillo Court of Appeals, the Texas Supreme Court held that sovereign immunity barred

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[31] TEX. REV. CIV. STAT. Art. 5414a § 2.

[32] *Id.*

[33] In addition, the state's right to regulate dam construction in Small Bill streams was specifically upheld in *Garrison v. Bexar-Medina-Atascosa Counties Water Improvement Dist.*, 407 S.W.2d 771 (Tex. 1966) (*per curiam*), *affirming* 404 S.W.2d 336 (Tex. Civ. App.—Austin 1966).

[34] TEX. REV. CIV. STAT. Art. 5414a § 3.

[35] San Antonio River Auth. v. Lewis, 363 S.W.2d 444, 447-48 (Tex. 1962). For a general discussion of Spanish and Mexican land grants, *see* Manry v. Robinson, 56 S.W.2d 438, 446 (Tex. 1932).

the suit against the state agency.[36] Since the state was immune from suit, the declaratory judgment action was also barred.[37] In addition, the court held the Trust could not recover under a takings theory, since what it sought was title to the riverbed, not compensation; if the state was the owner of the streambed, the court reasoned, the Trust was not entitled to compensation since nothing was taken from it.[38]

The court recognized one theory, however, on which the case could proceed: an ultra vires action against a state official. Relying on *State v. Lain*, the Court stated:

> Here it is undisputed that the part of the streambed in question and claimed by the State to be navigable lies on land owned by the Trust. If the Salt Fork is not navigable, the Trust owns the bed. We see no good reason that the process and principles we set out long ago in *Lain* should not apply. The Trust should be given an opportunity to amend and cure the pleading and party defects, if it chooses to do so, and have the suit proceed against the governmental actors laying claim to the streambed. *See Koseoglu,* 233 S.W.3d at 840; *Lain*, 349 S.W.2d at 582.[39]

In sum, while validating the overall principle of sovereign immunity in suits against the state, the court recognized an ultra vires theory that preserved a narrow opportunity to proceed against the state for challenges to navigability determinations. Of course, sovereign immunity does not apply to cases between private individuals, so navigability can be contested in suits not involving the state (such as *Hix v. Robertson*, 211 S.W.3d 423 (Tex. App.—Waco 2006, pet. denied)) without resort to an ultra vires theory.

E. Navigability in the 84th Legislature

TCEQ's authority to require permits for dams is linked to the definition of a statutory navigable stream in Texas Natural Resources Code § 21.001(3) (this link is discussed further in section IV.B.1, below). When Texas was in long-term drought prior to the 84th (2015) legislative session, downstream water users focused on upstream diversions as a potential cause of their water shortages.[40] Two bills introduced in the 84th Legislature, neither of which passed, would likely have had the effect of decreasing the number of streams considered to be navigable, and accordingly would have benefited upstream water users who wanted to be able to continue using on-channel dams without a TCEQ permit: HB 2887 (by Leach), which would have amended the current definition of navigable stream in Texas Natural Resources Code § 21.001(3); and HB 2892 (by Murr) which would have created an administrative process for determining navigability.

A bill that did pass in the 84th Legislature, HB 3618 (by Isaacs), could affect public use of the Blanco River. This brief bill, which is now codified at Parks and Wildlife Code § 90.0085, prohibits camping and building fires in the Blanco River, and accordingly could make overnight navigation of the Blanco impractical.

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[36] Texas Parks & Wildlife Dep't v. Sawyer Trust, 354 S.W.3d 384, 390 (Tex. 2011).

[37] *Id.* at 388-89. Rejection of the declaratory judgment action eliminated the theory on which attorney's fees were sought against the state. See TEX. CIV. PRAC. & REM. CODE § 37.009 (West 2016).

[38] *Sawyer Trust*, 354 S.W.3d at 391-92.

[39] *Id.* at 394.

[40] Reeve Hamilton, *Debate Intensifies Over How to Save San Saba River*, THE TEXAS TRIBUNE (July 19, 2013).

III. Property Lines Along Navigable Streams

A. The Gradient Boundary

Once navigability has been established, how is the line between the private uplands and the public riverbed drawn? Texas, perhaps alone among the states, has adopted the "gradient boundary" methodology. The U.S. Supreme Court used this methodology to establish the boundary between Oklahoma and Texas in *Oklahoma v. Texas*, 260 U.S. 606 (1923), and a few years later the Texas Supreme Court adopted the gradient boundary methodology for Texas riverbeds in *Motl v. Boyd*, 286 S.W. 458 (Tex. 1926). The Texas Supreme Court expressed the test:

> The bed of a stream is that portion of its soil which is alternately covered and left bare as there may be an increase or diminution in the supply of water, and which is adequate to contain it at its average and mean stage during an entire year, without reference to the extra freshets of the winter or spring of the extreme drouths of the summer or autumn. The banks of a stream or river are the water-washed and relatively permanent elevations or aclivities at the outer lines of the river-bed which separate the bed from the adjacent upland, whether valley or hill, and serve to confine the waters within the bed and preserve the course of the river when they rise to the highest point at which they are still confined to a definite channel.[41]

Translating this legal standard into a survey is not easy. Lengthy articles have been written on the subject. *See, e.g.,* Kenneth Roberts, *Title and Boundary Problems Relating to Riverbeds*, 36 TEX. L. REV. 299, 309 (1958); Arthur A. Stiles, *The Gradient Boundary—The Line between Texas and Oklahoma Along the Red River,* 30 TEX. L. REV. 305 (1952).[42]

While this rule applies within Texas, it no longer applies in the location where it was first established—the Texas-Oklahoma border along the Red River. Instead, Texas and Oklahoma have passed legislation designating the boundary as "the vegetation line along the south bank of the Red River except for the Texoma area, where the boundary does not change."[43] The reasons given for this change were, among others,

> (4) while the south bank, at any given time, may be located through expensive and time-consuming survey techniques, such surveys can, at best, identify the south bank only as it exists at the time of the survey; [and]
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> (5) locating the south bank through survey techniques is of minimal aid when agencies of the party states must locate the state boundary line for law enforcement, administrative, and taxation purposes[.][44]

That the gradient boundary methodology has been abandoned in the place it was first applied should tell us something about the practicality of this rule. It is a difficult line to draw with precision, and a line that costs hundreds or thousands of dollars to draw today may be meaningless tomorrow if a flood changes the river's course. Perhaps it is not as bad as all that, however. With experience, even nonsurveyors can estimate the line with some accuracy. A riverbank at near normal flow, or somewhat

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[41] Motl v. Boyd, 286 S.W. 458, 467 (Tex. 1926) (citations omitted).

[42] A number of useful sources are collected in William P. Bernsen (comp.), *Darrell D. Shine's Guide to [Mostly] Texas Surveying* (2008).

[43] TEX. NAT. RES. CODE § 12.002 Art. II(b) (West 2013) (Red River Compact).

[44] *Id.* Art. I(a)(4)&(5).

less than normal, generally displays a line of upland vegetation along a bank, and a relatively bare, vegetation-free bank below it. Vegetation that grows in the water, such as bald cypress trees and submerged or emergent vegetation such as cattails, sedges, spikerush, and smartweed, must be disregarded. In a multiyear drought, moreover, vegetation may creep down the slope (especially fast-growing species such as sycamore and baccharis), but it will be of a different character than the truly "upland" vegetation, which will consist of mature trees such as oaks, cedar elm, green ash, and perennial bunch grasses. A botanist or an ecologist with knowledge of riparian systems can provide helpful expertise. This line of permanent upland vegetation will in almost all cases closely approximate the gradient boundary line.

Although the "upland vegetation line" may be considered a useful proxy for the gradient boundary, it is not precise, unlike a surveyed line. When establishing property boundaries along a state-owned riverbed, surveyors who know their business will consider the river a monument and will describe the property line as "along the meanders." Inevitably, this imprecision has consequences for enforcement of trespass, jurisdictional boundaries, and other matters that depend on whether a person is authorized to be in a certain place or perform a certain activity there.

Basing a property line on a "gradient of the flowing water" (Stiles, *supra*, at 309) prompts concern about whether Texas waterways will continue to flow as in the past, or whether the riverbeds will shrink. Drought, impoundment, diversion, groundwater pumping, and landscape alteration could combine to greatly reduce flows in Texas waterways, with unknown consequences for property rights.

B. State-Owned Streambeds

When a riverbed is truly state-owned, a private landowner shares a property boundary with the State of Texas. The Texas General Land Office (GLO) estimates that the State of Texas owns approximately one million acres under freshwater riverbeds, although it is impossible to calculate this acreage with precision at any given moment.[45] GLO maintains a collection of useful county maps that show the original surveys, and where the survey lines stop at the river's edge, the bed of the river in that location is state-owned.[46] An unauthorized occupation of this public real estate is a "purpresture," and the Texas Attorney General will sue to eliminate it. *See, e.g.*, Trice v. State, 712 S.W.2d 842 (Tex. App.—Waco 1986, writ ref'd n.r.e.) (affirming injunction requiring removal of bridge across Brazos River and requiring restoration of riverbed).

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[45] Texas General Land Office and Veterans' Land Board, *Unaudited Annual Financial Report* (2013) at 41. The mineral estate in state-owned riverbeds is dedicated to the Permanent School Fund, which is managed by GLO. TEX. NAT. RES. CODE § 11.041(1) (West 2016); TEX. NAT. RES. CODE ch. 52, subch. C (establishing policy and procedure for development of the mineral estate under state-owned riverbeds).

[46] The legislature has, however, transferred the land underlying navigable streams within cities that had a population of 40,000 or more according to the 1920 census to the cities themselves (Beaumont, Dallas, El Paso, Fort Worth, Galveston, Houston, San Antonio, and Wichita Falls). TEX. REV. CIV. STAT. ANN. art. 7467 (Vernon 1966). Moreover, other cities (Waco and Austin) have acquired title to riverbeds within those cities by conveyance from the State. Act of May 17, 1965, 59th Leg., R.S., ch. 158, § 1, 1965 Tex. Gen. Laws 334; Act of May 30, 1969, 61st Leg., R.S., ch. 726, § I, 1969 Tex. Gen. Laws 2122; Act of Mar. 23, 1945, 49th Leg., R.S., ch. 44, § I, 1945 Tex. Gen. Laws 64. There may be other cases where the public ownership resides in the municipality rather than the state. *See, e.g.*, Heard v. Town of Refugio, 103 S.W.2d 728, 734 (Tex. 1937) (in which ownership of the riverbed was held to have been quitclaimed to the municipality). The San Antonio River Authority asserts ownership of the "natural bed and banks" of the San Antonio River and its tributaries in Bexar, Wilson, Karnes, and Goliad counties. Act of May 5, 1937, 45th Leg., R.S., ch. 276, 1937 Tex Gen. Laws 556, as amended.

C. Small Bill Streams

The GLO county maps show survey lines crossing navigable streams. The bed of the Frio River north of Concan, for example, is not state-owned, although on a warm summer afternoon hundreds of people float it and walk on its bed. Generally speaking, surveys which include Small Bill streams may recite that a private landowner owns to the middle of the stream, or perhaps the survey will not recognize the existence of a streambed at all. The gradient boundary is still important along Small Bill streams, however, inasmuch as it defines the extent of the public's right of access and the state's jurisdiction over removal or disturbance of the sand and gravel in the riverbed.

D. Special Problems

1. Accretion, Alluvion, Reliction, Avulsion

Riverbeds are always moving, although not always perceptibly. Usually the low bank is adding material and gradually moving toward the center of the river, while the high bank is losing material. Generally speaking, if the bed of a body of water that constitutes the boundary of a tract gradually shifts, the water body remains the boundary line of the tract, which is extended or restricted accordingly. This means that a riparian owner acquires title to land gained due to these imperceptible shifts and loses title to land lost.[47] Accretion is the process by which land is gained. It can be through alluvion, which is the gradual and natural movement of sediment from waterways onto land.[48] Or, it could happen through reliction, or, as it is sometimes called, dereliction—the process whereby land is gained through recession of water.[49] Erosion is the term for when water washes away sediment from land.[50] Title to land is gained through accretion but lost through erosion.[51] This rule applies even if those shifts were caused by human activity or man-made structures, unless they were attributable to the landowner.[52] Alternatively, if it shifts suddenly and perceptibly, a process known as *avulsion*, the former boundary remains the boundary.[53]

2. Islands

Islands in navigable waterways can raise challenging title questions. In *Turner v. Mullins*,[54] the Fort Worth Court of Appeals faced a number of issues over an island in the Red River that had gradually joined the mainland on the south side. Not only did the court have to review the lower court finding of who owned the former island, but it also had to decide whether to do so under Texas or Oklahoma law.[55] The general rule is that a landowner acquires title to more land through accretion but loses title to

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[47] Brainard v. State, 12 S.W.3d 6, 18 (Tex. 1999), *disapproved of on other grounds by* Martin v. Amerman, 133 S.W.3d 262 (Tex. 2004).

[48] *Brainard*, 12 S.W.3d at 17.

[49] *Id.*

[50] *Id.*

[51] *Id.*

[52] *Id.* at 18-19.

[53] *Id.* at 17.

[54] Turner v. Mullins, 162 S.W.3d 356 (Tex. App.—Fort Worth 2005, no pet.).

[55] The Mullins argued that they held title to the former island by Oklahoma conveyances and an Oklahoma statute. *Mullins*, 162 S.W.3d at 364. The Fort Worth Appeals Court stated that ownership of property is determined by applying the law of the jurisdiction in which it is located—which in that case was Texas. *Id.* at 366. But under Texas law, the court had to look at Oklahoma law to determine ownership since the former island was

land through erosion. For islands, the rule is that the owner of the bed of the waterway owns the island.[56] That means that islands in state-owned waterways generally belong to the sovereign.[57] When an island joins a mainland through accretion, the owner of the island does not lose title to the island, but takes title to the portion of the land in the former channel that was added to the island through accretion, while the owner of the mainland takes title to the portion of land in the former channel that was added to the mainland through accretion.[58] In *Mullins*, the appeals court held that there was insufficient evidence that all of the land that had been an island had accreted to the Mullins' land and remanded for a determination of whether any of the land had accreted to the former island—as well as whether, under Oklahoma law, title to the island was acquired when it was located in Texas.[59] As a practical matter, proving the origin of an island and whether it is state-owned or private may be a historical exercise involving old aerial photography, dusty maps, and octogenarian recollections.

3. Subsidence

In *Coastal Industrial Water Authority v. York*,[60] a dispute arose as to whether the Coastal Industrial Water Authority, which was condemning land bordering the Houston Ship Channel, needed to pay for land which had sunk beneath the water level.[61] The land had sunk—neither party had argued that the land had eroded, in which case York would have only owned the remaining land—because groundwater had been pumped for municipal and industrial use.[62]

Because subsidence was not an "ordinary hazard of riparian ownership," the court held that the disputed acreage belonged to York.[63] However, it did so with the major caveat of "[s]o long as the general public or a public body has not come to use the site for navigation, thereby raising a conflict between private and public interests which does not exist in the present case."[64] *York* was distinguished in *TH Investments, Inc. v. Kirby Inland Marine, L.P.*, 218 S.W.3d 173 (Tex. App.—Houston [14th Dist.] 2007, pet. denied), which attributed a change in boundary in the Houston area to erosion.

IV. Regulation

Land development in and along the bed and banks of navigable streams requires consideration of a variety of regulatory authorities that do not necessarily apply to drier areas. The brief discussion of these regulatory authorities below can serve as a helpful checklist; however, the detailed requirements of these various statutes and regulations are beyond the scope of this article.

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once located in Oklahoma. *Id.*

[56] *Id.* at 361; *see also* Maufrais v. State, 180 S.W.2d 144 (Tex. 1944).

[57] *Mullins*, 162 S.W.3d at 361.

[58] *Id.* at 362. For a treatise discussion of these rules, *see* 54 A.L.R.2d § 643 (1957).

[59] The opinion states that since ownership of property is determined by the law of the jurisdiction in which the property is located, it applied Texas law—but since the land was once located in Oklahoma and Turner held an Oklahoma deed to it, Texas law required that Oklahoma law be used to determine whether title was acquired while the land was located in Oklahoma. *Mullis*, 162 S.W.3d at 366.

[60] Coastal Indus. Water Auth. v. York, 532 S.W.2d 949 (Tex. 1976).

[61] *Id.* at 951. Coastal contended that it need only pay for 24.73 acres, while York argued that it had to pay for the entire 28.083 acres that were originally conveyed. *Id.*

[62] *Id.*

[63] *Id.* at 954.

[64] *Id.*

A. Parks and Wildlife Code Chapter 86

Since 1911, the Texas Parks and Wildlife Department (TPWD) and its predecessor agencies have regulated the removal or disturbance of sedimentary material from the beds of navigable streams. The Small Bill explicitly preserved this authority. Texas Parks and Wildlife Code chapter 86 contains the applicable statutes, and the rules are found in 31 Texas Administrative Code chapter 69. There are a few large-scale sand and gravel mines within riverbeds, primarily in the lower Brazos River. Most of the active sand and gravel mines that are observed along rivers are above the gradient boundary and therefore, outside TPWD jurisdiction. These commercial operations pay TPWD a royalty that is established by regulation, with the approval of the Governor. Chapter 69 contains an expedited permitting process for small-scale disturbances (less than 1,000 cubic yards). If a proper hearing request is made, permit applications under chapter 86 are subject to the contested case hearing process within the Texas Administrative Procedure Act. There are a number of exemptions from permitting, including road projects of the Texas Department of Transportation, public utility projects, and navigational dredging.

B. TCEQ

1. Water Rights

Water in a watercourse is, generally speaking, state water whose use is subject to regulation by the Texas Commission on Environmental Quality (TCEQ).[65] When landowners seek to divert or impound water from a watercourse, they need to be aware of TCEQ's authority. Damming a watercourse warrants particular care. For example, the regulatory exemption from the requirement that dams be permitted does not apply to dams located on navigable streams.[66] TCEQ's definition of "navigable stream" refers solely to "statutory navigability" under Texas Natural Resources Code § 21.001(3), and omits reference to the court-recognized doctrine of "navigable-in-fact," or to perennial streams within Spanish or Mexican land grants.[67]

2. Water Quality

TCEQ has broad jurisdiction over discharge of pollutants into or adjacent to "water in the state." Disturbances in the beds of navigable streams can cause pollution by, for example, releasing turbidity. Accordingly, landowners who intend to pursue projects that will disturb navigable riverbeds should be careful to follow TCEQ water quality requirements.

C. GLO

GLO has authority to grant right-of-way easements on and across "state-owned riverbeds and beds of navigable streams in the public domain."[68] In 2011, GLO adopted by rule an exemption from permitting or fees "[c]ertain private, non-commercial improvements and structures which were constructed prior to September 1, 1993," including dams, low-water crossings and other enumerated types of structures.[69] Modifications of these structures which would increase their footprint within state

[65] *See supra* notes 17 & 18.

[66] 30 TEX. ADMIN. CODE § 297.21(c).

[67] *Id.* § 297.1(33).

[68] TEX. NAT. RES. CODE §§ 51.291, .292 (West 2016).

[69] 31 TEX. ADMIN. CODE § 13.21(c).

land would require permitting, and the person constructing or maintaining the improvement has the burden of demonstrating construction prior to September 1, 1993.[70]

D. Floodplain Administration

Texas law[71] authorizes cities and counties to adopt ordinances necessary to participate in the National Flood Insurance Program, 42 U.S.C. § 4001 *et seq*. Typically, these ordinances include land use and construction standards within the 100-year floodplain. These ordinances will generally cover the beds and banks of navigable streams and extend well above the gradient boundary into the privately owned uplands. Often the county floodplain administrator is the first point of contact when concerns arise about a land development or construction project in or near a streambed.

E. USACE

The U.S. Army Corps of Engineers (USACE) has jurisdiction over the placement of dredged or fill material into waters of the United States.[72] Federal Clean Water Act jurisdiction has been extensively litigated and is beyond the scope of this article; however, a project sponsor can expect that federal authority over wetlands and riverbanks will frequently extend beyond the gradient boundary of navigable streams.

F. River Authorities and Cities

The Lower Colorado River Authority (LCRA) has adopted a "Highland Lakes Watershed Ordinance" that applies to some projects within LCRA jurisdiction. Generally the purpose of the ordinance is to protect water quality by reducing nonpoint source pollution. Other river authorities may have enacted comparable regulations, and a landowner planning a project in or near the riverbed should confirm whether there is an applicable river authority ordinance.

Although only a small fraction of navigable waterways occur within home rule cities or their extraterritorial jurisdictions, where this does occur, projects must comply with development ordinances. For example, Chapter 1, Article 7 of the City of San Marcos Land Development Code contains special requirements applicable to watershed protection plans in river corridors.

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[70] *Id.* § 13.21(d) & (e).

[71] TEX. WATER CODE §§ 16.3145 & 16.315 (West 2016).

[72] Clean Water Act § 404 (33 U.S.C. § 1344 (2011)).