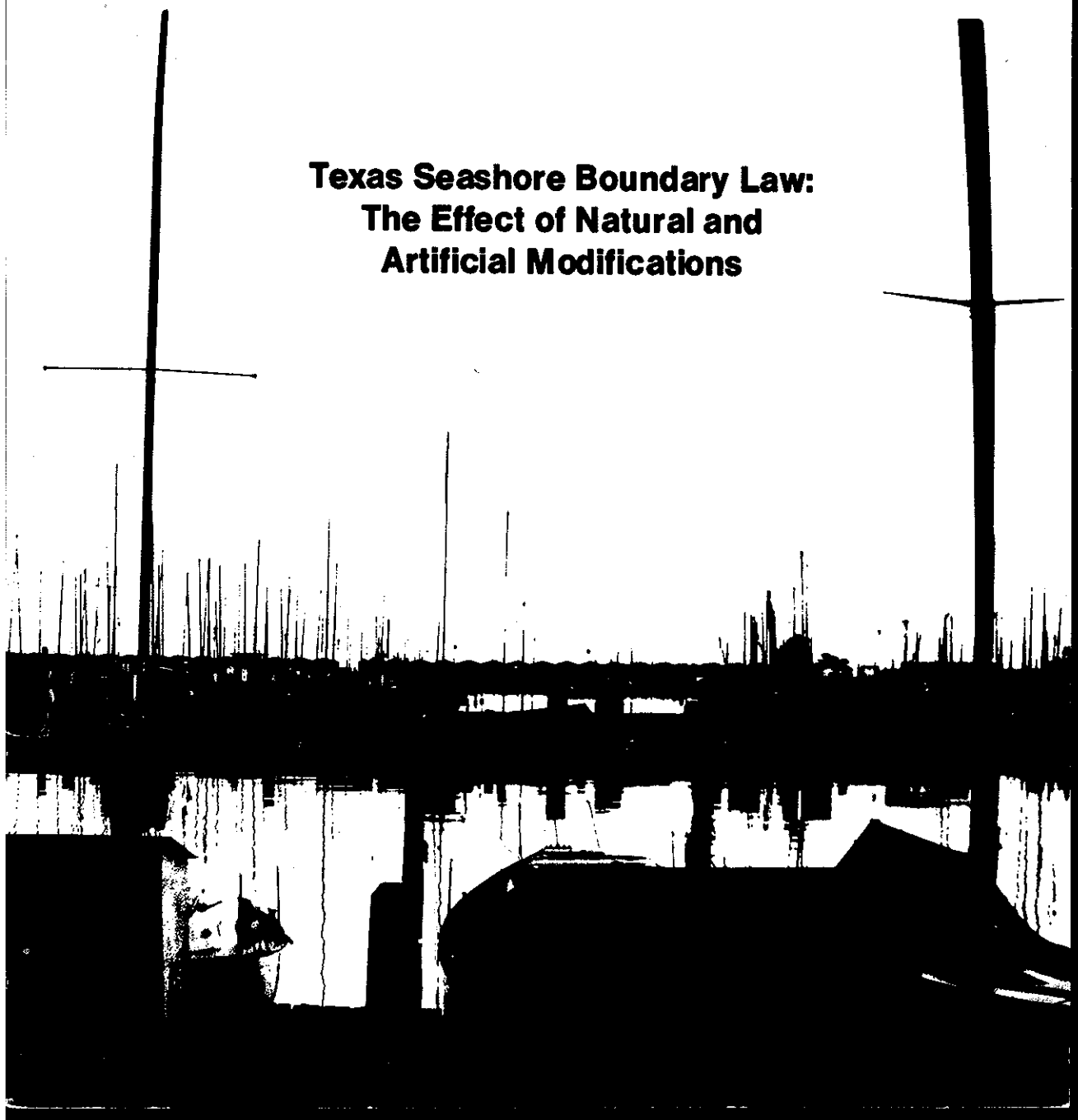
Texas Law Institute
of Coastal and Marine Resources

Texas Seashore Boundary Law: The Effect of Natural and Artificial Modifications



TEXAS SEASHORE BOUNDARY LAW: THE EFFECT OF NATURAL AND ARTIFICIAL MODIFICATIONS†

*Carol Eggert Dinkins**

I. INTRODUCTION

Texas seashore boundary law has developed quite slowly over the past century. This article emphasizes Texas statutory and case law and discusses rules of other states to show their treatment of boundary alterations. Pertinent federal law also is included. The article outlines some areas where Texas law needs particular clarification, either by the legislature or the courts. Part II explains various doctrines the Texas courts have adopted to establish private or State ownership of littoral lands and lands submerged by tidal waters. Part III investigates Texas rules of reliction, accretion, erosion, avulsion, and submergence—boundary alterations that result primarily from natural forces. Part IV examines Texas law relative to artificial modifications of the shoreline such as landfill; draining and damming to reclaim marshland; dredging; building of structures such as wharves and piers; extraction of ground water, oil, and gas; and cutting of land canals. Part V proposes some interim changes in Texas laws affecting the seashore and adjoining lands.

II. TIDAL BOUNDARY RULES

The State of Texas owns all lands beneath lakes, bays, islands, and other areas along the Gulf of Mexico within tidewater limits.[1] Such lands are held in trust for the benefit of all Texans and are part of the public school fund.[2] Since the possibility of oil and other mineral resources makes them potentially quite valuable, determination of boundaries emerges as a critical issue.[3] State law determines the boundary between private and state ownership of lands affected by the ebb and flow of the tide (littoral

---

† Preparation of this article was made possible in part by National Science Foundation Grant GT-26 to the Texas Law Institute of Coastal and Marine Resources, Bates College of Law, University of Houston.

* Principal Associate, Texas Law Institute of Coastal and Marine Resources; Adjunct Assistant Professor of Law, University of Houston; B.S. Ed. University of Texas at Austin; J.D. University of Houston.

1. Rosborough v. Picton, 34 S.W. 791, 792 (Tex. Civ. App. 1896, no writ).
2. TEX. EDUC. CODE ANN. § 15.01 (1971).
3. *See, e.g.*, State v. Balli, 144 Tex. 195, 190 S.W.2d 71, 99 (1944), *cert. denied*, 328 U.S. 852 (1945); De Meritt v. Robison, 102 Tex. 358, 116 S.W. 796, 797 (1909). Such land can be conveyed only by legislative authority.

line of mean higher high tide applies; for lands granted subsequent to January 20, 1840, the common law line of mean high tide will be the boundary line.

III. Natural Modifications

Boundaries of littoral tracts change constantly by reliction, accretion, erosion, avulsion, and submergence. Natural forces are the primary cause for most of these modifications, although artificial structures cause or contribute to some. The distinction between natural and artificial causes is important in determining whether the owner of the submerged land or the upland owner benefits from the boundary alterations.

A. *Reliction*

The doctrine of reliction increases the upland estate when the water permanently uncovers the land, leaving it dry.[22] In 1932, the Supreme Court of Texas in *Manry v. Robison*[23] declared in dictum that it regarded the question as settled that a riparian owner has a vested property right to soil uncovered by reliction.[24] This would mean title to relicted land automatically vests in the riparian owner when the land is uncovered. Presumably this riparian doctrine would apply to littoral lands as well.[25]

B. *Accretion*

Accretion is the addition of land to the upland estate by the water depositing alluvion imperceptibly over a long period of time.[26] Accretion can result simply from the natural flow of the currents and tide or by a combination of both natural and artificial factors. Piers, groins, jetties, and similar structures, as well as landfills and dredging, alter the flow of alluvion and thus affect accretion. These alterations can be made by a governmental agency, the upland owner, or a third party. All of these factors are important in determining who takes title to the accretion.

State law generally allows the owner of the upland estate to take title to accretion resulting wholly from natural causes.[27] There is, however, a federal common law rule that applies in certain situations.[28] In 1874, the

22. *See* Hancock v. Moore, 137 S.W.2d 45, 50 (Tex. Civ. App.—El Paso 1939), *aff'd*, 135 Tex. 619, 146 S.W.2d 369 (1941).
23. 122 Tex. 213, 56 S.W.2d 438 (1932).
24. 56 S.W.2d at 444.
25. Littoral land is bounded by the shores of seas and lakes; riparian land is bounded by the shores of streams or small ponds. The terms, however, are often used interchangeably.
26. *See* Giles v. Basore, 154 Tex. 366, 278 S.W.2d 830, 835 (1955); State v. Baxter, 430 S.W.2d 547, 548-49 (Tex. Civ. App.—Waco 1968, writ ref'd n.r.e.).
27. *E.g.*, State v. Longyear Holding Co., 224 Minn. 451, 29 N.W.2d 657, 667 (1947).
28. *See, e.g.*, United States v. Washington, 294 F.2d 830, 834 (9th Cir. 1961), *cert. denied*, 369 U.S. 817 (1962).

United States Supr
that the owner of a
takes title to land f
it immaterial whet
causes.[30] This federa
fornia, for example,
by artificial means a
of Appeals in 1932,
United States as fee
formed as a result of
California law as per
tures were erected wh

In *Lorino v. Cra*
that accretions along
do not belong to the
Lorino was a trespass
pier constructed out f
a narrow strip of lanc
thrown from the pier
ually so that the strip
this accretion resulted
State was not divested

States have no pr
additions caused wholl
addition was neither im
as owner of the subme
when accretion, which
combined natural and a
1959 held that the upla
by artificial modificatio

29. 90 U.S. (23 Wall.
30. *Id.* at 63.
31. For a general disc
AND SEA BOUNDARIES 102-03
32. Patton v. City of
discussion of California bou
and Tidal Boundaries: An Un
33. Jackson v. United S
34. 142 Tex. 51, 175 S.
35. 175 S.W.2d at 414
fill dumped by a mining con
was a substantial permanent
right to obtain title to the pr
280, 286 (Alas. 1964).
36. 1 A. SHALOWITZ, SH
rule refer to Curry v. Port La
App.—San Antonio 1930, no w
37. Abbot Kinney Co. v
rev'd on other grounds, 53 Cal.

United States Supreme Court ruled in *County of St. Clair v. Lovingston*[29] that the owner of an upland estate, the boundary of which is the shoreline, takes title to land formed by alluvial deposits. The Court further declared it immaterial whether the additions resulted from artificial or natural causes.[30] This federal rule is not widely accepted by state courts.[31] In California, for example, an upland owner cannot gain title to accretions formed by artificial means against the State or its grantee.[32] The Ninth Circuit Court of Appeals in 1932, however, when faced with a question of whether the United States as fee holder of the upland estate could take title to accretion formed as a result of artificial structures erected by third persons, construed California law as permitting enlargement of the fee estate when the structures were erected wholly by third persons.[33]

In *Lorino v. Crawford Packing Co.*,[34] the Supreme Court of Texas held that accretions along the Texas coastline that result from artificial means do not belong to the upland owners, but remain the property of the State. *Lorino* was a trespass to try title action concerning an oysterhouse and a pier constructed out from the shore of a bay. The oysterhouse was built on a narrow strip of land, and a pier extended from it into the water. Shells thrown from the pier caused the current of the bay to deposit sand gradually so that the strip of land eventually became a tract of dry land. Since this accretion resulted from artificial additions by those claiming title, the State was not divested of its title.[35]

States have no problem ruling on the question of who gains title to additions caused wholly by artificial filling or similar activities so that the addition was neither imperceptible nor gradual. In those instances, the state, as owner of the submerged lands, gains title.[36] The difficult problem arises when accretion, which occurs gradually and imperceptibly, results from combined natural and artificial causes. The California Court of Appeals in 1959 held that the upland owner has title to accretion imperceptibly caused by artificial modifications.[37] The Supreme Court of Ohio held in 1940 that

29. 90 U.S. (23 Wall.) 59 (1874).
30. *Id.* at 63.
31. For a general discussion of the federal rule refer to 1 A. SHALOWITZ, SHORE AND SEA BOUNDARIES 102-03 (1962).
32. Patton v. City of Wilmington, 169 Cal. 804, 147 P. 141, 142 (1915). For a discussion of California boundary problems refer to Comment, *Fluctuating Shorelines and Tidal Boundaries: An Unresolved Problem*, 6 SAN DIEGO L. REV. 447 (1969).
33. Jackson v. United States, 56 F.2d 340, 342 (9th Cir. 1932).
34. 142 Tex. 51, 175 S.W.2d 410 (1943).
35. 175 S.W.2d at 414. The Supreme Court of Alaska, however, held that rock fill dumped by a mining company on submerged lands over a twenty-five-year period was a substantial permanent improvement, and the mining company had a preferential right to obtain title to the property it had created. State v. A.J. Indus., Inc., 397 P.2d 280, 286 (Alas. 1964).
36. 1 A. SHALOWITZ, SHORE AND SEA BOUNDARIES 102-03 (1962). For the Texas rule refer to Curry v. Port Lavaca Channel & Dock Co., 25 S.W.2d 987, 988 (Tex. Civ. App.—San Antonio 1930, no writ).
37. Abbot Kinney Co. v. City of Los Angeles, 340 P.2d 14, 19 (Cal. Ct. App.), *rev'd on other grounds*, 53 Cal. 2d 52, 346 P.2d 385 (1959).

accretion caused in part by artificial changes made solely by third persons would not impair the littoral rights of an innocent party to gain title to the accretion.[38] This is also the rule in various other states and in England.[39] The United States Supreme Court in *Oklahoma v. Texas*[40] held that accretion caused in part by natural forces and in part by an artificial obstruction upstream belonged to the abutting riparian owner. The Supreme Court of Texas in *Luttes* explicitly refused to rule on the question of ownership of accretion caused in part by artificial structures although the trial court had held the accretion did not belong to the mainland owner because of the artificial works. The higher court said the accretion built up from the bed, not from the shore.[41] This conclusion begs the question because, as one writer pointed out, any accretion necessarily must begin from the bed of the water.[42]

Islands cause very little problem. They rise from the bed and, as additions to the submerged lands, belong to the owner of the submerged lands. Texas, however, has the special problem of mud flats, which can be comprised of many thousands of acres.[43] These flats are formed from accretion to either the mainland, islands, or the bed. The manner of formation, which is established by the evidence,[44] is critical in determining title. Under the *Luttes* decision, such land presumptively is State land, and for the littoral landowner to gain title he must prove natural accretion to the original boundary.[45]

When accretion forms in a combination of ways, apportionment may become necessary to determine title. One writer observed that, although there is very little law on the subject, there are only three alternatives for apportioning accretion.[46] One alternative is to divide according to observations by lay witnesses. This method is almost impossible, however, because it is

38. State *ex rel.* Duffy v. Lakefront E. Fifty-fifth St. Corp., 137 Ohio 8, 27 N.E.2d 485, 486 (1940).
39. Winters, *supra* note 6, at 532.
40. 260 U.S. 606 (1923).
41. 324 S.W.2d at 187-89.
42. Roberts, *The Luttes Case—Locating the Boundary of the Seashore*, 12 BAYLOR L. REV. 141, 171 (1960).
43. Winters, *supra* note 6, at 525.
44. *See* United States v. 1,078 Acres of Land, 446 F.2d 1030, 1038 (5th Cir. 1971), *cert. denied*, 92 S. Ct. 945 (1972). A court of civil appeals in Texas ruled that mud flats that rise from the bed of State-owned submerged land are not subject to sale or lease as vacant or unsurveyed land. Butler v. Sadler, 399 S.W.2d 411, 420 (Tex. Civ. App.—Corpus Christi 1966, writ ref'd n.r.e.).
45. *See* State v. Baxter, 430 S.W.2d 547, 548-49 (Tex. Civ. App.—Waco 1968, writ ref'd n.r.e.); Butler v. Sadler, 399 S.W.2d 411, 420-21 (Tex. Civ. App.—Corpus Christi 1966, writ ref'd n.r.e.). A law review writer, noting a Florida case involving an island that formed and cut off riparian rights of the upland owner along the sea, urged the court to consider a Maryland decision that said the court must necessarily give due consideration to the rights of adjoining upland owners in any case involving riparian or littoral rights. This writer was concerned that here the court had applied a rule, which formerly had been applied only to accretions to islands in rivers, to land fronting an open sea. Note, *Accretion—A New Slant*, 17 U. MIAMI L. REV. 417, 420 (1963).
46. Winters, *supra* note 6, at 536.

difficult for lay wit
Another alternative
mony would be b
sediment deposits
tree. Laboratory a
deposit had formed
tive is to allow the c
particular writer fav

In Texas, when
either convey or res
the rights to future
vested property right
be taken away by le
not be taken without
trine such as estoppel
is not a vested proper
Court of Appeals int
divestiture of the righ
a prohibition would r
submerged lands for t
faced a similar questi
owner sued the United
the normal flow of all
compensated for the
washed away, and he c

47. The Supreme Cou
S.W.2d at 189.
48. For cases where t
to Bigelow v. Hoover, 85 I
345 (Cir. Ct. 1875). In *Big*
by the United States Govern
jurisdiction.
49. Winters, *supra* note
50. *See* City of Corpus
App.—El Paso 1940, writ di
(Tex. Civ. App.—San Antonio
51. Manry v. Robison,
v. Longyear Holding Co., 224
U.S. 948 (1949). This is not
accretion to tide lands belongs
This statute has been criticize
Water Boundaries, Tide and S
see Comment, *The Riparian Pr*
52. *See* Zavala County
923 (Tex. Civ. App.—El Paso 1
53. Western Pac. Ry. v.
See also Cohen v. United State
that the riparian owner cannot
who lawfully obstructs a stre
the owner's land. *Id.* at 371.
54. 150 F. Supp. 123 (D.

solely by third persons
arty to gain title to the
tates and in England.[39]
Texas[40] held that accre-
an artificial obstruction
The Supreme Court of
uestion of ownership of
ough the trial court had
owner because of the
built up from the bed,
estion because, as one
begin from the bed of

n the bed and, as addi-
f the submerged lands.
ats, which can be com-
formed from accretion
ner of formation, which
mining title. Under the
nd, and for the littoral
cretion to the original

ys, apportionment may
bserved that, although
hree alternatives for ap-
cording to observations
however, because it is

---

rp., 137 Ohio 8, 27 N.E.2d

of the Seashore, 12 BAYLOR

F.2d 1030, 1038 (5th Cir.
appeals in Texas ruled that
land are not subject to sale
S.W.2d 411, 420 (Tex. Civ.

ex. Civ. App.—Waco 1968,
1 (Tex. Civ. App.—Corpus
a Florida case involving an
owner along the sea, urged
t must necessarily give due
any case involving riparian
court had applied a rule,
s in rivers, to land fronting
REV. 417, 420 (1963).

difficult for lay witnesses to remember exactly where the accretions merged. Another alternative is to divide according to expert testimony. Such testimony would be based on core samples from an accreted area showing sediment deposits for each year similar to the annual growth rings on a tree. Laboratory analysis of each core would indicate exactly where the deposit had formed in relation to the areas in question.[47] The final alternative is to allow the court to divide the accretion on an equitable basis.[48] This particular writer favored the utilization of expert testimony.[49]

In Texas, when conveying property bounded by water, the grantor can either convey or reserve to himself riparian and littoral rights, including the rights to future accretion.[50] The right to alluvion by accretion is a vested property right, as if given in the original grant of land, and cannot be taken away by legislative enactment.[51] Such vested property rights cannot be taken without consent of the riparian owner unless some legal doctrine such as estoppel or prescription applies.[52] The right to future accretion is not a vested property right in all jurisdictions, however. The Ninth Circuit Court of Appeals interpreted California law as not prohibiting legislative divestiture of the right of a landowner to future accretion, saying that such a prohibition would restrict the power of a state to improve its adjacent submerged lands for the public benefit.[53] An Oregon federal district court faced a similar question in *Latourette v. United States*.[54] A littoral landowner sued the United States for damages caused by a jetty that prevented the normal flow of alluvion to his land. Such accretion during the summer compensated for the winter erosion. Plaintiff's property ultimately was washed away, and he contended the Government violated a vested property

---

47. The Supreme Court of Texas refused to accept such testimony in *Luttes*. 324 S.W.2d at 189.

48. For cases where the court has divided accretion on an equitable basis refer to Bigelow v. Hoover, 85 Iowa 161, 52 N.W. 124 (1892); Benson v. Morrow, 61 Mo. 345 (Cir. Ct. 1875). In *Bigelow* the accretion joined the mainland to an island owned by the United States Government, and the court divided the accretion under its equity jurisdiction.

49. Winters, *supra* note 6, at 537.

50. *See* City of Corpus Christi v. McLaughlin, 147 S.W.2d 576, 578 (Tex. Civ. App.—El Paso 1940, writ dism'd). *See also* Gibson v. Carroll, 180 S.W. 630, 633-34 (Tex. Civ. App.—San Antonio 1915, no writ).

51. Manry v. Robison, 122 Tex. 213, 56 S.W.2d 438, 444 (1932); *accord*, State v. Longyear Holding Co., 224 Minn. 451, 29 N.W.2d 657, 665 (1947), *cert. denied*, 336 U.S. 948 (1949). This is not true in Washington. A Washington statute states that all accretion to tide lands belongs to the State. WASH. REV. CODE ANN. § 79.01.492 (1962). This statute has been criticized as an unconstitutional violation of due process. Obenour, *Water Boundaries, Tide and Shore Land Rights*, 23 WASH. L. REV. 235, 244-53 (1948); *see* Comment, *The Riparian Possibility of Reverter*, 31 TEXAS L. REV. 312 (1953).

52. *See* Zavala County Water Improv. Dist. No. 3 v. Rogers, 145 S.W.2d 919, 923 (Tex. Civ. App.—El Paso 1940, no writ).

53. Western Pac. Ry. v. Southern Pac. Co., 151 F. 376, 399 (9th Cir. 1907). *See also* Cohen v. United States, 162 F. 364 (N.D. Cal. 1908). In *Cohen* the court held that the riparian owner cannot recover damages for loss of future accretion against one who lawfully obstructs a stream that previously carried and deposited accretion to the owner's land. *Id.* at 371.

54. 150 F. Supp. 123 (D. Ore. 1957).

right. The court, however, held plaintiff had no vested right to future accretions to his property.

C. *Erosion*

Shoreline erosion adversely affects the littoral fee holder. Erosion changes the boundary slowly and imperceptibly, and the littoral owner loses title to the eroded portion of his land.[55] Federal legislation provides help to preserve or replenish publicly owned beaches, but there is little help available for private landowners.[56] The federal government will provide one-half the funds necessary to construct (but not to maintain) works to protect the shores of the United States against erosion by ocean, gulf, or Great Lake currents with the state providing the other one-half.[57] The Army Chief of Engineers, through the Coastal Engineering Research Center, directs studies of ways to prevent erosion. The federal government pays the entire cost of construction of projects to prevent shore damages attributable to federal navigation projects.[58] The federal government also will assist with financing of projects on privately owned beaches if the beaches will be used by the public.[59] Many private owners are unwilling to accept money on these terms, but in Texas, where beaches fronting on the open gulf are presumed to be impressed with a public easement inward to the line of vegetation, private owners eventually may decide to avail themselves of federal aid.[60]

The framers of the Texas constitution recognized the possible damage that hurricanes and gulf waters can cause to coastal lands and cities and provided for coastal counties and municipalities to construct seawalls and breakwaters.[61] The constitution permits the State to donate portions of the public domain to aid in such construction.[62] Because the public domain was exhausted before any part of it could be allocated for seawall and breakwater construction, the Supreme Court of Texas interpreted this constitutional provision as allowing the legislature to extend aid by donating portions of the public domain or by providing funds in any other manner it

55. *See* Oklahoma v. Texas, 260 U.S. 606, 636 (1923); Manry v. Robison, 122 Tex. 213, 56 S.W.2d 438, 443-44 (1932).

56. A state can provide help for erosion protection. North Carolina, for example, allows reclamation of land lost because of natural forces. N.C. GEN. STAT. § 146-6(b), (c) (1964); *see* Rice, *Estuarine Land of North Carolina: Legal Aspect of Ownership, Use and Control*, 46 N.C.L. REV. 779, 806 (1968).

57. 33 U.S.C. § 426e(b) (1970).

58. *Id.* § 426i.

59. *Id.* § 526e(d). Subsection (b) allows aid for work on private land that will protect public property. *Id.* § 426e(b).

For a discussion of Texas erosion problems refer to Houston Chronicle, Jan. 8, 1972, § 1, at 6, col. 3.

60. TEX. REV. CIV. STAT. ANN. art. 5415d (1962). *See generally* TEXAS LAW INSTITUTE OF COASTAL AND MARINE RESOURCES CONFERENCE ON THE BEACHES: PUBLIC RIGHTS AND PRIVATE USE (1972).

61. TEX. CONST. art. XI, § 7. Legislation sets out how this is to be accomplished. TEX. REV. CIV. STAT. ANN. arts. 6830-39g (1960). The annotation reproduces the text of the special laws enacted for each gulf coastal city.

62. TEX. CONST. art. XI, § 8.

chose.[63] Language of
part with State funds
protection.[64] With b
least some financial
publicly owned land
cities are fairly well
2,498 miles of mean
aries, 82 percent is pri
advantage of the open
funds, they will have t
owners of beaches fr
likely to avail themselv
tion does not apply to

The only mention
is an Austin Court of
ian owner has the righ
tion of his land by eros
steps the owner could
Beaches Act declared
should, after investigati
legislation to recognize
cluding groins, for the
dards to be prescribe
studied carefully becau
the water currents, cau

Some action must b
are serious. A survey by
sion along ninety-two m

63. City of Aransas P
The court stated, "The expr
a state obligation in the prot
S.W. at 820. *See also* First
(Tex. Civ. App.—Beaumont 1

64. *E.g.*, City of Port
App.—El Paso 1951, writ ref
by the appellate court, was
arresting the rapid progress o
appeals observed

We gather from the fin
city is protected by a blu
the sea from causing this
Id. at 429.

Furthermore, the act gra
of Corpus Christi stated in ju
the shore line of said Bay and
§ 12, at 114.

65. Houston Post, Oct. 2

66. State v. R.E. Janes
1943), *rev'd sub nom.* Maufrais

67. TEX. REV. CIV. STAT.

68. Houston Post, Oct. 2

chose.[63] Language of other decisions indicates that seawalls built at least in part with State funds function to arrest or prevent erosion aside from storm protection.[64] With both the State and federal governments providing at least some financial assistance to other governmental bodies for protecting publicly owned land from erosion, it would seem that public lands and cities are fairly well provided for. The problem remains, however, that of 2,498 miles of mean high tide shoreline along Texas gulf, bays, and estuaries, 82 percent is privately owned.[65] Therefore, unless private owners take advantage of the open beaches presumption and avail themselves of federal funds, they will have to provide their own erosion protection financing. The owners of beaches fronting on the bays and the back of islands are less likely to avail themselves of these funds because the open beaches presumption does not apply to such areas.

The only mention the Texas courts have given private erosion problems is an Austin Court of Civil Appeals decision, stating in dictum that a riparian owner has the right under appropriate circumstances to prevent depletion of his land by erosion.[66] The court did not elaborate further as to what steps the owner could take. The Texas Legislature in the Texas Open Beaches Act declared that the beach study committee of the legislature should, after investigation of the problems, report its recommendations for legislation to recognize "rights in . . . landowners to construct works, including groins, for the protection of their property and meeting the standards to be prescribed in such legislation."[67] Such legislation must be studied carefully because structures such as bulkheads and groins affect the water currents, causing accretion or erosion further down the shore.[68]

Some action must be taken, however, because Texas erosion problems are serious. A survey by the Army Corps of Engineers showed critical erosion along ninety-two miles of the Texas coast, particularly on the upper

63. City of Aransas Pass v. Keeling, 112 Tex. 339, 247 S.W. 818, 820 (1923). The court stated, "The express wording of the section recognizes a state interest and a state obligation in the protection of coast settlements from calamitous overflows." 247 S.W. at 820. *See also* First Nat'l Bank v. City of Port Arthur, 35 S.W.2d 258, 262-63 (Tex. Civ. App.—Beaumont 1931, no writ).

64. *E.g.*, City of Port Lavaca v. Bauer, 243 S.W.2d 424, 426, 429 (Tex. Civ. App.—El Paso 1951, writ ref'd n.r.e.). The trial court's finding of fact no. 7, as quoted by the appellate court, was that the seawall "was constructed in 1922 as a means of arresting the rapid progress of erosion of the bay bluff." *Id.* at 426. The court of civil appeals observed

> We gather from the findings of fact and the Statement of Facts that the city is protected by a bluff. The sea wall serves as a sort of binder, preventing the sea from causing this bluff to erode away.

Id. at 429.

Furthermore, the act granting submerged land of Corpus Christi Bay to the city of Corpus Christi stated in justification of the grant that "the waves are daily eroding the shore line of said Bay and destroying valuable properties." Tex. Laws 1919, ch. 68, § 12, at 114.

65. Houston Post, Oct. 20, 1971, § C, at 22, col. 6.

66. State v. R.E. Janes Gravel Co., 175 S.W.2d 739, 742 (Tex. Civ. App.—Austin 1943), *rev'd sub nom.* Maufrais v. State, 142 Tex. 559, 180 S.W.2d 144 (1944).

67. TEX. REV. CIV. STAT. ANN. art. 5415d, § 7d (1962).

68. Houston Post, Oct. 20, 1971, § C, at 22, col. 6.

Texas coast. A stretch of Bolivar Peninsula, for example, has lost an average of four feet per year for the past century.[69]

D. *Avulsion*

Avulsion is the rapid change of water such as when a river suddenly breaks through a horseshoe bend to form a new bed. The doctrine of avulsion applies primarily to rivers. The tidal water cases that involve facts analogous to avulsion situations are primarily cases where the court discusses submergence.[70] In Texas when a river bed abandons an old bed in an avulsive change, the former riparian owners have a vested property right to succeed to the title of the State in the abandoned river bed.[71]

E. *Submergence*

A few Texas cases indicate that submersion of littoral shoreline requires application of legal principles distinct from those of erosion. Submergence consists of the disappearance of land by the formation of a body of navigable water over it.[72] Most Texas cases investigating the doctrine of submergence concern the public right to fish in navigable waters. Typically, the riparian or littoral owner whose land is submerged wants to prevent public fishing in waters over his land although he may not be permitted to infringe on the public right of navigation through his waters. The owner of the soil has exclusive enjoyment of all rights inherent in fee ownership, such as fishing and hunting.[73]

For tidal waters the first Texas ruling was *Fisher v. Barber*[74] by the Beaumont Court of Civil Appeals in 1929. The court held that submergence by navigable tidal waters of lands titled to plaintiff did not deprive him of ownership.[75] The submerged land in *Fisher* at granting was subject to tidal overflow, but was not continually covered by navigable waters. Later, a channel permitted the ebb and flow of the tide to cover plaintiff's land.

69. *Id.*

70. Hurricanes cause severe changes to the Texas coastline. According to Galveston County Judge Ray Holbrook, even hurricane Fern, which did not go near Galveston Island, caused a loss in excess of one foot of sand depth on east beaches and as much as one and one half feet on west beach. Houston Chronicle, Nov. 19, 1971, § 1, at 6, col. 1. Refer to text immediately preceding note 90 *infra*.

71. Manry v. Robison, 122 Tex. 213, 56 S.W.2d 438, 442 (1932).

72. Michelsen v. Leskowicz, 55 N.Y.S.2d 831, 838 (Sup. Ct. 1945). For a general discussion of authorities refer to 1 H. FARNHAM, WATERS AND WATER RIGHTS 331-32 (1904).

73. Taylor Fishing Club v. Hammett, 88 S.W.2d 127, 130 (Tex. Civ. App.—Waco 1935, writ dism'd). A decision by the Supreme Court of Texas in 1961 involved the issue of mud flats off Galveston Island. State v. Lain, 162 Tex. 549, 349 S.W.2d 579 (1961). These flats were part of the Menard grant, although they were submerged land at the time of the grant. City of Galveston v. Menard, 23 Tex. 349 (1859). The court in *Lain* enjoined State officials from operating a ferry and attendant dredging operations in the channel, saying this activity constituted a confiscation of property without compensation. 349 S.W.2d at 586.

74. 21 S.W.2d 569 (Tex. Civ. App.—Beaumont 1929, no writ).

75. *Id.* at 570.

The landowner br
defendant from co
ing and hunting pa
fendant claimed th
hunt and fish in th
submerged land inc
ing such lands.[76] T
Tennessee that the
ries remain clearly i

The Galveston
the *Fisher* holding,
proposition than ap
was land that had b
sult of various storm
land by deposits of
tiffs claimed the dry
land available for s
found, however, that
the shoreline when c
fore, that the landow
the grantee or his s
land was restored to
from natural or legal

In *City of Galve*

76. *Id.*

77. State *ex rel.* C
752 (1913). An earthqu
avulsive one.

78. 66 S.W.2d 347

79. *Id.* at 349. Citin
We do not think it
of the shoreline of G
veyed and located, th
to the land by the
whenever the land s
cial means, was resto
and occupancy by the
Id.

80. *Id.* at 348; *see* T

81. 66 S.W.2d at 34

82. *Id.* On motion fo
If any part of the lan
aries of the Hunter s
ebb and flow of the t
ber of years, and by
above the ordinary hi
belong to the owner
originally a part.
Id. See also Adaray Realty
1929). The court in *Faber*
the sea had encroached upo

83. 135 Tex. 319, 143

The landowner brought a trespass to try title action and sought to enjoin defendant from conducting his business of bringing charter boats with fishing and hunting parties across his land to capture fish and other game. Defendant claimed the right of navigability gave him the incidental right to hunt and fish in those waters. The court disagreed, ruling that title to this submerged land included an exclusive right to hunt and fish in waters covering such lands.[76] The court relied on a holding of the Supreme Court of Tennessee that the owner of submerged land retains title where his boundaries remain clearly identifiable.[77]

The Galveston Court of Civil Appeals in *Fitzgerald v. Boyles*[78] followed the *Fisher* holding, although the court cited it as standing for a broader proposition than apparently was involved in *Fisher*.[79] At issue in *Fitzgerald* was land that had been granted, later became submerged, probably as a result of various storms, and then was restored to its original character as dry land by deposits of dredging spoil from the Houston Ship Channel. Plaintiffs claimed the dry land formed by dredging deposits was unappropriated land available for sale to benefit the public free school fund.[80] The court found, however, that the evidence showed the land in question to be above the shoreline when originally surveyed and granted. The court held, therefore, that the landowner did not lose title by submergence.[81] The court ruled the grantee or his successor in title was entitled to possession when such land was restored to its original condition whether such change resulted from natural or legal artificial means.[82]

In *City of Galveston v. Mann*[83] the Supreme Court of Texas discussed

---

76. *Id.*

77. State *ex rel.* Cates v. West Tenn. Land Co., 127 Tenn. 575, 158 S.W. 746, 752 (1913). An earthquake caused this submergence, so the change clearly was an avulsive one.

78. 66 S.W.2d 347 (Tex. Civ. App.—Galveston 1931, writ dism'd).

79. *Id.* at 349. Citing *Fisher*, the court stated

> We do not think it can be doubted that, if the land in controversy was west of the shoreline of Galveston Bay when the Hunter grant was originally surveyed and located, the grantee and those holding under him have not lost title to the land by the encroachment thereover of the waters of the bay, and whenever the land so submerged, either by natural causes or lawful artificial means, was restored to its original condition, the right to its possession and occupancy by the holders of the original title became paramount.

Id.

80. *Id.* at 348; *see* TEX. EDUC. CODE ANN. § 15.01 (1971).

81. 66 S.W.2d at 349.

82. *Id.* On motion for rehearing the court stated

> If any part of the land in controversy was included within the original boundaries of the Hunter survey, and, by the operation of natural changes in the ebb and flow of the tides, it became submerged and so remained for a number of years, and by a similar process of nature it was subsequently placed above the ordinary high tides, it would not become public land, but would belong to the owner of that portion of the Hunter survey of which it was originally a part.

Id. See also Adaray Realty Corp. v. Faber, 227 App. Div. 618, 235 N.Y.S. 660 (Sup. Ct. 1929). The court in *Faber* held that a littoral owner can fill in to reclaim lands where the sea had encroached upon them. 235 N.Y.S. at 660.

83. 135 Tex. 319, 143 S.W.2d 1028 (1940).

the problem of private ownership of lands submerged by the encroachment of tidal waters, but the court did not rule on the question. In *Mann*, the city of Galveston planned to issue bonds to build a 1,200 foot pier into the Gulf of Mexico. The plan called for 594 feet of that pier to be constructed on land that once was above the line of high tide; the remainder of the pier would lie on State-owned submerged lands in the deep waters of the gulf. The court in dictum discussed the question of State ownership of submerged lands, but failed to cite or otherwise recognize any of the earlier rulings that submerged land once privately owned can remain in private ownership subsequent to submergence. The court found the proposed structure would constitute a purpresture and so refused to issue a writ of mandamus compelling the attorney general to approve the bonds to build the pier.[84] Justice Critz in a concurring opinion stated mandamus should not issue because the record contained insufficient evidence for the court to say whether the initial 594 foot submerged area was still privately owned. He further noted that the parties failed to show whether the submergence resulted from avulsion or erosion.[85]

In 1941, the Texas Legislature enacted a bill that gives certain cities the right to use and occupy for park purposes the tidelands and land beneath adjacent waters of the open Gulf of Mexico.[86] Included with this right of use for park purposes was the right to build a pier up to 2,000 feet from the line of ordinary high tide. The act carefully provides, however, that it is not designed to permit an unconstitutional taking of any private property or interest. It further permits qualifying cities to declare abandoned submerged lands formerly dedicated for use as streets and occupy them for park purposes. The city of Galveston employed this mechanism in locating its pier, and the structure stands on what was formerly Rosenberg Avenue (25th Street).[87] Galveston purchased lands on either side of the street site and entered into long term leases for portions of adjacent land and waterfront property.[88] By its purchases and leases of submerged land and its positive statement in its motions and briefs before the Supreme Court of Texas, the city of Galveston demonstrated its conviction that the

84. 143 S.W.2d at 1034-35. Writers have erroneously regarded this case as holding that the State gained title. *See, e.g.*, W. HUTCHINS, THE TEXAS LAW OF WATER RIGHTS 62 (1961); F. LANGE, TEXAS PRACTICE, LAND TITLES § 177, at 328 n.58 (1961).

85. 143 S.W.2d at 1035. The opinion actually reads "evulsion."

86. TEX. REV. CIV. STAT. ANN. art. 6081g (1970). The cities must border the Gulf of Mexico and have a population of at least 60,000.

87. Refer to Indenture at 2, Statement of Facts, City of Galveston v. Mann, 135 Tex. 319, 143 S.W.2d 1028 (1940). Galveston financed its pier with a Federal Reconstruction Finance Corporation loan and the sale of bonds to private investors. *See* Houston Chronicle, July 13, 1962, § 3, at 1, col. 1. The pier, which extended 1,200 feet into the Gulf of Mexico, was completed in 1942 and caused the city financial trouble for many years. In 1963 it was leased for a thirty-six-year term for use as a hotel site, and Galveston issued new bonds to construct the hotel. *See* Houston Chronicle, May 17, 1963, § 2, at 4, col. 1.

88. Relator's Supplementary Argument in Support of Petition for Mandamus at 1-2, City of Galveston v. Mann, 135 Tex. 319, 143 S.W.2d 1028 (1940).

lands legally remai
statutory language
sibility of private cl

The decisive iss
of the cause of the
or did third persons
by some artificial n
such as storms or h
protecting marshlanc

In *Fisher* the I
ridge separating it fr
subjecting the marsh
is not clear as to the
years a channel had
Island."[91] The *Fisher*
land came to be sub
preme Court of Mic
Fisher, the court obse
this ridge . . . ."[93]

The Houston Co
scomb[94] distinguished

89. *Id.* at 2.

90. TEX. REV. CIV.
that prohibits the unconsti
Any city in this
hereafter may have a
tants . . . shall have,
and occupancy of the
the ordinary low tide
Gulf of Mexico, and
and bed of the Gulf
the line of ordinary h
property lines of prop
quired by the city for
easements, or other ri
same for park purpos
streets or highways a
or parts thereof, there
because of submersion
a seawall, breakwater,
or highways, if so four
Provided, however, th
authorizing the taking
compensation as requir
Id. § 1 (emphasis added).
872 (Tex. Civ. App.—Galve
that the fee owner of the la
the easement strip. *Id.* at 87

91. 21 S.W.2d at 569.

92. Sterling v. Jackson

93. 21 S.W.2d at 571.
nel was caused by erosion.

94. 331 S.W.2d 429 (

ed by the encroachment
stion. In *Mann*, the city
foot pier into the Gulf
r to be constructed on
remainder of the pier
eep waters of the gulf.
wnership of submerged
the earlier rulings that
private ownership sub-
posed structure would
rit of mandamus com-
build the pier.[84] Justice
ould not issue because
urt to say whether the
wned. He further noted
ergence resulted from

hat gives certain cities
tidelands and land be-
.[86] Included with this
a pier up to 2,000 feet
lly provides, however,
l taking of any private
cities to declare aban-
as streets and occupy
oyed this mechanism in
vas formerly Rosenberg
s on either side of the
rtions of adjacent land
ses of submerged land
fs before the Supreme
its conviction that the

regarded this case as hold-
HE TEXAS LAW OF WATER
§ 177, at 328 n.58 (1961).
ulsion."
The cities must border the

of Galveston v. Mann, 135
pier with a Federal Recon-
private investors. *See* Hous-
ch extended 1,200 feet into
e city financial trouble for
for use as a hotel site, and
ouston Chronicle, May 17,

Petition for Mandamus at
28 (1940).

lands legally remain in private ownership even after submergence.[89] The statutory language also indicates the Texas Legislature recognized the possibility of private claims to lands submerged beneath tidal waters.[90]

The decisive issue in cases involving submergence may be the question of the cause of the inundation of the land—were the causes wholly natural, or did third persons or the fee holder himself contribute to the submergence by some artificial means? Natural causes could include avulsive changes such as storms or hurricanes or the erosion of a channel through a ridge protecting marshland.

In *Fisher* the land in controversy was marshland located behind a ridge separating it from tidal waters. A channel was cut through the ridge, subjecting the marshland to inundation by gulf waters. The *Fisher* opinion is not clear as to the origin of the channel, saying ". . . within the last few years a channel had been dug between High Tree ridge and Mustang Island."[91] The *Fisher* court may not have regarded the means by which the land came to be submerged as being of great importance. In citing a Supreme Court of Michigan case[92] as being on all fours with the facts in *Fisher*, the court observed that "[b]y some means a channel was cut across this ridge . . . ."[93]

The Houston Court of Civil Appeals in *Seabrook Land Co. v Lipscomb*[94] distinguished the *Fisher* holding, although *Seabrook* itself did not

89. *Id.* at 2.

90. TEX. REV. CIV. STAT. ANN. art. 6081g (1970). The statute contains a proviso that prohibits the unconstitutional taking of private property:

> Any city in this State bordering upon the Gulf of Mexico, which has or hereafter may have a population of sixty thousand (60,000) or more inhabitants . . . shall have, and is hereby granted for park purposes, the right of use and occupancy of the tidelands between the lines of the ordinary high tide and the ordinary low tide of the Gulf of Mexico and the adjacent waters of the Gulf of Mexico, and the bed thereof, for a distance into and over the waters and bed of the Gulf of Mexico, of not over two thousand (2,000) feet from the line of ordinary high tide, between extensions into the Gulf of Mexico or property lines of property above and fronting upon the tidelands owned or acquired by the city for park purposes, or in or to which it has or may acquire easements, or other rights or privileges authorizing it to use and occupy the same for park purposes, and such city may declare abandoned for use as streets or highways and take, occupy and use for park purposes any lands, or parts thereof, theretofore dedicated as public streets or highways which because of submersion by the waters of the Gulf of Mexico or the building of a seawall, breakwater, or other structure, have become unfit for use as streets or highways, if so found and declared by the governing body of the city. . . . *Provided, however, that nothing in this Act contained shall be deemed as authorizing the taking of any private property or interest therein without compensation as required by the Constitution of the State of Texas.*

Id. § 1 (emphasis added). *See also* Gulf View Courts v. Galveston County, 150 S.W.2d 872 (Tex. Civ. App.—Galveston 1941, writ ref'd). In *Gulf View Courts* the court held that the fee owner of the lands occupied by the seawall cannot build tourist courts on the easement strip. *Id.* at 874.

91. 21 S.W.2d at 569.

92. Sterling v. Jackson, 69 Mich. 488, 37 N.W. 845 (1888).

93. 21 S.W.2d at 571. The facts as reported in *Sterling* clearly indicate the channel was caused by erosion.

94. 331 S.W.2d 429 (Tex. Civ. App.—Houston [14th Dist.] 1960, no writ).

raise the question of ownership of submerged land formerly dry and privately owned.[95] The land at issue in *Seabrook* apparently was submerged, at least in part, because of erosive factors.[96] The court found this fact distinguished *Seabrook* from *Fisher* because in *Fisher* the "channel was dug."[97] The *Seabrook* court was concerned about this distinction because, as it noted, when a river changes course by erosion or avulsion and occupies land previously dry, the owner of such land loses title, which vests in the State.[98] A law review writer, noting *Fisher* immediately after it was decided, considered the suddenness of the change and the continuance of identifiable boundaries to be decisive factors since these two characteristics made the change similar to the legal principles governing avulsion.[99] The writer found the *Fisher* rule, that alteration of the character of the water from nontidal to tidal by the cutting of a channel does not change the ownership of the land beneath the water, to be consistent with the authorities. To support his position, the writer cited two cases from other jurisdictions, which hold that a landowner who cuts an artificial channel that causes submergence of his land by tidal waters does not destroy his private ownership rights.[100] This writer concluded that the result was unaffected by the fact that a human agency caused the change.[101]

This question has been litigated more frequently with regard to partial diversion of streams to create small lakes. The courts of civil appeals that have faced this question have reached different conclusions upon slight variations in facts and have not interpreted *Fisher* uniformly.

The Austin Court of Civil Appeals in *Diversion Lake Club v. Heath*[102] held that artificially raising the water level of a navigable stream to flood adjacent land created a public right to fish on that land. The court distinguished *Fisher*, stating that the owner in *Fisher* did not voluntarily cause

---

95. *Id.* at 433.

96. Ownership of the submerged land was reserved to Seabrook Land Co. in the deeds. *Id.* at 430-31.

97. *Id.* at 433.

98. *Id.*; *see* Manry v. Robison, 122 Tex. 213, 56 S.W.2d 438, 443 (1932). The court in *Manry* carefully limited its holding in the following statement:

> The effect of this opinion is to be confined to abandoned stream beds above the ebb and flow of the tide. What rule should be applied to relicted lands below tidewater is not before us, and no opinion is expressed thereon.

56 S.W.2d at 449.

99. 8 TEXAS L. REV. 604, 605 (1929).

100. Clement v. Watson, 63 Fla. 109, 58 So. 25, 27 (1912); Wheeler v. Spinola, 54 N.Y. 377, 384-85 (1873). In *Clement*, the court held that not only must the lands be covered by tidal waters but also the waters must be sufficiently large and deep as to be capable of navigation for useful public purposes. 58 So. at 26.

101. 8 TEXAS L. REV. 604, 605. The writer stated

> In the principal case, conceding plaintiff's title and exclusive right to fish before the digging of the channel, it would seem unjust and inconsistent with the basic theories underlying our law of property to permit this right to be divested by a sudden, perceptible, and artificially-produced change in the depth and character of the water.

Id.

102. 58 S.W.2d 566 (Tex. Civ. App.—Austin 1933), *aff'd*, 126 Tex. 129, 86 S.W.2d 441 (1935).

the overflow of hi
way authorized, ca
of his land, the co
doctrines of estopp
public.[104] A law rev
of *Fisher* as dealing
that gradually erod
guished property rig

It seems w
not affected by
waters covering
It is also well s
extended by the
submerged lands

The Supreme Court
Diversion Lake Club
the bed of the lake w

The Waco Court
was concerned that t
in *Fisher*.[108] The Wac
capable of private ow
nonnavigable. Citing a
although it was suffic
cause it was not situa
transport commodities

---

103. 58 S.W.2d at 57

104. *Id.* The court w

> We do not wish
> tion of prescriptive rig
> newly inundated lands
> of Diversion Lake. Tha

Id.

105. Note, *Water and*
Over Private Submerged La

106. Diversion Lake
Plaintiffs also argued that a
That law provided for impou
resorts. Tex. Laws 1925, ch.
not justify interpreting the s
vant to the wisdom of enacti
purposes. The court stated

> Furthermore, it cannot
> the appropriation of pul
> wholly inoperative if an
> granted, for one may a
> it to his land and impoun

86 S.W.2d at 449.

107. 88 S.W.2d 127 (Te

108. No channel existe
small streams overflowed at flo

l formerly dry and pri-
arently was submerged,
ourt found this fact dis-
he "channel was dug."[97]
stinction because, as it
avulsion and occupies
title, which vests in the
ely after it was decided,
ntinuance of identifiable
characteristics made the
sion.[99] The writer found
the water from nontidal
ge the ownership of the
thorities. To support his
dictions, which hold that
ises submergence of his
wnership rights.[100] This
the fact that a human

ly with regard to partial
rts of civil appeals that
clusions upon slight vari-
rmly.
n Lake Club v. Heath[102]
avigable stream to flood
land. The court distin-
id not voluntarily cause

---

o Seabrook Land Co. in the

V.2d 438, 443 (1932). The
tatement:
abandoned stream beds
l be applied to relicted
n is expressed thereon.

(1912); Wheeler v. Spinola,
hat not only must the lands
fficiently large and deep as
at 26.

exclusive right to fish
unjust and inconsistent
ty to permit this right
lly-produced change in

), *aff'd*, 126 Tex. 129, 86

the overflow of his lands.[103] Emphasizing that the owner in *Fisher* in no way authorized, caused, or ratified the channel that caused the submergence of his land, the court observed that the *Fisher* court did not consider the doctrines of estoppel, dedication, and easement of user in common with the public.[104] A law review writer, noting *Diversion Lake Club*, read the facts of *Fisher* as dealing with marshlands separated from the bay by a sandbar that gradually eroded so the marshlands were flooded. The writer distinguished property rights from the public easement of navigation as follows:

> It seems well settled that once title to land is acquired it is not affected by the fact that it becomes submerged, even if the waters covering it are navigable, so long as it can be identified. It is also well settled that the public easement of navigation is extended by the submergence to all the waters over the private submerged lands.[105]

The Supreme Court of Texas affirmed the court of civil appeals ruling in *Diversion Lake Club* without citing *Fisher*, holding that although most of the bed of the lake was privately owned, the water itself remained public.[106]

The Waco Court of Civil Appeals in *Taylor Fishing Club v. Hammett*[107] was concerned that the land lines be capable of demarcation as they were in *Fisher*.[108] The Waco court ruled that the submerged land at issue was capable of private ownership because the body of water covering it was nonnavigable. Citing authority from other jurisdictions, the court found that although it was sufficiently large to float a boat, it was nonnavigable because it was not situated for common, general use as a thoroughfare to transport commodities or passengers and did not connect any particular

---

103. 58 S.W.2d at 571.

104. *Id.* The court was careful to state

> We do not wish to be understood, however, as passing upon any question of prescriptive right, title, or easement that the state might acquire to the newly inundated lands, so far as necessary to maintain the artificial condition of Diversion Lake. That question is not involved. . . .

Id.

105. Note, *Water and Watercourses—Public Right of Fishery in Navigable Waters Over Private Submerged Lands*, 12 TEXAS L. REV. 72, 73 (1933).

106. Diversion Lake Club v. Heath, 126 Tex. 129, 86 S.W.2d 441, 446 (1935). Plaintiffs also argued that a Texas statute, since repealed, was favorable to their case. That law provided for impounding of State waters for parks, game preserves, or pleasure resorts. Tex. Laws 1925, ch. 136, § 1, at 341. The court believed such an argument did not justify interpreting the statute as granting an exclusive right, but rather was relevant to the wisdom of enacting a law authorizing appropriation of public waters for such purposes. The court stated

> Furthermore, it cannot be said that so much of the statute which authorized the appropriation of public waters for game preserves and pleasure resorts is wholly inoperative if an exclusive right of the character here claimed is not granted, for one may appropriate public water for such purposes and divert it to his land and impound and use it there to the exclusion of the public.

86 S.W.2d at 449.

107. 88 S.W.2d 127 (Tex. Civ. App.—Waco 1935, writ dism'd).

108. No channel existed in *Taylor Fishing Club*. The inundation occurred when small streams overflowed at flood levels, connecting a river with the lake.

points for which a route of navigation was necessary.[109]

This issue is more settled in regard to rivers. The Austin Court of Civil Appeals in *State v. R. E. Janes Gravel Co.*[110] held that a riparian owner by his own acts could not create a new river bed and then deny title of it to the State. Although the Supreme Court of Texas reversed on other grounds, this portion of the opinion was quoted with approval.[111] The landowner had dredged the shoreline of the river to the point that the river broke through its banks, making a new bed and transforming a peninsula into an island.

Rivers, however, have characteristics different from those of bays and the gulf, and the applicable rules are not necessarily the same. When a river changes course, the State has decreed it will gain title to the newly submerged land.[112] When tidal waters cut a channel that inundates dry land, the landowner who can still identify his boundaries should retain title in most cases. In a situation such as *City of Galveston v. Mann,* however, the private landowner should not retain title. There, the city of Galveston built a seawall; the land lies beneath the open waters of the Gulf of Mexico; and the public has used the area for many decades. It would be absurd suddenly to permit the former owners to reclaim the land by landfills, thus precluding public use, polluting the water, and destroying marine life. Should the land become dry by reliction or avulsion, it also would be anomalous to permit the private owners again to establish occupancy of the land.

The State could easily claim the public has gained a prescriptive right to use the property. In a situation like that of *Fisher,* however, a private landowner should be permitted to regain use of his land by filling, provided such fill activities did not unduly harm adjacent estuaries and marine nurseries. Should reclamation prove to be gravely detrimental to the public waters, the landowner, in accordance with the tenets of *Fisher* and *Taylor Lake,* should be permitted to exercise his legal rights and prevent the public from establishing a prescriptive right.

F. *Conclusion*

Although there is some Texas law relative to each of these doctrines, clarification would benefit all of them. The primary problems arise where changes occur because of forces partially natural and partially artificial. The lack of clear regulatory guidelines also causes problems. The littoral landowner who wants to protect his property from erosion does not know what his rights are nor whom to ask for permission to do erosion prevention

109. 88 S.W.2d at 130; *see* Winana v. Willetts, 197 Mich. 512, 163 N.W. 993, 995 (1917); Griffith v. Holman, 23 Wash. 347, 63 P. 239, 240-42 (1900).

110. 175 S.W.2d 739 (Tex. Civ. App.—Austin 1943), *rev'd on other grounds sub nom.* Maufrais v. State, 142 Tex. 559, 180 S.W.2d 144 (1944).

111. Maufrais v. State, 142 Tex. 559, 180 S.W.2d 144, 149 (1944).

112. *See, e.g.,* State v. R.E. Janes Gravel Co., 175 S.W.2d 739, 742 (Tex. Civ. App.—Austin 1943), *rev'd on other grounds sub nom.* Maufrais v. State, 142 Tex. 559, 180 S.W.2d 144 (1944).

109

ne Austin Court of Civil
nat a riparian owner by
then deny title of it to
ersed on other grounds,
l.[111] The landowner had
the river broke through
eninsula into an island.
from those of bays and
rily the same. When a
gain title to the newly
nel that inundates dry
aries should retain title
ston v. Mann, however,
e, the city of Galveston
s of the Gulf of Mexico;
It would be absurd sud-
d by landfills, thus pre-
ing marine life. Should
would be anomalous to
cy of the land.
ned a prescriptive right
her, however, a private
and by filling, provided
uaries and marine nurs-
trimental to the public
ts of *Fisher* and *Taylor*
and prevent the public

each of these doctrines,
y problems arise where
and partially artificial.
problems. The littoral
erosion does not know
o do erosion prevention

ch. 512, 163 N.W. 993, 995
(1900).
rev'd on other grounds sub
).
149 (1944).
.W.2d 739, 742 (Tex. Civ.
rais v. State, 142 Tex. 559,

work in the water. He does not know what his liability will be to other owners whose property might be eroded if his work retards accretion to their land. The littoral landowner whose property is submerged during a hurricane does not know which, if any, State agency or official must approve reclamation of his land by fill or dredge and fill operations. He also has no idea how long he can wait to commence reclamation activities before losing his title. The State, through the legislature, should meet these problems. As population density increases in the coastal zone and as property values and ecological awareness increase, these problems will become even more important.

IV. Artificial Modifications

Common artificial modifications to the shoreline and the tidal and submerged land immediately seaward of the shoreline are landfill; draining and damming to reclaim marshland; dredging; building of structures such as wharves and piers; extraction of ground water, oil, and gas; and cutting of land canals. These activities affect the shores and the wetlands—the major food source and habitat for numerous species of birds, fish, and other wildlife. According to a report of the Council on Environmental Quality, an essential portion of the life cycle of two-thirds of the world's fisheries harvest is spent in wetlands or is dependent on species that do.[113] The primary causes of wetland loss are drainage of land for agricultural uses and dredging and filling for housing and urban development.[114] Texas estuarine and wetland area is estimated by the General Land Office to be 1,536,900 acres.[115] In 1958, the Bureau of Business Research at the University of Texas estimated the value of Corpus Christi and Aransas Bays at $370 per acre, and Congressman Bob Eckhardt of Houston estimated the value of the marine life in Galveston Bay to be $56 million in 1965.[116] Texas wetlands are valuable resources that need further statutory protection.

A. *Common Law Background*

Riparian rights differ among the states, depending on their geography and history as well as the development of their statutory and case law. The states hold title to submerged lands, but the public trust doctrine subjects their title to such various public rights as navigation, fishing, and swim-

113. Council on Environmental Quality, Environmental Quality, Second Annual Report 236 (1971). The CEQ estimates that American wetlands have declined from 127 million acres when the country was first settled to 75 million acres in 1955. Of the total area, coastal freshwater wetlands account for 5 percent, and coastal saline areas account for 7 percent. *Id.* at 236-37.
114. *Id.* at 236.
115. Interim Beach Study Committee, Footprints on the Sands of Time 6 (1970).
116. *Id.*

ming.[117] The rights of the states frequently conflict with the rights of the private riparian (and presumably littoral) landowners whose rights generally include the right of access to the water, the right to wharf out to the line of navigability, and the right to accretions and relictions.[118]

With regard to lands bounded by tidal waters, a landowner's title extends only to the applicable tidal boundary line. A littoral landowner can fill in submerged land or marshland only pursuant to a lawful permit or perhaps in the exercise of his common law riparian right to "wharf out."[119] While some jurisdictions regard the right to reclaim and occupy submerged land as a vested property right in the upland owner,[120] generally the littoral landowner acquires no title to such artificially created lands. In some cases the courts specifically note the land was created solely to effectuate the littoral owner's access to the water for purposes of navigation.[121] In some jurisdictions, when the state as owner of the submerged land reclaims such land in aid of navigation or commerce, it can cut off the riparian landowner's right of access to navigable water.[122] Some courts consider such reclamation an act of condemnation and require the state to compensate the upland owner for loss of his vested, proprietary rights.[123] Other courts,

---

117. *See* 3 AMERICAN LAW OF PROPERTY § 12.32, at 265-71 (A.J. Casner ed. 1952).

118. *Id.* at 266-67. For a general discussion of riparian rights in the various states refer to Richard, *Tidelands and Riparian Rights in Florida*, 3 MIAMI L.Q. 339 (1949).

119. For cases applying the common law right to "wharf out" refer to United States v. Turner, 175 F.2d 644, 647 (5th Cir.), *cert. denied*, 338 U.S. 851 (1949); Carli v. Stillwater St. Ry. & Transfer Co., 28 Minn. 373, 10 N.W. 205, 207-08 (1881). For an exhaustive review of the rules of filling under common law refer to Comment, *Private Fills in Navigable Waters: A Common Law Approach*, 60 CALIF. L. REV. 225 (1972).

120. Bradshaw v. Duluth Imperial Mill Co., 52 Minn. 59, 53 N.W. 1066, 1067 (1892). *See also* New Jersey Zinc & Iron Co. v. Morris Canal & Banking Co., 44 N.J. Eq. 398, 15 A. 227, 228-29 (Ct. of Chancery 1888), *aff'd*, 47 N.J. Eq. 598, 22 A. 1076 (Ct. of Errors & Appeals 1890).

A Maryland court of appeals held that when a riparian owner makes improvements waterward of his lot, complete title to the improvements vest in him. Causey v. Gray, 243 A.2d 575, 581 (Md. Ct. App. 1968). Where statutory law grants the right to extend his lot to certain limits, the riparian landowner has a vested quasi property right. *Id.*

121. *E.g.*, Hindley v. State, 234 N.Y. 309, 137 N.E. 599, 603 (1922). In many jurisdictions the landowner takes title where the filling was done pursuant to statutory authority. *E.g.*, Commodores Point Terminal Co. v. Hudnall, 283 F. 150, 178 (S.D. Fla. 1922); Poneleit v. Dudas, 141 Conn. 413, 106 A.2d 479, 482 (1954); Dawson v. Broome, 24 R.I. 359, 53 A. 151, 155 (1902). *But cf.* Carolina Beach Fishing Pier, Inc. v. Town of Carolina Beach, 277 N.C. 297, 177 S.E.2d 513, 517 (1970).

122. *E.g.*, City of Newport Beach v. Fager, 39 Cal. App. 2d 23, 102 P.2d 438, 441 (Dist. Ct. App. 1940); Sage v. City of New York, 154 N.Y. 61, 47 N.E. 1096, 1100 (1897). *But cf.* Trustees of Internal Improv. Fund v. Claughton, 86 So. 2d 775, 778-79 (Fla. 1956); Michaelson v. Silver Beach Improv. Ass'n, 342 Mass. 251, 173 N.E.2d 273, 276-77 (1961). In *Michaelson* the State created a beach by casting dredging spoil against a seawall that bounded the riparian owners' property at the low water mark. The court enjoined use as a public beach, saying riparian rights can be quite valuable and the State could not cut off these riparian rights except incident to navigation or commerce. 173 N.E.2d at 277.

123. *E.g.*, Dooley v. Town Plan & Zoning Comm'n, 197 A.2d 770, 774 (Conn. 1964).

with the rights of the
ners whose rights gen-
right to wharf out to
d relictions.[118]
a landowner's title ex-
littoral landowner can
to a lawful permit or
right to "wharf out."[119]
and occupy submerged
[120] generally the littoral
ed lands. In some cases
ely to effectuate the lit-
gation.[121] In some juris-
ged land reclaims such
off the riparian land-
e courts consider such
he state to compensate
rights.[123] Other courts,

t 265-71 (A.J. Casner ed.

arian rights in the various
Florida, 3 MIAMI L.Q. 339

wharf out" refer to United
ied, 338 U.S. 851 (1949);
N.W. 205, 207-08 (1881).
non law refer to Comment,
ch, 60 CALIF. L. REV. 225

a. 59, 53 N.W. 1066, 1067
nal & Banking Co., 44 N.J.
d, 47 N.J. Eq. 598, 22 A.

owner makes improvements
st in him. Causey v. Gray,
w grants the right to extend
quasi property right. *Id.*
599, 603 (1922). In many
done pursuant to statutory
ll, 283 F. 150, 178 (S.D.
9, 482 (1954); Dawson v.
. Carolina Beach Fishing
2d 513, 517 (1970).
p. 2d 23, 102 P.2d 438, 441
Y. 61, 47 N.E. 1096, 1100
nton, 86 So. 2d 775, 778-79
42 Mass. 251, 173 N.E.2d
h by casting dredging spoil
ty at the low water mark.
ghts can be quite valuable
t incident to navigation or

197 A.2d 770, 774 (Conn.

however, have held that these rights are subject to regulation by the state under its police and sanitary powers.[124]

Principal Texas cases that recognize littoral rights (often called riparian rights) include *City of Galveston v. Menard*[125] and *Gibson v. Carroll*.[126] In *Menard* the Supreme Court of Texas observed that land fronting tidal water carries with it rights that can be separated from the littoral tract, making it partly private and partly public. Thus, the right to own or use the soil may be private, while the right to fish and to navigate may be public. The court noted these rights can be acquired by prescription and custom or may be held incident to the ownership of the uplands.[127] In *Gibson* the owner of land fronting a bay tried to enjoin defendant from filling in the bay waters and constructing a wharf in front of plaintiff's lot. A map accompanying plaintiff's deed showed a street dedicated to public use between plaintiff's land and the submerged land defendant was attempting to fill in. The map also contained a reservation of "all accretions or alluvion in front of water lots and 150 feet from the eastern boundary of Water street."[128] Plaintiff claimed her lot was riparian because it was, and always had been, washed by the waters of the bay, and defendant's lot and the platted street separating it from plaintiff's lot always had been covered by bay waters. Subsequent to the conveyance, a street did come into existence both because of reliction and because the city had erected breakwaters and filled in the Water Street site. The court stated that a grantor could convey separately from the riparian land his "rights in and to the shallow waters of the bay which he had as owner of the riparian land."[129] The court enumerated as among these riparian rights the right of access, the right to an increase of upland by accretion and reliction, and the right to build a wharf. Further, the court seems to imply that the rights conveyed to the public by dedication of the street included the right to fill in the designated area so the street would be dry land. The court commented upon this right as follows:

> It [the map] shows clearly that those who might purchase lots had the right, as against Doswell [the original grantor], of filling up upon the premises represented on the map by Water street so it would be like other streets . . . .[130]

124. Colberg, Inc. v. California *ex rel.* Dep't of Public Works, 67 Cal. 2d 408, 432 P.2d 3, 11-12, 62 Cal. Rptr. 401, 409-10 (1967); Candlestick Properties v. San Francisco Bay Conserv. & Dev. Comm'n, 11 Cal. App. 3d 557, 89 Cal. Rptr. 897, 906 (Dist. Ct. App. 1970); Morris County Land Improv. Co. v. Parsippany-Troy Hills Township, 40 N.J. 539, 193 A.2d 232, 239 (1963).

125. 23 Tex. 349 (1859).

126. 180 S.W. 630 (Tex. Civ. App.—San Antonio 1915, no writ).

127. 23 Tex. at 394.

128. 180 S.W. at 632.

129. *Id.*

130. *Id.* at 633. Since plaintiff owned no riparian rights, the court refused to enter rulings on the rights claimed by defendant.

B. *Landfill*

1. *Texas Common Law*—A principal Texas case involving the common law rule of landfill, *Petty v. City of San Antonio*,[131] applies to a riparian, not littoral, tract. *Petty* involved fill, sheds, and platforms that plaintiffs had placed in what defendant contended was the bed of the San Antonio River, a navigable stream. The court of civil appeals affirmed a jury finding that the fill and building constituted a purpresture and refused to allow compensation to plaintiff for removal of his structures. In *Cox v. Dallas Levee Improvement District*[132] the court held that the State retained ownership of the land created when the navigable river channel was artificially filled in. The court noted that filling by someone other than the State did not change the status of the land as river bed.[133]

A leading Texas case concerning littoral rights is *Lorino v. Crawford Packing Co.*[134] in which plaintiff and his predecessors in title built a pier and oysterhouse along the shore of Tres Palacious Bay under a permit granted by the Federal War Department. The oystershells that had been discarded into the bay around the structures combined with sand deposited by gulf currents to build up the submerged land so that it gradually rose above the water and became dry land. The court of civil appeals held that plaintiffs could not acquire title by building up land from the bottom of the gulf.[135] The Supreme Court of Texas affirmed, holding that the change was an artificial accretion, and there was no presumption that the State had parted with its title.[136]

Language in *City of Galveston v. Menard*[137] indicates the original grant of Galveston Island recognized the possibility of landfills. The court found the third section of the grant gave the city power to fill up portions of the flats below ordinary low tide when necessary for public purposes. The court believed the legislature wanted to give the city whatever rights the State had without altering "the legal title to wharf privileges, held by persons in said city."[138] In *Fitzgerald v. Boyles*[139] the Galveston Court of Civil Appeals held the owner of previously dry submerged land retains title to his land when filling returns the land to its dry state. The court said it was immaterial whether this change resulted from natural or artificial causes.[140]

131. 181 S.W. 224 (Tex. Civ. App.—San Antonio 1915, writ ref'd).
132. 258 S.W.2d 851 (Tex. Civ. App.—Dallas 1953, writ ref'd n.r.e.).
133. *Id.* at 858, *quoting* Ray v. State, 153 S.W.2d 660, 662-63 (Tex. Civ. App.—Austin 1941, writ ref'd w.o.m.).
134. 142 Tex. 51, 175 S.W.2d 410 (1943). Refer to text at note 34 *supra.*
135. Lorino v. Crawford Packing Co., 169 S.W.2d 235, 237 (Tex. Civ. App.—Galveston), *aff'd*, 142 Tex. 51, 175 S.W.2d 410 (1943).
136. 175 S.W.2d at 413.
137. 23 Tex. 349 (1859).
138. *Id.* at 406, *quoting* the original land grant of Galveston Island.
139. 66 S.W.2d 347 (Tex. Civ. App.—Galveston 1931, writ dism'd). Refer to text at note 78 *supra.*
140. 66 S.W.2d at 349.

2. *Texas Sta*
primarily is of a lo
the constitutional
discussed previousl
to the city of Co
allowing the city t
city later conveyed
Apparently one of
various tracts of
grantees would fill
use the property a
City of Corpus Chr
to Corpus Christi,
declared there wou
assignees of the cit
act permits the city
lands previously gra
on public or privat
structures, and prov
is reserved to the p

141. Refer to note
142. Tex. Laws 19
The city of Co
ity to locate, constr
such sea walls or br
of Corpus Christi Ba
the sea walls or br
permit from the Fe
construction and filli
Corpus Christi to be
however, that the ci
Corpus Christi Bay
may be necessary fo
waters and the main
not place or permit
civic purposes . . . .
Id. (emphasis added).
143. Tex. Att'y G
privately owned Glasscock
144. Tex. Laws 194
145. Tex. Rev. Civ.
of Corpus Christi to lease
The City of Cor
authority to lease tho
and heretofore relinqu
to any person, firm o
cent to the described
vate use thereof, upo
the City of Corpus Ch
fifty (50) years.
Id. § 1. The act also allow
little limitation:
The rights and a

e involving the common
pplies to a riparian, not
rms that plaintiffs had
the San Antonio River,
ned a jury finding that
refused to allow com-
In *Cox v. Dallas Levee*
e retained ownership of
vas artificially filled in.
he State did not change

is *Lorino v. Crawford*
ors in title built a pier
s Bay under a permit
tershells that had been
ed with sand deposited
o that it gradually rose
t of civil appeals held
o land from the bottom
med, holding that the
s no presumption that

indicates the original
of landfills. The court
ower to fill up portions
ry for public purposes.
he city whatever rights
harf privileges, held by
the Galveston Court of
ubmerged land retains
ts dry state. The court
ulted from natural or

writ ref'd).
t ref'd n.r.e.).
, 662-63 (Tex. Civ. App.—

at note 34 *supra*.
35, 237 (Tex. Civ. App.—

ston Island.
-1, writ dism'd). Refer to

2. *Texas Statutory Law*—Texas statutory law concerning landfill primarily is of a local or special nature such as the statutes that implement the constitutional provisions relative to seawall protection of coastal cities discussed previously under *Erosion*.[141] A 1919 act granting submerged land to the city of Corpus Christi effectuates this constitutional mandate by allowing the city to fill in the submerged land for public purposes.[142] The city later conveyed portions of this submerged land to private individuals. Apparently one of the reasons for the conveyance was to quiet title to various tracts of submerged land. The conveying deed stipulated the grantees would fill the area to city grade level at their own expense and use the property according to the "Bay Front Improvement Plan of the City of Corpus Christi."[143] A later act, granting additional submerged land to Corpus Christi, ratified all such prior conveyances by the city and declared there would be no limitation on the use of such land by the assignees of the city and their heirs, successors, or assigns.[144] Yet another act permits the city of Corpus Christi to lease certain of these submerged lands previously granted it, upon terms the city chooses, without restrictions on public or private use except as to the building and maintaining of structures, and provided the right to use the water embraced by the lease is reserved to the public.[145]

---

141. Refer to notes 61-64 and accompanying text *supra*.

142. Tex. Laws 1919, ch. 68, § 2, at 113. The act provides

> The city of Corpus Christi is hereby granted the right, power and authority to locate, construct, own and maintain within said territory hereby granted such sea walls or break waters as may be necessary or desirable into the waters of Corpus Christi Bay, and to *fill* in the space between the said main land and the sea walls or break waters of Corpus Christi Bay, having first secured a permit from the Federal Government therefor and all area formed by such construction and filling in is hereby declared to be the property of the City of Corpus Christi to be used by said city for public purposes only, . . . provided, however, that the city of Corpus Christi shall not have the right to take from Corpus Christi Bay any sand, dredge spoil or other material except such as may be necessary for the purpose of filling in between said sea walls or break waters and the main land, and provided that the City of Corpus Christi shall not place or permit the placing of any building other than for ornamental or civic purposes . . . .

Id. (emphasis added).

143. Tex. Att'y Gen. Op. No. C-52, at 241 (1963). This opinion discusses the privately owned Glasscock Fill Area on which a large hotel now stands.

144. Tex. Laws 1941, ch. 40, at 57.

145. Tex. Rev. Civ. Stat. Ann. art. 5421j-2 (1962). The act authorizes the city of Corpus Christi to lease submerged lands previously granted by the State to the city:

> The City of Corpus Christi is hereby authorized and given the power and authority to lease those certain submerged lands described in Section 4 herein and heretofore relinquished by the State of Texas to the City of Corpus Christi, to any person, firm or corporation, owning lands, land fill or shore area adjacent to the described submerged lands, without restriction as to public or private use thereof, upon whatever terms and conditions the governing body of the City of Corpus Christi deems proper, for any period or term not to exceed fifty (50) years.

Id. § 1. The act also allows the city to impose lease restrictions in its own interest with little limitation:

> The rights and appurtenances vesting in Lessee of the City of Corpus

Another statutory provision for landfill of a specialized nature is found in the act authorizing the acquisition by any navigation district of land covered by waters of the bays or arms of the sea for one dollar per acre. This right of acquisition includes the right to dredge out or to fill in and reclaim such land.[146] A navigation district, once it acquires such land, subsequently can declare it to be surplus land and either sell or lease it with few further restrictions.[147] The attorney general of Texas has stated that although there is no express prohibition against sale to a navigation district of lands outside its boundaries, such land should be covered by arms of the sea adjacent to the district.[148]

C. *Reclamation of Marshland*

The Texas constitution declares that conservation of all natural resources, including "reclamation and drainage of its overflowed lands, and other lands needing drainage," is a public right and duty.[149] The legislature, to effectuate this policy statement, provided for the Water Development Board to reclaim "all overflowed land, swampland, and other land in the state which is not suitable for agricultural use because of temporary or permanent excessive accumulation of water on or contiguous to the land."[150]

Christi in and to those submerged lands shall be limited only by such limitations as might be imposed in the lease which the City of Corpus Christi deemed proper and in the best interest of the City of Corpus Christi; provided that any lease shall contain a provision prohibiting the Lessee, or assigns thereof, from erecting or maintaining thereon any structure or structures, such as buildings, with the exceptions of yacht basins, boat slips, piers, dry-docks, breakwaters, jetties or the like; and provided further that the right to use the waters embraced by the lease shall be reserved to the public, though the boat slips, piers, dry-docks, and the like may be limited to the private use of the Lessee.

Id. § 2..

146. TEX. WATER CODE ANN. § 61.116 (1971).

147. *Id.* § 60.038.

148. TEX. ATT'Y GEN. OP. No. WW-914, at 2 (1960), *interpreting* TEX. REV. CIV. STAT. ANN. arts. 8198, 8225 (1954) (now TEX. WATER CODE ANN. §§ 61.022, 61.115-.117 (1971)).

149. The Texas Constitution sets forth the following State policy:

The conservation and development of all of the natural resources of this State, including the control, storing, preservation and distribution of its storm and flood waters, the waters of its rivers and streams, for irrigation, power and all other useful purposes, the reclamation and irrigation of its arid, semi-arid and other lands needing irrigation, the reclamation and drainage of its overflowed lands, and other lands needing drainage, the conservation and development of its forests, water and hydro-electric power, the navigation of its inland and coastal waters, and the preservation and conservation of all such natural resources of the State are each and all hereby declared public rights and duties; and the Legislature shall pass all such laws as may be appropriate thereto.

TEX. CONST. art. XVI, § 59(a).

150. This enactment states

The chief purpose of this subchapter is to provide for planning and marking out upon the ground all improvements necessary to reclaim for agricultural use all overflowed land, swampland, and other land in this state that is not suitable for agricultural use because of temporary or permanent excessive accumulation of water on or contiguous to the land.

TEX. WATER CODE ANN. § 11.451 (1971).

Presumably this i
struction. Such pu
The Supreme Cou
noted that this ac
from "the destruct

Reduction of
in the marsh areas
birds. The Galvest
is not a watercours
of a watercourse c
of water to a marsl
of fresh water fro
the marsh to a bay
fendant could erec
on his property and

The Environm
of Engineers recent
Houston Lighting
ponds in a marsh a
pany erected variou
contending these v
no permit, sued for
structures, including
this bayou and adja
that the power comp
is illegal. The court
ing there would be r
left before trial on
deciding finally the
low-lying wetlands.[15

Duck hunters ha
much privately-owne
their land for agricu
sider giving the Par
or prohibit any type

---

151. Rutledge v. St

152. Wilborn v. Te
ref'd).

153. A permit is re
construct any obstruction i
EPA also has charge
mitted to the Corps for w
mental damage to a rupp
hiding place for shrimp a
col. 1. *See also* Houston Po

154. United States
(S.D. Tex., July 5, 1972).

a specialized nature is
y navigation district of
e sea for one dollar per
o dredge out or to fill
once it acquires such
land and either sell or
rney general of Texas
bition against sale to a
, such land should be
48

rvation of all natural
s overflowed lands, and
duty.[149] The legislature,
ne Water Development
and other land in the
ecause of temporary or
ntiguous to the land."[150]

d only by such limita-
Corpus Christi deemed
Christi; provided that
see, or assigns thereof,
or structures, such as
slips, piers, dry-docks,
at the right to use the
ublic, though the boat
the private use of the

60), *interpreting* TEX. REV.
ER CODE ANN. §§ 61.022,

te policy:
tural resources of this
istribution of its storm
, for irrigation, power
ation of its arid, semi-
n and drainage of its
the conservation and
wer, the navigation of
d conservation of all
ereby declared public
such laws as may be

ide for planning and
y to reclaim for agri-
land in this state that
or permanent excessive

Presumably this includes reclamation by landfill, draining, and levee construction. Such public plans are executed by levee improvement districts. The Supreme Court of Texas, construing the predecessor of this statute, noted that this act has a very practical objective—the reclamation of land from "the destructive effects of too much water."[151]

Reduction of freshwater flow to salt marshes affects the salinity level in the marsh areas that are vital to survival of various species of fish and birds. The Galveston Court of Civil Appeals in 1913 held that a marsh is not a watercourse, and so the common law rules applicable to obstruction of a watercourse cannot be invoked against one interfering with the flow of water to a marsh.[152] In this case an artificial dirt dam trapped the flow of fresh water from surrounding lowlands so it would not flow through the marsh to a bayou that emptied into Trinity Bay. The court held defendant could erect and maintain this dam to preserve the fresh water on his property and prevent an inflow of salt water during high tides.

The Environmental Protection Agency (EPA) and the Army Corps of Engineers recently filed suit in federal district court in Texas to enjoin Houston Lighting & Power Co. from building and operating cooling ponds in a marsh area that EPA contends is navigable water. The company erected various dikes to create a cooling pond, and the Government, contending these were constructed illegally because the company had no permit, sued for a permanent injunction and an order to remove the structures, including the cooling pond.[153] The court must determine that this bayou and adjacent marshlands are navigable before it can declare that the power company's failure to get a Corps permit to dam the water is illegal. The court refused to grant a preliminary injunction after deciding there would be minimal damage to the ecology during the four months left before trial on the merits. The court specifically noted it was not deciding finally the question of navigability of the bayous, marshlands, and low-lying wetlands.[154]

Duck hunters have dammed much marshland to trap fresh water, and much privately-owned marshland is destroyed by owners who develop their land for agricultural or resort purposes. The legislature should consider giving the Parks and Wildlife Department jurisdiction to approve or prohibit any type of destruction of private salt marshes in conjunction

151. Rutledge v. State, 117 Tex. 342, 7 S.W.2d 1071, 1074 (1928).
152. Wilborn v. Terry, 161 S.W. 33, 34-35 (Tex. Civ. App.—Galveston 1913, writ ref'd).
153. A permit is required by the Rivers and Harbors Act of 1899 in order to construct any obstruction in navigable waters. 33 U.S.C. § 403 (1970).
EPA also has charged that the power company did not follow dredging plans submitted to the Corps for work on the Cedar Bayou power plant and is causing environmental damage to a ruppia bed. Ruppia is a marsh grass which serves as food and a hiding place for shrimp and other marine life. Houston Post, Nov. 5, 1971, § A, at 3, col. 1. *See also* Houston Post, Mar. 29, 1972, § A, at 1, col. 2.
154. United States v. Houston Lighting & Power Co., Civil No. 72-G-12, at 6 (S.D. Tex., July 5, 1972).

with its mandate to protect the state's aquatic life.[155]

D. *Dredging*

Historical factors doubtlessly have caused the discrepancy between the extensive regulation of dredging and the meager regulation of landfill activities. This discrepancy probably is the result of the State's recognizable pecuniary and proprietary interest in the land and materials affected by dredging activities. Now, however, environmental concerns are paramount. In 1957, the attorney general of Texas declared that the primary concern of the State in the regulation of dredging activities is the protection of marine life and breeding grounds; commercial sales are only incidental to this interest.[156] (The Parks and Wildlife Department also must consider whether navigation will be impaired by dredging activities.)[157] Various statutes regulate dredging, and many of these statutes have been interpreted in advisory opinions by the attorney general of Texas.[158]

The Parks and Wildlife Department has all the power and authority necessary to enforce the chapter on marl, sand, and shell, including full discretion over its sale, disturbance, and taking.[159] The attorney general has interpreted the wording of this statute to mean the department is charged with issuing permits to allow noncommercial dredging as well as commercial dredging since the department must protect aquatic life and its breeding grounds.[160] Before anyone can commence dredging operations, he must secure a permit from the department. Such permits authorize dredging and removal operations, provided the holder complies with requirements of the department. If the holder does not comply with the

---

155. Drainage questions generally are related to flooding problems. Policy arguments about public good, however, also relate to preservation of wildlife habitats in the coastal zone.

> The fact that one may have to drain land in order to develop it, certainly does not mean that he should be able to force his neighbor to pay for it. Nor does it mean that the public should pay for it, particularly if the use to which he will put the land has no great public benefit. While in the early days of the development of this country, a presumption in favor of drainage may have been proper, the policy today probably should favor retention of as many natural areas as possible. This policy consideration rejects the common enemy rule and most supports the natural flow rule.

5 WATERS AND WATER RIGHTS § 457.3 (R. Clark ed. 1972); *see* Houston Chronicle, June 7, 1972, § 4, at 8, col. 6. Maryland has faced the problems of wetlands destruction and passed a protective statute. MD. ANN. CODE art. 66C, §§ 718-30 (1970). For a discussion of this Act refer to Comment, *Maryland's Wetlands: The Legal Quagmire*, 30 MD. L. REV. 240 (1970).

156. TEX. ATT'Y GEN. OP. No. WW-151, at 3 (1957).

157. TEX. REV. CIV. STAT. ANN. art. 4053, § 1 (1966).

158. For a discussion of the function of and the weight to be accorded advisory opinions of the Texas attorney general refer to Dickson, *Vital Crucible of the Law: Politics and Procedures of the Advisory Opinion Function of the Texas Attorney General*, 9 HOUS. L. REV. 495 (1972).

159. TEX. REV. CIV. STAT. ANN. art. 4052 (1966).

160. TEX. ATT'Y GEN. OP. No. WW-151 (1957).

terms and conditions of the permit, it terminates immediately.[161] In issuing a permit, the department must consider not only the possibility of injury to aquatic life, but also the value of commercial activities dependent upon the permit.[162]

All marl and sand of commercial value and all shell, mudshell, and gravel in or upon State-owned reefs, bars, islands, and bays are subject to the protection and management of the Parks and Wildlife Commission.[163] Article 4048 of the Texas Revised Civil Statutes requires all citizens, firms, and corporations to register any dredging equipment that will be used to dredge "public" oyster reefs and sets an annual licensing requirement for such registration.[164] Texas has established a statutory scheme for the sale of sand, gravel, shell, and marl that allows the commission to set the terms and conditions of the sale, provided the price is not less than four cents per ton.[165] The commission cannot issue exclusive permits for sale and dredging of any particular submerged land area.[166]

Article 4053 of the Texas Revised Civil Statutes requires the Parks and Wildlife Department to ascertain whether dredging activities will injure oysters, oyster beds, or fish.[167] The attorney general in 1957 held that, with regard to lands beneath the waters of Galveston Bay, the department was responsible for issuing permits to dredge the "*unpatented* lands underlying public waters of this State regardless of the purpose."[168] In 1969, however, the attorney general read the statute more carefully, discovering that there are two classes of submerged land and that different rules apply to each.[169] A permit is required for dredging in private lands

161. TEX. REV. CIV. STAT. ANN. art. 4053, § 1 (1966). Determination of whether shell removal is wrongful even under a federal permit is a question of state law. Chambers-Liberty County Navigation Dist. v. Parker Bros., 263 F. Supp. 602, 607 (S.D. Tex. 1967).

162. TEX. REV. CIV. STAT. ANN. art. 4053, § 2 (1966).

163. *Id.* art. 4051.

> All the islands, reefs, bars, lakes, and bays within the tidewater limits from the most interior point seaward coextensive with the jurisdiction of this State, and such of the fresh water islands, lakes, rivers, creeks and bayous within the interior of this State as may not be embraced in any survey of private land, together with all the marl and sand of commercial value, and all the shells, mudshell or gravel of whatsoever kind that may be in or upon any island, reef or bar, and in or upon the bottoms of any lake, bay, shallow water, rivers, creeks and bayous and fish hatcheries and oyster beds within the jurisdiction and territory herein defined, are included within the provisions of this chapter, and are hereby placed under the management, control, and protection of the Commissioner. None of the marl, gravel, shells, mudshells or sand included herein shall be purchased, taken away, or disturbed, except as provided herein, nor shall any oyster beds or fish hatcheries within the territory included herein be disturbed except as herein provided.

Id.

164. *Id.* art. 4048.

165. *Id.* art. 4053d.

166. *Id.* art. 4053, § 1; *see* Columbia-Southern Chem. Corp. v. Corpus Christi Shell Co., 297 S.W.2d 191, 193 (Tex. Civ. App.—San Antonio 1956, writ ref'd n.r.e.). *See also* TEX. ATT'Y GEN. OP. Nos. 0-2209, 0-2209-A (1940).

167. TEX. REV. CIV. STAT. ANN. art. 4053, § 4 (1966).

168. TEX. ATT'Y GEN. OP. No. WW-151, at 3 (1957) (emphasis added).

169. *See* TEX. ATT'Y GEN. OP. No. M-465 (1969).

below tidewater limits, but no permit is necessary where the land is under fresh water.[170] The Parks and Wildlife Department currently regulates dredging in public waters above private lands.[171]

The department at one time issued permits to allow various companies to dredge commercial shell from Corpus Christi and Nueces Bays, including portions that had been patented to the Nueces County Navigation District. The district refused to allow this dredging. The attorney general held the right of the district in this land was a mere easement, and it could not refuse entry to commercial shell dredgers working under a State permit.[172] The San Antonio Court of Civil Appeals, however, held that channel and dock companies received title in fee to the submerged land they purchased from the State.[173] Since the purposes of the legislation authorizing the sale of State-owned submerged lands to channel and dock companies and navigation districts are similar,[174] it is reasonable to assume the courts would reach the same result for navigation districts. Thus, the State could not lease sand and gravel interests in such lands to other parties.

Navigation districts dredge both to improve navigation and for reasons only incidental to navigation needs. None of these dredging activities are subject to regulation by either the General Land Office or the Parks and Wildlife Department. The Texas Water Code permits any navigation district to purchase submerged land from the General Land Office and allows the district to "dredge or fill in and reclaim the land or improve it in other ways."[175] The attorney general has ruled, based on his interpretation of the Texas Penal Code, that a navigation district is authorized to dredge and carry away materials without a permit when such work is necessary or incident to navigation.[176] It should be noted, however, that the language of this part of the Penal Code does not authorize dredging without a permit; it merely exempts the districts from a penalty

170. *Id.* at 5.
171. Interview with Howard Lee, Division Head, Environmental Division, Parks and Wildlife Department, in Austin, Texas, May 3, 1972.
172. TEX. ATT'Y GEN. OP. No. WW-150 (1957).
173. State v. Aransas Dock & Channel Co., 365 S.W.2d 220, 222-23 (Tex. Civ. App.—San Antonio 1963, writ ref'd). *But see* TEX. REV. CIV. STAT. ANN. art. 5414a, § 1 (1962). This statute confirmed State patents over ten years old, but reserved the State's rights to sand and gravel.
174. *See* State v. Aransas Dock & Channel Co., 365 S.W.2d 220, 222 (Tex. Civ. App.—San Antonio 1963, writ ref'd) (channel and dock companies); TEX. WATER CODE ANN. § 61.116 (1971) (navigation districts).
175. TEX. WATER CODE ANN. § 61.116 (1971).
176. TEX. ATT'Y GEN. OP. No. WW-150, at 5-6 (1957).

for working with
navigation district
have on fish and
to consider and
result from their
Two statutes
fees for extracting
subdivisions of co
municipal roadwo
unit can claim a re
This exemption als
other cities, counti
without charge for
waters, or other str
erosion. However, t
established by the
from dredging activ
Dredging by le
of oil and gas explo
the Parks and Wildl
to the primary purp
dredging incidental
siderations. The leg
General Land Offic

177. TEX. PENAL C
Whoever shall,
shell or gravel . . .
navigation or dredgi
obtained a written p
such operation is ca
two hundred dollars.
Id.
178. For a discussio
toxic materials from propo
ship channel refer to Corp
179. TEX. REV. CIV.
the benefits of this act tho
to use marl, gravel, shell,
legislature also provided fo
other deposits of no comm
lands north of the city. *Id.*
180. *Id.* art. 4054. T
The Game, Fish
hand in its Sand, She
chased by Brazoria Co
TEX. ATT'Y GEN. OP. No. 0-
181. TEX. REV. CIV. S
182. *Id.* art. 4054a.
183. *Id.* art. 4053, § 5

for working without a permit.[177] In view of the extensive dredging work navigation districts do and the wide-reaching effects such dredging can have on fish and other marine life, some State agency should be authorized to consider and approve the possible environmental damage that could result from their activities.[178]

Two statutes exempt certain governmental units from payment of fees for extracting shell, sand, and gravel. Cities, counties, and political subdivisions of counties need not pay for materials dredged for use in municipal roadwork if they do the work themselves.[179] The governing unit can claim a reimbursement where the work is done under contract.[180] This exemption also applies to the State Highway Department.[181] Certain other cities, counties, and political subdivisions of counties can dredge without charge for materials to build, maintain, or improve seawalls, breakwaters, or other structures designed to prevent or minimize flooding and erosion. However, these groups must comply with all rules and regulations established by the Parks and Wildlife Department to protect aquatic life from dredging activities.[182]

Dredging by lessees of State-owned submerged land for the purpose of oil and gas exploration and development is exempt from regulation by the Parks and Wildlife Department, even when the dredging is incidental to the primary purpose of the lease.[183] This does not mean, however, that dredging incidental to this purpose is exempt from environmental considerations. The legislature has provided for the Commissioner of the General Land Office, with the approval of the Texas attorney general,

---

177. TEX. PENAL CODE ANN. art. 976 (1961). This article provides

> Whoever shall, . . . take or carry away any marl, sand or shells or mudshell or gravel . . . for any purpose other than that necessary or incident to navigation or dredging under State or Federal authority, without having first obtained a written permit from said Commissioner for the territory in which such operation is carried on, shall be fined not less than ten nor more than two hundred dollars.

Id.

178. For a discussion of the problem of disposal of dredge spoil polluted with toxic materials from proposed dredging activities to deepen part of the Corpus Christi ship channel refer to Corpus Christi Caller-Times, Apr. 8, 1972, § A, at 1, col. 1.

179. TEX. REV. CIV. STAT. ANN. art. 4054 (1966). The legislature exempted from the benefits of this act those persons, firms, and corporations under contract at that time to use marl, gravel, shell, or mudshell as provided by the statute. *Id.* art. 4054a. The legislature also provided for the city of Corpus Christi to take without charge sand and other deposits of no commercial value to fill and raise the grade of salt flats and lowlands north of the city. *Id.* art. 4054b.

180. *Id.* art. 4054. The attorney general has stated

> The Game, Fish and Oyster Commission may, if there is a surplus on hand in its Sand, Shell, and Gravel Fund, refund the tax on mud shell purchased by Brazoria County.

TEX. ATT'Y GEN. OP. No. 0-2551 (1940).

181. TEX. REV. CIV. STAT. ANN. arts. 4053d, 4054 (1966).

182. *Id.* art. 4054a.

183. *Id.* art. 4053, § 5.

to regulate disturbances incidental to such purpose.[184] Land Commissioner Bob Armstrong, in December of 1971, promulgated new regulations that are quite comprehensive.[185] At one time there was fierce competition between the Parks and Wildlife Department and the Land Commissioner as to who would regulate such activities. Now, however, these departments are under different leadership, and they are cooperating wherever possible.[186] There is no clear case law or statutory authority about the regulation of industrial and commercial use of land leased from the State,[187] but presumably regulation of any dredging and fill activities incidental to such development can be achieved by careful drafting of lease provisions by the Land Commissioner and his legal counsel.

There have been several attempts to sue the commissioners of the Parks and Wildlife Commission to enjoin their permitting dredging activities in certain areas. These suits have all failed, however, because the courts, both State and federal, have viewed such suits as suits against the State, which are not permitted except by consent of the State.

In 1965 several associations of commercial oystermen and commercial and sport fishermen sought to enjoin the commission from granting certain dredging permits, contending the permits would injure and destroy shell reefs from which they harvested oysters.[188] The Austin Court of Civil Appeals affirmed the trial court's dismissal, finding plaintiffs had no litigable interest. The court further found the commissioners were exercising discretion granted them by statute, and plaintiffs' pleas could not override such discretion. Finally, the court found that the State had not waived

184. *Id.* art. 5366. Although the Parks and Wildlife Department cannot regulate a lessee's disturbance of sand and gravel incidental to the purpose of the lease, the department can issue permits for sale and removal of gravel, sand, marl, shell, and mud-shell from submerged lands under lease where such sale would not interfere with oil and gas development. TEX. ATT'Y GEN. OP. No. C-90 (1963).

185. Tex. Comm'r of the General Land Office, Rules and Regulations Governing Drilling and Producing Operations in Coastal Waters (1971). The rules, for example, provide for the prevention of pollution and the compensation for damages caused by pollution:

> All wells shall be drilled, reworked, cleaned, tested and produced in a manner to prevent pollution and in the event of pollution, lessee shall use all reasonable means to recapture all hydrocarbons or other pollutants which have escaped and shall be responsible for all damage to public and private property.

Id. rule D.

186. *See id.* rule C. This rule provides for these departments to have access to drilling sites:

> The Commissioner of the General Land Office of the State of Texas, the Parks and Wildlife Department, Water Quality Board, and the Railroad Commission of Texas, and their representatives, shall at all times have access to the premises upon which wells are being drilled or produced for oil or gas . . . .

Id.

187. For the only mention of such development refer to TEX. ATT'Y GEN. OP. No. M-84, at 6 (1967).

188. Texas Oyster Growers Ass'n v. Odom, 385 S.W.2d 899, 901 (Tex. Civ. App.—Austin 1965, writ ref'd n.r.e.). The Parks and Wildlife Department can deny permits, but must set forth its factual basis for doing so. TEX. REV. CIV. STAT. ANN. art. 4053, § 3 (1966). *See* TEX. ATT'Y GEN. OP. No. WW-1487 (1962).

its sovereign immu

In 1970, the N
activities in various
The society brough
chairman of the Pa
dredging would dis
various wild, and
court dismissed the
court also found th
discretion to the e
capacities, the State
consent to be sued.
an action to be tried
their administrative
nature of such admin

By a recent act
on public beaches a
This act applies to all
bordering the Gulf o
city or town.[193] The
to the commissioners
Before issuing a perm
posed excavation wo
beach to storm wate
and revocation of all
with these terms and
or district attorney, c
excavates in violation
violation.

The federal gov
increased care in moni
immediately adjacent
evidenced primarily b

189. 385 S.W.2d at 9

190. National Audub
1970).

191. *See also* W.D. H
In *Dodgen* the court held t
a permit was a suit against
308 S.W.2d at 842.

192. TEX. REV. CIV. S

193. The act is not a
sand, marl, gravel, or shell
landowner who relocates sa
(3) any agency of the feder
subdivision. *Id.* § 7.

194. The act provide
any citizen. *Id.* § 10.

[184] Land Commissioner
d new regulations that
fierce competition be-
Land Commissioner as
ver, these departments
erating wherever pos-
ority about the regula-
ased from the State,[187]
fill activities incidental
fting of lease provisions

commissioners of the
nitting dredging activi-
ver, because the courts,
suits against the State,
State.
termen and commercial
n from granting certain
njure and destroy shell
Austin Court of Civil
g plaintiffs had no liti-
ssioners were exercising
leas could not override
State had not waived

Department cannot regulate
urpose of the lease, the de-
sand, marl, shell, and mud-
would not interfere with oil

and Regulations Governing
1). The rules, for example,
ion for damages caused by

ed and produced in a
lution, lessee shall use
other pollutants which
to public and private

partments to have access to

of the State of Texas,
oard, and the Railroad
t all times have access
or produced for oil or

r to TEX. ATT'Y GEN. OP.

1 899, 901 (Tex. Civ. App.—
partment can deny permits,
CIV. STAT. ANN. art. 4053,

its sovereign immunity.[189]

In 1970, the National Audubon Society attempted to halt dredging activities in various bays near wildlife refuges on the central Texas coast.[190] The society brought suit against Pearce Johnson, who at that time was chairman of the Parks and Wildlife Commission. Plaintiffs claimed such dredging would disturb silt and sedimentary particles, destroying food of various wild, and nearly extinct, species of birds. The federal district court dismissed the action because plaintiffs had no standing to sue. The court also found that, because the commissioners had not abused their discretion to the extent that they could be sued in their individual capacities, the State was a necessary party. The State had not given its consent to be sued. Furthermore, the court felt this more properly was an action to be tried in a State court. Finally, plaintiffs had not exhausted their administrative remedies, although the court did not define the exact nature of such administrative remedies.[191]

By a recent act of the legislature, Texas regulates excavation activities on public beaches and any land within 1,500 feet of public beaches.[192] This act applies to all nonremote beaches located on an island or peninsula bordering the Gulf of Mexico, outside the boundaries of an incorporated city or town.[193] The applicant must pay a fifty-dollar filing fee and apply to the commissioners court of the county in which he wishes to excavate. Before issuing a permit, the commissioners court must find that the proposed excavation would not create hazardous conditions nor expose the beach to storm waters.[194] The act provides for immediate termination and revocation of all rights under the permit if the holder fails to comply with these terms and conditions. The attorney general, and any county or district attorney, can enforce the act by injunctive actions. One who excavates in violation of the act can be fined up to $200 for each day of violation.

The federal government, through various agencies, now exercises increased care in monitoring damage to estuaries, marshlands, and upland immediately adjacent to the water. This increased federal awareness is evidenced primarily by two recent legislative enactments—the Fish and

189. 385 S.W.2d at 900.

190. National Audubon Soc'y, Inc. v. Johnson, 317 F. Supp. 1330 (S.D. Tex. 1970).

191. *See also* W.D. Haden Co. v. Dodgen, 158 Tex. 74, 308 S.W.2d 838 (1958). In *Dodgen* the court held that a suit for declaratory judgment to establish rights under a permit was a suit against the State and could not be maintained without its consent. 308 S.W.2d at 842.

192. TEX. REV. CIV. STAT. ANN. art. 5415g (Supp. 1971).

193. The act is not applicable to the following: (1) any excavation or removal of sand, marl, gravel, or shell for construction purposes on the same property; (2) any landowner who relocates sand, marl, gravel, or shell to land wholly owned by him; and (3) any agency of the federal or State government or any county, city, or other political subdivision. *Id.* § 7.

194. The act provides for public notice and public hearings at the request of any citizen. *Id.* § 10.

Wildlife Coordination Act as amended in 1964[195] and the National Environmental Policy Act of 1969 (NEPA).[196]

The Fish and Wildlife Coordination Act states that when waters of a stream or other body of water are to be changed, controlled, or modified for any purpose, including navigation or drainage, either by the federal government or by any state or private agency under federal permit, the one proposing the alteration first must consult with the Fish and Wildlife Service of the Department of the Interior, as well as with the state agency administering wildlife resources of the state for which the project is planned. Reports of the Secretary of the Interior as to the effects of such projects on wildlife must be included in any engineering and construction reports made to Congress or to any authorized federal agency.[197]

NEPA is a sweeping statement replete with good intentions. It declares a national policy to encourage "productive and enjoyable harmony" between man and his environment.[198] The Act directs all administrative agencies to work together in decisions that might have an impact on the environment. It provides an escape hatch, however, for the agencies by directing cooperation to the "fullest extent possible."[199] Of particular importance is the provision that requires an environmental impact statement for those "major Federal actions significantly affecting the quality of the human environment."[200] This provision is something concrete with which the courts can monitor agency consideration of environmental factors in planning and decisionmaking.

---

195. 16 U.S.C. §§ 661-68ee (1970).
196. 42 U.S.C. §§ 4321-47 (1970).
197. 16 U.S.C. § 662(b) (1970).
198. The act declares

> The purposes of this chapter are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality.

42 U.S.C. § 4321 (1970).
199. NEPA provides

> The Congress authorizes and directs that, to the *fullest extent possible:* (1) the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in this Chapter, and (2) all agencies of the Federal Government shall—
>
> (A) utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decisionmaking which may have an impact on man's environment . . . .

Id. § 4332 (1970) (emphasis added).
200. *Id.* § 4332(C). This provision declares that all agencies of the federal government shall

> include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on—
>
> (i) the environmental impact of the proposed action,
>
> (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
>
> (iii) alternatives to the proposed action,

Federal court
1970 Fifth Circuit
indication that NEI
sued to compel the
§ 403 of the Rivers
in navigable waters
as local officials and
have a distinctly ha
Ciega Bay." The A
the permit because
held that the Fish a
deny the permit.[203]
Rivers and Harbors
permit, still places t
navigation before gr
power under the co
as done under the F
the contention that t
late for conservation
hind NEPA, which
suit, was the same l
the Fish and Wildlife

In a later case t
New York, upon petit
nary injunction again
in a tidal marshland.
of the Rivers and Ha
this marshland was lo
The court based its fi
ebb and flow equal to

(iv) the relati
ment and the mainten
(v) any irreve
would be involved in

Prior to making
shall consult with an
jurisdiction by law
impact involved.

Id.
201. 430 F.2d 199 (
202. 33 U.S.C. § 403
203. Zabel v. Tabb,
199 (5th Cir. 1970), *cert.*
204. 43 U.S.C. §§ 13
205. 430 F.2d at 205
206. United States v.

The New York Conser
without a permit, was up
without compensation. State
63 (Ct. App. 1972), *constru*

d the National Environ-

that when waters of a
controlled, or modified
, either by the federal
der federal permit, the
the Fish and Wildlife
s with the state agency
h the project is planned.
ects of such projects on
nstruction reports made

d intentions. It declares
able harmony" between
ministrative agencies to
ct on the environment.
es by directing coopera-
importance is the pro-
ement for those "major
of the human environ-
which the courts can
ctors in planning and

national policy which
een man and his envi-
minate damage to the
nd welfare of man; to
atural resources impor-
mental Quality.

fullest extent possible:
United States shall be
olicies set forth in this
shall—
which will insure the
e environmental design
e an impact on man's

gencies of the federal gov-

roposals for legislation
g the quality of the
ble official on—
n,
not be avoided should

Federal court rulings have given teeth to NEPA. *Zabel v. Tabb*,[201] a 1970 Fifth Circuit opinion authored by Chief Judge Brown, was the first indication that NEPA would be welcomed by the courts. Zabel, a developer, sued to compel the Secretary of the Army to issue a permit, required by § 403 of the Rivers and Harbors Act of 1899,[202] to dredge and fill an area in navigable waters. The United States Fish and Wildlife Service, as well as local officials and citizens, opposed the proposed work because "it would have a distinctly harmful effect on the fish and wildlife resources of Boca Ciega Bay." The Army Corps of Engineers, after public hearings, denied the permit because it "would not be in the public interest." The trial court held that the Fish and Wildlife Coordination Act was no basis on which to deny the permit.[203] The Fifth Circuit reversed, holding that § 403 of the Rivers and Harbors Act, which does not establish criteria for denying a permit, still places the Corps under a duty to consider factors other than navigation before granting a permit. The court held that Congress has the power under the commerce clause to regulate use of the submerged land as done under the Fish and Wildlife Coordination Act. The court rejected the contention that the Submerged Lands Act[204] restricted the right to regulate for conservation reasons and determined that the legislative intent behind NEPA, which was passed subsequent to the commencement of this suit, was the same legislative intent that had prompted the enactment of the Fish and Wildlife Coordination Act.[205]

In a later case the Federal District Court for the Southern District of New York, upon petition of the Army Corps of Engineers, issued a preliminary injunction against the New York National Guard for landfill activities in a tidal marshland.[206] The court determined jurisdiction lay under § 403 of the Rivers and Harbors Act of 1899 and found as a matter of law that this marshland was located within the navigable waters of the United States. The court based its finding on the fact that the water in this area had an ebb and flow equal to that of an adjoining river conceded to be navigable.

(iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and

(v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

Prior to making any detailed statement, the responsible Federal officials shall consult with and obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved.

Id.

201. 430 F.2d 199 (5th Cir. 1970), *cert. denied*, 401 U.S. 910 (1971).
202. 33 U.S.C. § 403 (1970).
203. Zabel v. Tabb, 296 F. Supp. 764, 771 (M.D. Fla. 1969), *rev'd*, 430 F.2d 199 (5th Cir. 1970), *cert. denied*, 401 U.S. 910 (1971).
204. 43 U.S.C. §§ 1301-43 (1970).
205. 430 F.2d at 205-06.
206. United States v. Baker, 2 E.R.C. 1849, 1851 (S.D.N.Y. 1971).
The New York Conservation Law, prohibiting the placing of fill in navigable waters without a permit, was upheld as not an unconstitutional taking of private property without compensation. State v. Liberman, 30 N.Y.2d 516, 280 N.E.2d 889, 330 N.Y.S.2d 63 (Ct. App. 1972), *construing* N.Y. CONSERV. LAW § 429-b (McKinney 1967).

The court issued the preliminary injunction because it believed the United States would succeed at trial and because of irreparable harm to the public in the interim. The court found that the Rivers and Harbors Act and other recent federal acts (not mentioned by name) protect the ecological values at issue in this case.[207] In addition to the preliminary injunction, the judge ordered defendant to remove the fill already placed in the marsh because the fill could quickly kill the marsh.

E. *Wharves and Piers*

The principal Texas cases concerning wharves and piers built into tidal waters are *Gibson v. Carroll*[208] and *Lorino v. Crawford Packing Co.*,[209] both of which are discussed earlier. Under these decisions, a littoral owner apparently can build piers, but cannot acquire title as against the State to the submerged land or land that accretes to the structure. The Supreme Court of Texas in *Lorino* noted it could find no statute prohibiting the erection of piers and wharves along the coast.[210]

There are several special Texas statutes that allow the construction of wharves and piers. The Congress of the Republic of Texas, in granting the land on which the city of Galveston stands, patented the mud flats to the grantee for building wharves and piers to facilitate commerce and trade.[211] A 1911 act provided that any channel and dock company or municipality chartered thereunder had the right to build all docks, wharves, and slips necessary to develop its property or a deep water port.[212] This act was repealed in 1961, but such companies still operate under its provisions.[213] The *Lorino* court, quoting dictum in an earlier case, noted that enactment of laws that permitted dock companies to build wharves and piers was prompted by a desire to open water passages to the gulf to encourage state

---

207. 2 E.R.C. at 1850.
208. 180 S.W. 630 (Tex. Civ. App.—San Antonio 1915, no writ).
209. 142 Tex. 51, 175 S.W.2d 410 (1943).
210. 175 S.W.2d at 415.
211. 4 H. GAMMEL, LAWS OF TEXAS 1014 (1858); *see* City of Galveston v. Menard, 23 Tex. 349 (1859) (construing the grant). *See also* Galveston City Surf Bathing Co. v. Heidenheimer, 63 Tex. 559 (1885). The *Heidenheimer* case contains the following surprising statement:

> Any citizen of the state has a right to erect a bath house in the surf, so that it is not made a nuisance, or so constructed or used as to materially interfere with the rights of the public to the enjoyment of the waters and the shores of the gulf.

Id. at 563.
212. Tex. Laws 1911, ch. 45, § 4, at 70.
213. *See* State v. Aransas Dock & Channel Co., 365 S.W.2d 220 (Tex. Civ. App.—San Antonio 1963, writ ref'd). For the repealing statute refer to Tex. Laws 1961, ch. 377, § 14, at 841.

commerce.[214]

Another statute
60,000, located on th
poses.[215] This statute
veston v. Mann,[216] i
attorney general to
1,200 feet into the G
issue mandamus, fin
constitute a purpres
waters of the gulf. B
pier, however, the ca

The Texas Railr
regulate wharves an
commission power to
connection with rail
wharves and piers, v
legislature, however,
tion that some regul
lands is necessary. T
lines beyond which r
appropriated for impl

Regulation of pri
right to build piers or
Court of Civil Appea
vested, littoral right,[21
that right rather than
of how far limitation

---

214. 175 S.W.2d 4
92 Tex. 275, 47 S.W. 967,
> [W]e are of the opi
> lation upon this sub
> question the legislat
> opening of waterwa
> the state.

47 S.W. at 970 (dictum).
215. TEX. REV. CIV.
216. 135 Tex. 319,
217. TEX. REV. CIV
ruled that the State Board
lands to be used for erecti
218. TEX. REV. CIV.
219. Gibson v. Car
no writ). *See* INTERIM BE
27 (1970). The Third Cir
ian right that cannot easi
412 F.2d 995, 998 (3d C
wharfing out with piers a
regulation. The court furt
waters adjacent to his lan
Id. The court observed tha
mental regulation could be

commerce.[214]

Another statute permits every city with a population in excess of 60,000, located on the open gulf, to construct one pier for public park purposes.[215] This statute was enacted subsequent to the decision in *City of Galveston v. Mann*,[216] in which the city of Galveston sued to mandamus the attorney general to issue bonds for the construction of a pier extending 1,200 feet into the Gulf of Mexico. The Supreme Court of Texas refused to issue mandamus, finding that a pier of such length and proportions would constitute a purpresture on the State-owned submerged land in the deep waters of the gulf. Because this ruling applied to this particular 1,200 foot pier, however, the case cannot be regarded as prohibiting a lesser pier.

The Texas Railroad Commission has the only formal authorization to regulate wharves and piers. This authorization is statutory and gives the commission power to regulate all public wharves, docks, and piers used in connection with railroads.[217] Texas has no regulatory scheme for private wharves and piers, which are prolific along the gulf and bay shores. The legislature, however, in the Reagan-De la Garza Act[218] expressed its realization that some regulation of encroachments onto State-owned submerged lands is necessary. The Act provides a system for establishing bulkhead lines beyond which no such structures can extend, but no funds have been appropriated for implementing the Act.

Regulation of private wharves and piers raises the issue of whether the right to build piers or to wharf out is a vested property right. A San Antonio Court of Civil Appeals case indicates that the right to build a pier is a vested, littoral right,[219] but the Reagan-De la Garza Act seems only to limit that right rather than to abolish it. The Act raises the question, however, of how far limitation can go before it becomes confiscation of a vested prop-

---

214. 175 S.W.2d 410, 415, *quoting* Crary v. Port Arthur Channel & Dock Co., 92 Tex. 275, 47 S.W. 967, 970 (1898). The *Crary* court stated

> [W]e are of the opinion that the history of the country and that of the legislation upon this subject tends to show that in the enactment of the laws in question the legislature was impelled by an earnest desire to encourage the opening of waterways to the gulf, and thereby to promote the commerce of the state.

47 S.W. at 970 (dictum).

215. TEX. REV. CIV. STAT. ANN. art. 6081g (1970).

216. 135 Tex. 319, 143 S.W.2d 1028 (1940).

217. TEX. REV. CIV. STAT. ANN. art. 6445 (1926). In 1957 the attorney general ruled that the State Board of Control has no authority to sell or lease State-owned tidelands to be used for erecting piers and docks. TEX. ATT'Y GEN. OP. No. WW-60 (1957).

218. TEX. REV. CIV. STAT. ANN. art. 5415e (1962).

219. Gibson v. Carroll, 180 S.W. 630, 632 (Tex. Civ. App.—San Antonio 1915, no writ). *See* INTERIM BEACH STUDY COMMITTEE, FOOTPRINTS ON THE SANDS OF TIME 27 (1970). The Third Circuit has noted that the right of access is a fundamental riparian right that cannot easily be taken away from the littoral owner. Burns v. Forbes, 412 F.2d 995, 998 (3d Cir. 1969). The owner can exercise this common law right by wharfing out with piers and docks over public submerged land subject to governmental regulation. The court further said that "[t]he rights of a littoral owner in the public waters adjacent to his land are thus more extensive than those of the public generally." *Id.* The court observed that it was not answering the question of how restrictive governmental regulation could be on the right to access. *Id.*

erty right. Since nothing has been done under the Act, the extent of permissible regulation has not been clarified. California courts and the Ninth Circuit have ruled that the right to wharf out was not a vested riparian right at common law, and these courts will not award compensation for loss of the right to wharf out to navigable water.[220] Other courts do not follow this rule, but hold that the right to wharf out is a vested riparian right.[221]

The federal government, in promoting commerce by protecting navigation, regulates the building of wharves and piers through the Army Corps of Engineers. The Rivers and Harbors Act of 1899 forbids construction of wharves and piers in navigable waters, outside established harbor lines, without the approval of the Corps.[222] Failure to apply for a permit renders the pier an unlawful obstruction to navigation that is prima facie a nuisance.[223] Furthermore, § 406 of the Act makes violation a misdemeanor.[224] The Corps periodically issues pamphlets describing the procedure necessary to acquire a permit. The applicant must submit maps of the area

220. *E.g.*, Western Pac. Ry. v. Southern Pac. Co., 151 F. 376, 390 (9th Cir. 1907); County of Marin v. Roberts, 4 Cal. App. 3d 480, 84 Cal. Rptr. 425, 429-30 (Dist. Ct. App. 1970).

221. *See, e.g.*, Bloom v. Water Resources Comm'n, 157 Conn. 528, 254 A.2d 884, 887 (1969); O'Brien v. Gale J. Apple, Inc., 253 So. 2d 717, 718 (Fla. Ct. App. 1971); Moyer v. State, 56 Misc. 2d 549, 289 N.Y.S.2d 114, 117 (Ct. Cl. 1968); Town of Hempstead v. Oceanside Small Craft Marina, Inc., 311 N.Y.S.2d 668, 671 (Sup. Ct. 1970).

Construction of piers and wharves affects the flow of the water and sand carried by water. These structures can cause erosion and prevent accretion to littoral lands below them on the coast. In California a littoral owner can sue for abatement of and compensation for injuries to his shoreline caused by a pier constructed by another littoral owner. The damaged party can seek relief even though the pier was erected pursuant to a permit from the State Lands Commission. Katenkamp v. Union Realty Co., 6 Cal. 2d 765, 59 P.2d 473, 476 (1936). A nuisance action, however, is subject to the common enemy doctrine that allows an owner to protect his property from erosion although such protective structures actually might harm his neighbor. *See* Hamilton, *Surf, Sand, Tide and Title*, 35 Los Angeles Bar Bull. 389, 393 (1960); Yorshis, *Appraising Ocean Front Property*, 47 Title News, Nov. 1968 at 8, 9-10.

222. 33 U.S.C. § 403 (1970).

223. William B. Patton Towing Co. v. Spiller, 440 S.W.2d 869, 871 (Tex. Civ. App.—Houston [14th Dist.] 1969, no writ). *See also* Dow Chem. Co. v. Dixie Carriers, Inc., 330 F. Supp. 1304, 1307 (S.D. Tex. 1971).

224. 33 U.S.C. § 406 (1970). The act provides for the establishment of harbor lines as does the Texas Reagan-De la Garza Act, but few have been set. A harbor line presumptively determines the navigable portion of the stream. *See* People *ex rel.* Gratwick v. Comm'rs of the Land Office, 202 App. Div. 240, 196 N.Y.S. 115, 117 (1922). *See also* Reinke, *Federal Permits Affecting Texas Beaches*, in Texas Law Institute of Coastal and Marine Resources Conference on The Beaches: Public Rights and Private Use 58 (1972). Reinke justifies the requirement for permits in waters involving established harbor lines:

> Until recently, it was the practice of the Corps of Engineers to allow riparian owners to erect open pile structures or undertake solid fill construction shoreward of established harbor lines without obtaining a Federal permit. This proved to be a matter of concern, particularly in cases involving long established harbor lines, since early practice was to establish the lines based upon consideration of navigation, and other factors affecting the public interest may [not] have been taken into account. Accordingly, to assure that all elements of the public interest are properly considered, the present regulations require a permit for all work in navigable waters, regardless of the presence or absence of established harbor lines.

Id. at 65.

Act, the extent of per-
ia courts and the Ninth
s not a vested riparian
rd compensation for loss
ıer courts do not follow
ted riparian right.[221]
rce by protecting navi-
iers through the Army
899 forbids construction
established harbor lines,
ly for a permit renders
t is prima facie a nui-
ation a misdemeanor.[224]
g the procedure neces-
mit maps of the area

151 F. 376, 390 (9th Cir.
84 Cal. Rptr. 425, 429-30

157 Conn. 528, 254 A.2d
d 717, 718 (Fla. Ct. App.
117 (Ct. Cl. 1968); Town
.Y.S.2d 668, 671 (Sup. Ct.

he water and sand carried
accretion to littoral lands
sue for abatement of and
structed by another littoral
pier was erected pursuant
. Union Realty Co., 6 Cal.
r, is subject to the common
from erosion although such
Hamilton, *Surf, Sand, Tide*
Yorshis, *Appraising Ocean*

W.2d 869, 871 (Tex. Civ.
hem. Co. v. Dixie Carriers,

he establishment of harbor
ve been set. A harbor line
n. *See* People *ex rel.* Grat-
6 N.Y.S. 115, 117 (1922).
s, in TEXAS LAW INSTITUTE
: BEACHES: PUBLIC RIGHTS
t for permits in waters in-

neers to allow riparian
fill construction shore-
Federal permit. This
involving long estab-
the lines based upon
ne public interest may
re that all elements of
regulations require a
e presence or absence

showing the proposed location of the structure and the tidal range of the location. The applicant is supposed to gain the approval of necessary state agencies prior to applying for a Corps permit. In Texas the General Land Office and the Parks and Wildlife Department claim all submerged land belongs to the State and refuse to agree to the construction of any structure in or across submerged tidal lands. However, the many small structures now in existence and further numerous activities now underway testify to the fact that there is no effective regulation.

F. *Subsidence*

The law has not yet provided a doctrine to resolve problems of changing boundaries caused by shoreland subsidence. Subsidence occurs in areas where large amounts of groundwater, oil, and gas are extracted. The Houston-Galveston area has substantial subsidence, which has contributed to increasingly frequent and severe flooding of coastal areas. The Baytown-Pasadena area surrounding the San Jacinto Monument sank as much as six feet from 1900 to 1964. It has been projected that between 1930 and 2000 the Pasadena area will have subsided nine feet and that the Ellington Field area will have subsided six and one-half feet.[225]

Although there is some law on the question of subsidence caused by withdrawals of liquids and gas, it relates to tort liability and equitable injunctive relief. Texas courts do not allow recovery for land subsidence caused by withdrawal of groundwater; other jurisdictions are divided on the question.[226] Apparently no appellate court has faced the particular problem of a shoreline changed to the extent that the original boundary line is obliterated by subsidence. A court might decide to apply the rules relating to submergence whereby a littoral owner retains title because of a somewhat avulsive change, or a court might declare that principles similar to those relating to erosion apply so that the State gains title to land submerged because of subsidence. Since subsided land is susceptible to destructive flooding, the State should consider implementing a program of groundwater management to prevent undue removal of groundwaters in critical areas. This could be accomplished at a local or regional level by groundwater dis-

225. Ashby, *Experts Becoming Alarmed at Rate Houston Is Sinking*, Houston Post, Oct. 20, 1968, § 5, at 1, col. 1.

Dr. Robert Gabrysch, acting chief, Houston subdistrict of Water Resources Div. of the U.S. Geological Survey said if all ground water pumping ceased, subsidence would continue. He could not estimate when it would end. Houston Post, June 1, 1972, § SC, at 3, col. 1.

One engineer proposes that the Brownwood subdivision in Baytown be abandoned because of the constant flooding resulting from land subsidence combined with high tides and east winds. One solution to continued subsidence would be cessation of all removal of underground water. Rogers, *Engineer Says Subdivision In Baytown Should Be Abandoned*, Houston Chronicle, June 28, 1972, § 1, at 1, col. 1. *See also* Houston Post, July 13, 1972, § SC, at 1-4.

226. *See* Steelhammer & Garland, *Subsidence Resulting from the Removal of Ground Water*, 12 S. TEX. L.J. 201, 203-12 (1970).

tricts structured like water districts and under the direction of the Texas Water Development Board.

G. *Land Canals*

Texas has neither statutory nor case law regulating alteration of the shoreline by the cutting of land canals for small recreational boats. Resort developers along the coast dredge channels to obtain fill materials to elevate low lands, thereby creating more dry land subdivision lots and providing them with direct water access for boating. These canals become polluted from storm runoff that is contaminated by lawn fertilizer and sewage from septic tanks. The configuration of the canals and the turbulence caused by dredging also adversely affect the production of aquatic life and vegetation in the canals.[227] Since most of this dredging can be done on dry or relatively dry land, no State agency appears to have jurisdiction to regulate such activities. Once the canals are filled with water, the General Land Office may be reluctant to claim ownership because it then would be asked to maintain them. Based on its mandate to preserve aquatic life, the Parks and Wildlife Department perhaps could require a permit for the final cut

---

227. *See* Corliss & Trent, *Comparison of Phytoplankton Production Between Natural and Altered Areas in West Bay, Texas,* 69 FISHERY BULL. 829 (1971). Corliss and Trent point out the impact of waterfront development on the bayshore environment:

> Large areas of shallow bays and marshes are being dredged, bulkheaded, and filled for waterfront housing sites along the Gulf of Mexico coast. When these sites are developed, shallow marsh and bay areas are deepened or filled with spoil, thus changing the environment for marine organisms. Major changes to the bayshore environment as a result of these alterations include: (1) reduction in acreage of natural shore zone and marsh vegetation; (2) changes in marsh drainage patterns and nutrient inputs; and (3) changes in water depth and substrates.

Id.

Oysters do not grow as quickly nor as large in these altered canal areas as in natural marshes. *See* Moore & Trent, *Setting, Growth and Mortality of* Crassostrea Virginica *in a Natural Marsh and a Marsh Altered by a Housing Development,* in 61 NAT'L SHELLFISHERIES ASS'N PROCEEDINGS 51 (1971).

The Environmental Information Center of the Florida Conservation Foundation explains in detail the problems caused by private waterfront canals:

> Most canals are far too deep to receive the light required for the production of desirable aquatic life and vegetation. Turbidity from dredging further reduces light penetration and bottom sediments become an anaerobic, unconsolidated muck which is usually dark, semi-fluid and sulfurous.
>
> Even in the open water of bays and estuaries, the bottom water in deep-dredged channels is little affected by normal tidal action and currents. Only the surface waters are circulated and the protected, deeper "pockets" become stagnant sediment traps which accumulate all manner of dead and decaying organic matter.
>
> . . . .
>
> The concentration of pollutants generated by a community is directly proportional to population density. Canals are receptacles for most of these pollutants and permit heavy population density in relation to shoreline length, greatly accelerat[ing] eutrophication. In addition to septic tanks, sewage effluent and live-aboard vessels, canals are heavily contaminated by urban storm-water runoff.

that allows tidal waters to go into canals.[228] Since this mandate would be a somewhat tenuous basis for regulation, the legislature should provide clear authority for some State agency to regulate the creation of development canals. Texas presently has special statutes for construction of navigation, irrigation, and drainage canals, but these types of canals serve quite different purposes, and the policies behind their creation and regulation are different.

Section 403 of the Rivers and Harbors Act of 1899 requires anyone who alters waterways to apply to the Army Corps of Engineers for a permit.[229] The Fish and Wildlife Coordination Act requires the Corps to consult with the Fish and Wildlife Service before issuing a permit.[230] Developers frequently commence canal dredging activities without a permit from the Corps, and the effectiveness of the legislation requires an alert Corps office that actively seeks out and tries to stop illegal dredging of canals.[231]

Environmental Information Center of the Florida Conservation Foundation, Inc., Enfo Newsletter, Feb. 1972, at 3-4.

Alteration of existing channels by the Army Corps of Engineers and the Soil and Conservation Service also causes severe problems. *See Hearings on the Effect of Channelization on the Environment Before the Subcomm. on Flood Control–Rivers and Harbors of the Senate Comm. on Public Works*, 92d Cong., 1st Sess. (1971).

228. Although the digging and cutting of these canals is not regulated, the attorney general recently ruled that the fish and waters in such canals are the property of the State, and the Parks and Wildlife Department therefore has the authority to regulate fishing and boating provided the public can gain access without trespassing on private property. TEX. ATT'Y GEN. OP. NO. M-1210, at 5942-43 (1972).

229. 33 U.S.C. § 403 (1970).

230. 16 U.S.C. § 662(a) (1970). For a discussion of *Zabel v. Tabb* refer to text at note 201 *supra*.

231. *See* HOUSE COMM. ON GOV'T OPERATIONS, OUR WATERS AND WETLANDS: HOW THE CORPS OF ENGINEERS CAN HELP PREVENT THEIR DESTRUCTION AND POLLUTION, H.R. REP. NO. 91-917, 91st Cong., 2d Sess. 2-10 (1970).

The Justice Department recently barred district and division offices of the Corps from referring to United States attorneys alleged violations of dredge and fill regulations under § 403 of the Rivers and Harbors Act of 1899. A memorandum from the Corps general counsel recognizes that the direct reference procedure is authorized by the Justice Department in cases involving violations of § 407 but not cases arising under § 403. The memorandum provides

> Effective immediately all referrals to the Department of Justice, where a violation of 33 U.S.C. 403 is indicated, will be made by this office only. All litigation reports, requests, or responses to requests from the United States Attorneys for assistance, where a violation of 33 U.S.C. 403 is involved, will be forwarded to this office. . . . No copies will be sent to the United States Attorneys. All referrals will be made to the Department of Justice, who will in turn forward the case file to the appropriate United States Attorney if action is approved.
>
> . . . .
>
> Deviation from the above procedure in cases of emergency is authorized only when criminal prosecution is to be initiated, and then only after the matter is reported . . . , approval of direct reference is secured by OCE from the Department of Justice, and confirmed to the District office by OCE return wire or by telephone.

3 ENV. RPTR. CUR. DEV. 96-97 (1972), *quoting* Memorandum from E. Manning Seltzer, General Counsel for Army Corps of Engineers, to division and district engineers, March 30, 1972.

If the Corps district office does not take action, a private citizen affected by such activities can sue for an injunction. A Fifth Circuit decision upheld an injunction against

The district office in Jacksonville, Florida, successfully enjoined one developer who was dredging canals and using the spoil for fill material to create a trailer park development on Boca Ciega Bay.[232] After the Corps informed the developer that a permit was necessary, the developer continued work at a faster pace and, when much of the work was completed, submitted an application for a permit. The developer finally was arrested on a charge of illegal dredging under § 404,[233] but his company continued until the work was nearly complete. A Florida federal district court found that defendant's activities were illegal and harmed the Florida bay ecosystem.[234] The court permanently enjoined further excavation except that necessary to remove all material defendant had placed on the property.[235] The court also required defendant to return the area to its original state.[236] There is no indication that any such action has been undertaken or contemplated by the office for the Texas district.

V. The Immediate Future: The Moratorium and Beyond

The Texas Legislature in 1969 declared a moratorium on the sale and leasing of State-owned submerged lands, islands, beaches, and estuaries.[237] This moratorium applies to all such lands, except those on remote islands and peninsulas inaccessible by public road or ferry,[238] and declares that the State policy is to manage and use these areas so as to maintain a reasonable balance between conservation of natural resources and development for growth of the state.[239] The moratorium will cease on May 31, 1973, or when the Interagency Council on Natural Resources and the Environment

---

a developer who had erected a bridge across a manmade channel to facilitate land fill operations on a tidal flat. Tatum v. Blackstock, 319 F.2d 397, 401-02 (5th Cir. 1963). The owner of a tract adversely affected by these activities sued for the injunction, which the trial court granted pending a Corps determination of whether these waters were navigable. Defendant had not applied for any permit.

232. United States v. Joseph G. Moretti, Inc., 331 F. Supp. 151 (S.D. Fla. 1971).

233. 33 U.S.C. § 404 (1970).

234. 331 F. Supp. at 156.

235. *Id.* at 1057.

236. *Id.*

237. Tex. Rev. Civ. Stat. Ann. art. 5415f (Supp. 1971).

238. The moratorium exempts the following: (1) lease applications for State-owned submerged lands and islands that are within 2,500 feet of submerged lands or islands already leased to the applicant under article 5415e, and (2) sale of marl, sand, gravel, or shell as permitted by the Parks and Wildlife Department. *Id.*

239. In a note, the moratorium declares the State policy:

> That it is the declared policy of the state that such submerged lands, islands, estuaries, and estuarine areas shall be so managed and used as to insure the conservation, protection, and restoration of such submerged lands, islands, estuaries, and estuarine areas with resources and natural beauty and, consistent with such protection, conservation and restoration, their development and utilization in a manner that adequately and reasonably maintains a balance between the need for such protection in the interest of conserving the natural resources and natural beauty of the state and the need to develop these submerged lands, islands, estuaries, and estuarine areas to further the growth and development of the state . . . .

Id.

submits the final rep
rium, whichever is ea
Program division pres

The Reagan-De
statutory protection c
the gulf. The policy
Private land developm

> The state-ow
> Gulf Coast Area
> so richly endowe
> right belonging t
> people of Texas.
> lands shall be so
> of such lands and
> in the public inte
> for production an
> for fishing, huntin
> the public at larg
> as paramount, an
> it does not signif
> policy of this state
> unless specifically

Despite this declaratio
three applications have
the legislature never a
policies. The groups c
Submerged Lands Adv
the General Land Offic

A major fault of t
the land.[243] It limits le
exploration and product
trial purposes" encomp
poses, whether private
ing upland. Another pr
owned lands. This prov
tion districts, the major

When lands are lea
should be under a duty
that set forth the exact

---

240. The Interagency
(1969) to conduct a compr
The Texas Law Institute of
Council pursuant to a directi

241. Tex. Rev. Civ. St

242. *Id.* § 1.

243. *See* Interim Bea
43 (1970).

lly enjoined one devel-
or fill material to create
fter the Corps informed
veloper continued work
ompleted, submitted an
arrested on a charge of
ntinued until the work
found that defendant's
ecosystem.[234] The court
at necessary to remove
.[235] The court also re-
ate.[236] There is no indi-
r contemplated by the

RATORIUM

torium on the sale and
eaches, and estuaries.[237]
hose on remote islands
[238] and declares that the
o maintain a reasonable
and development for
on May 31, 1973, or
s and the Environment

annel to facilitate land fill
7, 401-02 (5th Cir. 1963).
ed for the injunction, which
whether these waters were

pp. 151 (S.D. Fla. 1971).

).
ase applications for State-
feet of submerged lands or
and (2) sale of marl, sand,
ment. *Id.*
:
uch submerged lands,
ged and used as to in-
uch submerged lands,
d natural beauty and,
oration, their develop-
reasonably maintains a
erest of conserving the
need to develop these
to further the growth

submits the final report of its studies of the areas affected by the moratorium, whichever is earlier.[240] The council's Coastal Resources Management Program division presently is preparing the first draft of this report.

The Reagan-De la Garza Act[241] is the most comprehensive attempt at statutory protection of Texas bays and estuaries, but it does not apply to the gulf. The policy declaration of the Act is direct and comprehensive. Private land development is subordinated to the public interest:

> The state-owned submerged lands and islands in the Texas Gulf Coast Area and the natural resources with which they are so richly endowed, constitute an important and valuable property right belonging to the Public Free School Fund and to all of the people of Texas. It is the declared policy of the state that such lands shall be so managed and used as to insure the conservation of such lands and resources and their development and utilization in the public interest. The value of such lands as public property for production and marketing of oil and gas and other minerals and for fishing, hunting, recreation, health, and other uses in which the public at large may participate and enjoy, shall be considered as paramount, and private development shall be approved only if it does not significantly impair these values. Further, it is the policy of this state not to sell any of its submerged lands or islands unless specifically authorized to do so by the Legislature.[242]

Despite this declaration, the Act has fostered virtually no protection. Only three applications have been filed pursuant to its provisions. Additionally, the legislature never appropriated funds for implementation of the Act's policies. The groups charged with the duties of implementation are the Submerged Lands Advisory Committee and the School Land Board within the General Land Office.

A major fault of the Act is that it provides no criteria for the use of the land.[243] It limits leasing to industrial purposes, including oil and gas exploration and production, although no one can state precisely what "industrial purposes" encompass. Thus, there is no leasing for recreational purposes, whether private or public, except to the littoral owner of the adjoining upland. Another problem with the Act is that it applies only to State-owned lands. This provision by definition excludes lands owned by navigation districts, the major purchasers of submerged lands.

When lands are leased by the General Land Office, the commissioner should be under a duty (not merely authorized) to include in leases criteria that set forth the exact use and conditions of use of the land under lease.

240. The Interagency Council was created by the sixty-first Texas Legislature (1969) to conduct a comprehensive study of the coastal zone and the Gulf of Mexico. The Texas Law Institute of Coastal and Marine Resources works with the Interagency Council pursuant to a directive of the legislature.

241. TEX. REV. CIV. STAT. ANN. art. 5415e (1962).

242. *Id.* § 1.

243. *See* INTERIM BEACH STUDY COMMITTEE, FOOTPRINTS ON THE SANDS OF TIME 43 (1970).

This requirement should apply even to other State agencies. For example, if the Parks and Wildlife Department leased lands for wildlife refuge purposes, the department could not later change the use to recreation without a new lease.

Under an earlier statute, navigation districts can buy submerged land for one dollar per acre.[244] The General Land Commissioner must sell whatever land the districts request with little limitation or screening as to the use or subsequent sale by the district. The statute provides only that the land is to be sold to the districts to be used for purposes that are substantially related to the needs of the districts for navigational purposes.[245] The following excerpts from the statute show the lack of criteria and the mandatory nature of the commissioner's role in this sale:

> Any district organized under this chapter or any general law under which navigation districts may be created may purchase from the State of Texas any land and flats belonging to the state which are covered or partly covered by the water of any of the bays or arms of the sea.[246]
>
> These areas shall be used by the district for the purposes authorized, and the district may dredge or fill in and reclaim the land or improve it in other ways.[247]
>
> If the Commissioner of the General Land Office is satisfied that the applicant is a properly created navigation district, a patent shall be issued to the navigation district conveying to the district the right, title, and interest of the state in the land described in the application.[248]

The one dollar per acre sale price is low, but the navigation districts contend this is virtually the only financial aid given the districts by the State.[249] This reasoning, however, should not frustrate the updating of this fifty-year-old statute to conform to changing conditions and policy. If the legislature alters this statute, perhaps it could provide some other means of financial aid to the navigation districts. In any case, there should be a closer scrutiny of these sales to prevent undue depletion and eventual misuse of the state's submerged lands.

Because of diverse State regulation of activities that modify the shoreline and that are potentially damaging to the ecology, the State should provide some final review authority for all activities that might affect the environment of the land and water immediately adjacent to the Texas shoreline. This is not the time, however, for Texas to make large, sweeping

244. TEX. WATER CODE ANN. § 61.116 (1971).
245. *See* TEX. ATT'Y GEN. OP. NO. WW-914 (1960).
246. TEX. WATER CODE ANN. § 61.116(a) (1971).
247. *Id.* § 61.116(b).
248. *Id.* § 61.116(e).
249. *See* Statement by M. Harvey Weil, Counsel to the Port of Corpus Christi, TEXAS LAW INSTITUTE OF COASTAL AND MARINE RESOURCES CONFERENCE ON THE BEACHES: PUBLIC RIGHTS AND PRIVATE USE 68 (1972).

changes in its laws because the United States Congress currently is considering several bills, any one of which would require substantial changes in Texas laws relative to use of the shore and tidal waters.[250]

The State, however, can and should make some interim changes to improve protection. One possibility would be to provide for a licensing system to be administered by the General Land Office or the Parks and Wildlife Department to cover all landfill, dredging, drainage, or pier construction immediately adjacent to the shoreline that would affect State-owned land or fish and other wildlife. This should be made an obligatory duty, not a mere granting of authority. Upon application by the party proposing such work, the administering agency would consult with other agencies and recommend that a license be granted or denied. The agency could also recommend that the license be granted subject to certain conditions. In making these determinations, the agency should utilize such criteria as the legislature indicates, as well as the existing policy statement and criteria of the moratorium and the Reagan-De la Garza Act. Such criteria should be modified as developing scientific information may render necessary or desirable. The State should charge a licensing fee to be used to study the environmental impact of various projects in certain areas, to be designated by the administering agency. After the State agency has approved the proposed work, all records of the application and its processing should be forwarded to the Governor for his final approval. The Governor's office would ascertain that all procedural steps were complied with properly and also pass on the agency approval. No license should be issued and no work should be allowed without the approval of the Governor. By providing for the final approval to be given by the Governor, the legislature will have established a clear line of authority up to the State's highest elected official, who ultimately is responsible to the public.

---

250. The United States Senate Interior and Insular Affairs Committee on June 5, 1972, approved proposed land use legislation (S 632) that would provide $100 million annually to develop state land use programs concentrating on areas of critical concern. The bill would establish an Office of Land Use Policy in the Department of Interior. The House Interior Committee is still considering amendments to its version (HR 7211). 3 ENV. RPTR. CUR. DEV. 150, 162 (1972). One recently added amendment to HR 7211 would assure that state laws and regulations affecting coastal zones and estuaries would "consider the aesthetic and ecological values of wetlands and the susceptibility of wetlands to destruction through draining, dredging, and filling." *Id.* at 125.

A coastal zone management bill that would concentrate on management of coastal waters and the adjacent shoreline, including wetlands and beaches, has passed the House and Senate and is presently in conference committee. For the Senate's version of the bill refer to 118 CONG. REC. 6672 (daily ed. Apr. 25, 1972).

According to the chairman of the Council on Environmental Quality, the administration favors legislation for land use. The chairman has argued that the objectives of the coastal zone management legislation are incorporated into the administration's proposed National Land Use Policy Act (S 992). 2 ENV. RPTR. CUR. DEV. 6 (1971) Secretary of the Interior Rogers C.B. Morton has stated that a separate plan for coastal zone management would confuse the picture. *Id.* at 577.

See Knight, *Proposed Systems of Coastal Zones Management: an Interim Analysis*, 3 NATURAL RESOURCES LAWYER 599 (1970).

This article originally appeared in the
HOUSTON LAW REVIEW
Vol. 10, No. 1,