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Are Beach Boundaries Enforceable? Real-Time Locational Uncertainty and the Right to Exclude

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ARE BEACH BOUNDARIES ENFORCEABLE? REAL-TIME LOCATIONAL UNCERTAINTY AND THE RIGHT TO EXCLUDE

Josh Eagle*

Abstract: Over the past few decades, landowners have tried to use the First, Fourth, and Fifth Amendments to fully privatize the upper, dry-sand part of the beach. If these efforts were to succeed, there would be a host of negative consequences, and not just for surfers. In most states in which beaches are economically important, including California, Florida, New Jersey and Texas, privatized dry sand would have a significant impact on public access.

This Article explores the possibility that courts and the public can put an end to the beach privatization movement simply by pointing to the common law of waterfront property. Historically, both courts and scholars have largely ignored the challenging title issues created by the common law and, in particular, by the rules governing boundary relocation after waves, currents, tides, and winds have changed the shape of a beach. These rules serve important purposes, but also make it impossible to know the location of public-private beach boundaries in real time, that is, at the moment the landowner wishes to use the boundary to exclude others from her property. The consequence of this real-time uncertainty is that, as a matter of law, landowners do not have an enforceable right to exclude. The absence of a right to exclude not only undercuts constitutional claims premised on its existence, but also leads to the conclusion that the public has the right to use the entire beach.

If there is no right to exclude, what are the beachfront owner's rights? Real-time uncertainty makes it impossible for the owner to prove title in real time, but the same would also be true for the state; thus the state and neighboring owners enjoy a form of co-tenancy in the sand. To protect the private interest, and to fill the vacuum left by the vanished right to exclude, this Article suggests that the state should grant landowners a more stable exclusion line, at the top of the beach, and give each landowner the right to prevent unreasonable public use of adjacent beach areas.

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INTRODUCTION

Oceanfront property owners often quarrel with beachgoers and the government over the public’s right to use the beach.¹ Lawsuits arising out of these conflicts take one of two forms. In some instances,

1. Section III.B describes cases from the past half-century, including some that have been decided at the U.S. Supreme Court, that evidence public-private tensions over dry-sand access.

Such cases are not limited to the last fifty years: the oldest reported opinion on beach conflict appears to be in the English case of *Blundell v. Catterall*, (1821) 106 Eng. Rep. 1190, 1190; 5 B. & Ald. 268, 268 (1821) (The stated claim was “[t]respas, for breaking and entering the plaintiff’s close, [] describing it, first, as a close called the Sea-Shore, within the manor of Great Crosby; secondly, as a close between the high-water mark and the low-water mark of the River Mersey . . .”). While this Article focuses on sandy beaches, the same issues can also arise along the shores of lakes and rivers.

For recent examples of beach conflict in the news, see Dugan Arnett, *Beneath Picturesque Surface, a Neighborhood at War*, BOSTON GLOBE (Oct. 7, 2017), <https://www.bostonglobe.com/lifestyle/style/2017/10/07/beneath-picturesque-surface-neighborhood-war/jSMHJ616OWlg9wd5Wy44PL/story.html> [https://perma.cc/W6GD-PLRC]; Shelby Danielsen, *Debate Heats up over Public Beach Access Along Private Property in Florida*, FIRSTCOAST NEWS (Jan. 11, 2018, 7:39 AM), <http://www.firstcoastnews.com/article/news/local/beaches/debate-heats-up-over-public-beach-access-along-private-property-in-florida/77-507298799> [https://perma.cc/L6JH-EZSQ]; Christopher Dunagan, *The Legal Dilemma of Beach Walking*, KITSAP SUN (July 5, 2010), <http://archive.kitsapsun.com/news/local/the-legal-dilemma-of-beach-walking-ep-419637973-357591681.html> [https://perma.cc/WW8L-VW6K]; Timothy Egan, *Owners of Malibu Mansions Cry, This Sand Is My Sand*, N.Y. TIMES, (Aug. 25, 2002), <https://www.nytimes.com/2002/08/25/us/owners-of-malibu-mansions-cry-this-sand-is-my-sand.html> [https://perma.cc/ZE59-UDMZ]; Russ Lay, *Lawyer for Emerald Isle Couple Lays out Case in Beach Dispute*, OUTER BANKS VOICE (Sept. 14, 2016), <https://outerbanksvoice.com/2016/09/14/lawyer-for-emerald-isle-couple-lays-out-case-in-beach-dispute/> [https://perma.cc/S292-W2RZ]; Chris Lindahl, *Dune-Walking Ban Floated in Sandwich Beach-Access Dispute*, CAPE COD TIMES (Jan. 24, 2017), <http://www.capecodtimes.com/news/20170124/dune-walking-ban-floated-in-sandwich-beach-access-dispute> [https://perma.cc/4YBF-8KVD]; Ann O’Neill, *Drawing a Line in the Sand in Malibu*, CNN (Sept. 5, 2015), <https://edition.cnn.com/2015/09/05/us/malibu-day-at-the-beach/index.html> [https://perma.cc/8GYC-7HGF]; Tara Smith, *A Line in the Sand: Neighbors Disagree on Beach Access Rights*, LONG ISLAND ADVANCE (July 6, 2017), <https://www.longislandadvance.net/4601/A-line-in-the-sand-Neighbors-disagree-on-beach-access-rights> [https://perma.cc/27MT-9EX9]; *Va. Supreme Court: Grandview Land Owner Can Keep People Off Beach Property*, DAILY PRESS (June 8, 2015, 7:40 PM), <http://www.dailypress.com/news/hampton/dp-va-supreme-court-grandview-property-owner-can-block-off-beach-20150608-story.html> [https://perma.cc/5CA9-83PL].

landowners have tried to use trespass laws to prevent members of the public from walking, playing, or resting on the upper, “dry-sand” beach.² Owners have also tried to use the Constitution to keep the public out. These constitutional lawsuits variously allege that state actions meant to facilitate or endorse public use of dry sand are: uncompensated takings of private property (Fifth Amendment),³ deprivations of private property without due process of law (Fifth Amendment),⁴ unreasonable seizures of private property (Fourth Amendment),⁵ or unconstitutional restrictions on speech conducted on private property (First Amendment).⁶

Obviously, the linchpin of both the trespass and constitutional claims is the allegation that part of the beach is in fact private property.⁷ More specifically, because both types of cases are challenges to public access, a landowner’s success depends upon a showing that the landowner holds the right to exclude others from entering onto her property.⁸ Put differently, if the beachfront landowner cannot establish that she holds a right to exclude, she is not entitled to relief when members of the public

2. See *State v. Ibbison*, 448 A.2d 728, 729 (R.I. 1982). The term “dry sand” has several possible meanings. It can be used to refer generally to the upper part of the beach, that is, the part that is not presently wet or submerged. Courts and scholars often use the term as a synonym for “private.” See, e.g., *Nies v. Town of Emerald Isle*, 780 S.E.2d 187, 191 (N.C. Ct. App. 2015), *cert. denied*, ___ U.S. ___, 138 S. Ct. 75 (2017) (“The Town was incorporated in 1957. The public has enjoyed access to its beaches, including both the publicly-owned foreshore—or wet sand beach—and the private property dry sand beaches, since at least that date.”); *Stevens v. City of Cannon Beach*, 854 P.2d 449, 452 (Or. 1993), *cert. denied*, 510 U.S. 1207 (1994). In this usage, “dry sand” means the part of the beach that lies inland of the landward boundary of the state-owned, public trust tidal and submerged lands. Under any of the various state approaches to locating the legal boundary between private and public beach, described *infra* at note 31, both the “dry sand” and “wet sand” will sometimes be actually dry or wet.

3. See, e.g., *Nollan v. Cal. Coastal Comm’n*, 483 U.S. 825, 825–28 (1987); *Grupe v. Cal. Coastal Comm’n*, 166 Cal. App. 3d 148, 171–77 (Cal. Ct. App. 1985); *Nies*, 780 S.E.2d at 197; *Severance v. Patterson*, 370 S.W.3d 705, 732 (Tex. 2012); *Brannan v. State*, 365 S.W.3d 1, 24–27 (Tex. App. 2010), *rev’d*, 390 S.W.3d 301 (Tex. 2013).

4. See *Crystal Dunes Owners Ass’n v. City of Destin*, 476 F. App’x 180, 183–84 (11th Cir. 2012) (unpublished opinion).

5. See *Severance v. Patterson*, 566 F.3d 490, 501–02 (5th Cir. 2009).

6. See *Goodwin v. Walton County*, 248 F. Supp. 3d 1257, 1262–65 (N.D. Fla. 2017).

7. See *Am. Pelagic Fishing Co. v. United States*, 379 F.3d 1363, 1372 (Fed. Cir. 2004), *cert. denied*, 545 U.S. 1139 (2005) (“[A]s a threshold matter, the court must determine whether the claimant has established a property interest for purposes of the Fifth Amendment If the claimant fails to demonstrate the existence of a legally cognizable property interest, the courts [sic] task is at an end.” (citations omitted)).

8. The right to exclude is, along with the right to use and enjoy and the right to alienate, one of the three cardinal rights associated with property ownership in the common law tradition. See generally *Thomas W. Merrill, Property and the Right to Exclude*, 77 NEB. L. REV. 730 (1998).

use the beach in question (or when government, on behalf of the public, authorizes or facilitates public use).⁹

Although states and advocates for public dry-sand access have won some public-use cases, the theories in those cases do not question the assumption that landowners hold title to the dry sand at issue. Rather, the argument is that the public has access because the privately-owned dry-sand beach is burdened with some form of public right-of-way. This is true whether the theory is one of prescriptive easement,¹⁰ custom,¹¹ implied dedication,¹² or the public trust doctrine.¹³

This Article questions whether the beachfront property owner has exclusive private rights—in any part of the beach—to begin with.¹⁴ The vigilant landowner's problem is that the combination of common law rules governing the location of beach boundaries and the ever-changing topography of sandy beaches produces what might be called *real-time locational uncertainty*. Real-time locational uncertainty means that it is impossible to determine the exact location of a beach boundary at time zero, that is, at the moment the landowner wishes to enforce her rights.¹⁵

9. This Article focuses on the issue of public use of the dry sand. I am not arguing that the absence of a right to exclude from the beach means that the owner cannot exclude the public from, for example, the adjacent beach house. It might seem logical to make such a leap, because the elimination of a right to exclude on the beach does not necessarily result in the automatic creation of a new boundary on the seaward side of a structure. However, a policy of public dry-sand access, which could be supported by the elimination of the beach boundary, is quite different from a policy of public beach house access.

10. See, e.g., *City of Daytona Beach v. Tona-Rama, Inc.*, 294 So. 2d 73, 77–78 (Fla. 1974); *Concerned Citizens of Brunswick Cty. Taxpayers Ass'n v. State ex rel. Rhodes*, 404 S.E.2d 677, 690–91 (N.C. 1991); *Severance v. Patterson*, 370 S.W.3d 705, 727–28 (Tex. 2012).

11. See *State ex rel. Thornton v. Hay*, 462 P.2d 671, 678 (Or. 1969).

12. See *Gion v. City of Santa Cruz*, 465 P.2d 50, 59 (Cal. 1970), *superseded by statute*, CAL. CIV. CODE § 1009, (West 2018), *as recognized in* *Scher v. Burke*, 395 P.3d 680, 682 (Cal. 2017).

13. See *Matthews v. Bay Head Improvement Ass'n*, 471 A.2d 355, 368–70 (N.J. 1984), *cert. denied*, 469 U.S. 821 (1984); *Van Ness v. Borough of Deal*, 393 A.2d 571, 573–74 (N.J. 1978); *Borough of Neptune City v. Borough of Avon-by-the-Sea*, 294 A.2d 47, 54 (N.J. 1972).

14. In the conclusion to one of his many insightful articles on real and conceptual boundaries between public and private property, Professor Joseph Sax wrote that “[t]he *reality* is that there exists on the seashore a zone that is neither wholly public nor wholly private” Joseph L. Sax, *The Accretion/Avulsion Puzzle: Its Past Revealed, Its Future Proposed*, 23 TUL. ENVTL. L.J. 305, 356 (2009) (emphasis added). Professor Sax did not explain why he used the word “reality,” which suggests—like this Article—the legal inevitability of shared ownership rather than a mere policy preference.

15. Others have noted the difficulty in real-time location of the ocean-side boundary; the novel argument here is that it is not merely difficult, but impossible. See *infra* Part I. The only ocean-fronting state where this would not be true is Hawai'i, which bases ocean-side boundaries on “the upper reaches of the wash of the waves . . . usually evidenced by the edge of vegetation growth, or the upper limit of debris left by the wash of the waves.” HAW. REV. STAT. § 205A-1 (2018). The edge of vegetation growth is sometimes called the “line of vegetation,” while the “upper limit of

The location of the boundary at time zero cannot be known until after a court has adjudicated the boundary months or years later.

The time lag between an alleged trespass and a judicial determination of the boundary precludes the use of trespass law to exclude others from the dry sand. Successful trespass actions require proof that the alleged trespasser was “aware of the fact that he [was] making an unwarranted intrusion.”¹⁶ In other words, she must have known the location of the property boundary at the moment she crossed it.¹⁷ Even after the boundary determination proceeding has concluded, it will still not be possible for a landowner to prove the *current* boundary location. From the date the suit was filed, the beach will have begun to change again. The location in the court’s final order is legally accurate for only one moment in time, a moment that is, by the end of the litigation, well in the past.

If there is no right to exclude, then constitutional challenges positing state interference with that right cannot move forward. It is not possible for the state to have interfered with a property right that never existed in the first place.¹⁸ In addition to abrogating constitutional challenges, the theory put forward in this Article opens countless acres of privately claimed beach to public recreational use. This is an important result, because while some beaches have long been de facto open by virtue of an implicit agreement between private landowners and the broader community,¹⁹ beach access in many parts of the country remains hotly contested.

debris” is known as the “wash line.” TEX. NAT. RES. CODE ANN. § 61.001(5) (West 2017); 1-30 WALTER G. ROBILLARD & LANE J. BOUMAN, CLARK ON SURVEYING AND BOUNDARIES § 30.05 (8th ed. 2018). See *infra* Part I for complete definitions and explanations of tidal datums.

16. *Warfield v. State*, 554 A.2d 1238, 1250 (Md. 1989) (cited in 3 WAYNE R. LAFAYE, SUBSTANTIVE CRIMINAL LAW § 21.2(c) (2d ed. 2003)). While criminal trespass law varies state by state, the typical statute sets out two sets of elements: one for trespass into buildings and occupied structures, and a second for trespass elsewhere on the property, e.g., fields, yards, etc. It is this second kind of trespass that is relevant here. To be guilty of trespass on the beach, the defendant must have entered into and remained on the property “knowing he is not licensed or privileged to do so.” LAFAYE, *supra*, § 21.2(b). “Knowing” entry is defined as entry with notice and intent: the landowner must have given the alleged trespasser notice of the boundary through the use of fences, signs, or verbal communication. *Id.*

17. While civil trespass does not include a mens rea requirement, a civil lawsuit is not ideal for on-the-spot enforcement. For one thing, the landowner would have to obtain the name and address of the alleged trespasser to serve summons and complaint. In any event, civil trespass, like criminal trespass, does require proof that the trespasser was actually on the property. For reasons explained below, this proof does not exist at the time of the alleged trespass. See *infra* Part II.

18. See *Am. Pelagic Fishing Co. v. United States*, 379 F.3d 1363, 1372 (Fed. Cir. 2004), *cert. denied*, 545 U.S. 1139 (2005).

19. See Robert Thompson, *Beach Access, Trespass, and the Social Enactment of Property*, 17

Some might see the idea of a missing right to exclude as in conflict with property theory, much of which stresses the importance of exclusive rights.²⁰ The inquiry in this Article, however, is not a theoretical or normative one. Rather, the analysis is based on rote application of eight centuries of common law to the reality that sandy beaches are always in the process of changing.²¹

Could courts or legislatures change the common law rules to create the possibility of a right to exclude—to privatize beaches—going forward? While it might be possible to rewrite the common law rules to create an enforceable boundary, those changes would bump up against the range of good-policy arguments long reflected by existing rules.²² For example, eliminating the legal difference between artificial and natural accretion would enable oceanfront owners to dump sand on adjacent state property, then claim it as their own.²³

Part II of this Article explains how the common law doctrines of avulsion and artificial accretion make real-time location of beach boundaries impossible. Part III explores the effect of real-time locational uncertainty on property rights, namely, its dramatic impact on the oceanfront owner's right to exclude, and on lawsuits premised on the existence of that right. Part IV explores the future of sandy beach property rights in the absence of the right to exclude. While courts and legislators might be inclined to modify existing beach-boundary doctrine to create an enforceable right to exclude, it would be better to develop a more realistic set of rules for beach use that fairly protect both the public and beachfront property owners. The best approach is the one that landowners and the beachgoing public have already implicitly adopted

ROGER WILLIAMS U. L. REV. 351, 361–71 (2012). For other examples of implicit social agreements regarding property, see ROBERT C. ELLICKSON, ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES (1991); Stephen Clowney, *Rule of Flesh and Bone: The Dark Side of Informal Property Rights*, 2015 U. ILL. L. REV. 59, 60–65 (2015); Gregory M. Duhl, *Property and Custom: Allocating Space in Public Places*, 79 TEMP. L. REV. 199, 199–204 (2006); Richard H. McAdams, *The Origin, Development, and Regulation of Norms*, 96 MICH. L. REV. 338, 343–45 (1997).

20. See generally Abraham Bell & Gideon Parchomovsky, *A Theory of Property*, 90 CORNELL L. REV. 531 (2005); Larissa Katz, *Exclusion and Exclusivity in Property Law*, 58 U. TORONTO L.J. 275 (2008); James Y. Stern, *The Essential Structure of Property Law*, 115 MICH. L. REV. 1167 (2017).

21. In his excellent treatment of the legal history of waterfront property doctrines, Professor Sax discusses several English cases from the fourteenth century. Sax, *supra* note 14, at 314–20.

22. See generally Sax, *supra* note 14.

23. It is worth noting that there would be some other legal obstacles to dumping sand on the beach, even where the underlying property was deemed private. Section 404 of the Clean Water Act, for example, would require oceanfront landowners to obtain a permit before renourishing their beach. 33 U.S.C. § 1344 (2018). Section 404 mandates a permit for the deposit of dredged or fill material into waters of the United States, which would include ocean waters. *Id.*

on the many de facto public beaches: under the terms of this “crowd-sourced” arrangement, the state and the landowner permit public use of dry sand except to the extent that such use interferes unreasonably with the beachfront owner’s ability to enjoy her property.

I. REAL-TIME LOCATIONAL UNCERTAINTY, EXPLAINED

Purchasers of oceanfront property are likely aware that the land they are buying is subject to change. At the very least, many owners will have purchased their property in jurisdictions that require sellers of oceanfront land to make special disclosures to buyers. South Carolina, Florida, and Texas are among the states in which legislation mandates disclosures about the special economic, legal, and physical risks inherent in owning oceanfront land.²⁴ Texas law, for example, requires this disclosure:

DISCLOSURE NOTICE CONCERNING LEGAL AND ECONOMIC RISKS OF PURCHASING COASTAL REAL PROPERTY NEAR A BEACH

WARNING: THE FOLLOWING NOTICE OF POTENTIAL RISKS OF ECONOMIC LOSS TO YOU AS THE PURCHASER OF COASTAL REAL PROPERTY IS REQUIRED BY STATE LAW.

- Read this notice carefully. Do not sign this contract until you fully understand the risks you are assuming.
- By purchasing this property, you may be assuming economic risks over and above the risks involved in purchasing inland real property.
- If you own a structure located on coastal real property near a gulf coast beach, it may come to be located on the public beach because of coastal erosion and storm events.
- As the owner of a structure located on the public beach, you could be sued by the State of Texas and ordered to remove the structure.
- The costs of removing a structure from the public beach and any other economic loss incurred because of a removal order would be solely your responsibility.²⁵

24. FLA. STAT. § 161.57 (2018); S.C. CODE ANN. § 48-39-330 (2018); TEX. NAT. RES. CODE ANN. § 61.025 (West 2017).

25. TEX. NAT. RES. CODE ANN. § 61.025(a). In at least one state, courts have held that similar disclosures might be mandatory. In *Stebbins v. Wells*, 818 A.2d 711, 718–19 (R.I. 2003), the Supreme Court of Rhode Island ruled that a real estate agent with knowledge of an erosion problem on a piece of marsh front property would be obligated to disclose that issue to the buyer.

At the same time, many beachfront landowners also believe the ocean-side boundary to be solid—knowable and enforceable. This belief is understandable, given that statutes and the common law often use technical terms such as “mean high-tide line” as synonyms for “property boundary.” For example, a Florida statute provides that the “[m]ean high-water line along the shores of land immediately bordering on navigable waters is recognized and declared to be the boundary between the foreshore owned by the state in its sovereign capacity and upland subject to private ownership.”²⁶ California law states that “the owner of the upland, when it borders on tide water, takes to ordinary high-water mark.”²⁷ And North Carolina’s statute provides that “[t]he seaward boundary of all property within the State of North Carolina, not owned by the State, which adjoins the ocean, is the mean high water mark.”²⁸

Technical-sounding terms such as “mean high-tide line” incorrectly imply data-driven certainty and a high degree of specificity in the process of locating beach boundaries.²⁹ Such terminology elicits a false confidence in the idea that locating the line is as simple as bringing a surveyor out to take some physical measurements. In fact, the process of setting the coastline is complex, time-consuming, and characterized by uncertainty. It involves questions of law as well as science. The only thing certain is that no one can know exactly where the line is at the precise moment of a would-be trespass.

To illustrate why that is the case, consider the process of boundary location on a typical sandy beach at North Padre Island, Texas.³⁰ Under

26. FLA. STAT. ANN. § 177.28(1) (West 2018).

27. CAL. CIV. CODE § 830 (West 2018).

28. N.C. GEN. STAT. ANN. § 77-20(a) (West 2018).

29. Even the U.S. Supreme Court has made the mistake of overestimating the precision of science-based line drawing. In an early case dealing with oceanfront boundaries, the Court noted that the use of mean high tide allowed for “requisite *certainty* in *fixing* the boundary of valuable tidelands . . .” *Borax Consol., Ltd. v. Los Angeles*, 296 U.S. 10, 27 (1935) (emphasis added).

In the language of the linguist, technical-sounding terms like “mean high tide” likely have a connotative meaning of specificity. See Denise Baden & Ian A. Harwood, *Terminology Matters: A Critical Exploration of Corporate Social Responsibility Terms*, 116 J. BUS. ETHICS 615, 624 (2013) (“Terms, such as ‘sustainability’ that are poorly understood by the public, rely on scientific knowledge or have historically been associated with a range of different meanings should be avoided, as such ambiguities can at best lead to unproductive debate, or at worst be cynically exploited.”).

30. Although part of North Padre is privately owned, the federal government owns the bulk of the island, which Congress has designated as a national seashore and as part of the national park system. I chose to use North Padre as an example because it is one of the few shorelines for which scientists have collected sufficient data. Specifically, the hypothetical in this section is based on findings from two studies: JAMES C. GIBEAUT ET AL., TEX. COASTAL COORDINATION COUNCIL, CHANGES IN GULF SHORELINE POSITION, MUSTANG, AND NORTH PADRE ISLANDS, TEXAS (May

Texas law, the tentative private-public boundary is “the mean higher-high-water line.”³¹ A land surveyor will first obtain, from a government database, the local elevation of the mean higher-high-water *plane*.³² (Tides are measured vertically, in meters or feet of elevation.³³) The height of the mean higher-high-water plane is equal to the average height of each day’s highest high tide, measured over the most recent nineteen-year “tidal datum epoch.”³⁴ After creating an imaginary plane at that height, the surveyor uses tools that allow her to project the plane into the face of the beach, thereby generating a mean higher-high-water line.³⁵

2001) and Robert A. Morton & F. Michael Speed, *Evaluation of Shorelines and Legal Boundaries Controlled by Water Levels on Sandy Beaches*, 14 J. COASTAL RES. 1373 (1998).

31. It is “tentative” because it is subject to adjustments for past episodes of avulsion or artificial accretion. See *infra* sections I.A and I.B.

“Mean higher high water” is what is known as a tidal datum. All ocean-fronting states but Hawai’i use tidal datums, such as mean higher high water, to determine the ocean-side boundary. STEACY DOPP HICKS, NAT’L OCEANIC & ATMOSPHERIC ADMIN., UNDERSTANDING TIDES 52 (2006); see Haw. Rev. Stat. § 205A-1 (defining the shoreline as “[T]he upper reaches of the waves . . . usually evidenced by the edge of vegetation growth, or the upper limit of debris left by the wash of the waves”). “A datum is a reference from which linear measurements are made. It can be a physical point, line, or plane. It can also be an invisible point, line, or plane positioned by a statistical treatment of the numerical values of a particular natural phenomenon.” HICKS, *supra*, at 51. Texas actually uses two different datums for locating the ocean-side boundary, depending on whether private ownership of the upland in question began under Spanish or Mexican rule, or after Texas became a state. In the former scenario, the appropriate datum is mean higher-high-water; in the latter, it is mean high tide. See John G. & Marie Stella Kenedy Mem’l Found. v. Dewhurst, 90 S.W.3d 268, 278–80 (Tex. 2002); Luttus v. State, 324 S.W.2d 167, 169–70 (Tex. 1958).

32. A federal agency, the National Geodetic Survey, is responsible for developing the tidal datums that surveyors use in locating datum-based lines such as the mean higher-high-water line or the mean high-tide line. See NAT’L GEODETIC SURVEY, <https://www.ngs.noaa.gov/INFO/WhatWeDo.shtml> [<https://perma.cc/3VDL-LDJC>]. For a surveyor’s description of the process of locating datum-based lines, see WALTER G. ROBILLARD & DONALD A. WILSON, BROWN’S BOUNDARY CONTROL AND LEGAL PRINCIPLES 252–80 (7th ed. 2014); George M. Cole, *Tidal Water Boundaries*, 20 STETSON L. REV. 165, 170–76 (1990).

33. HICKS, *supra* note 31, at 45.

34. *Id.* The National Geodetic Survey uses an average of measurements taken over a Metonic Cycle, about nineteen years, to generate the most accurate results.

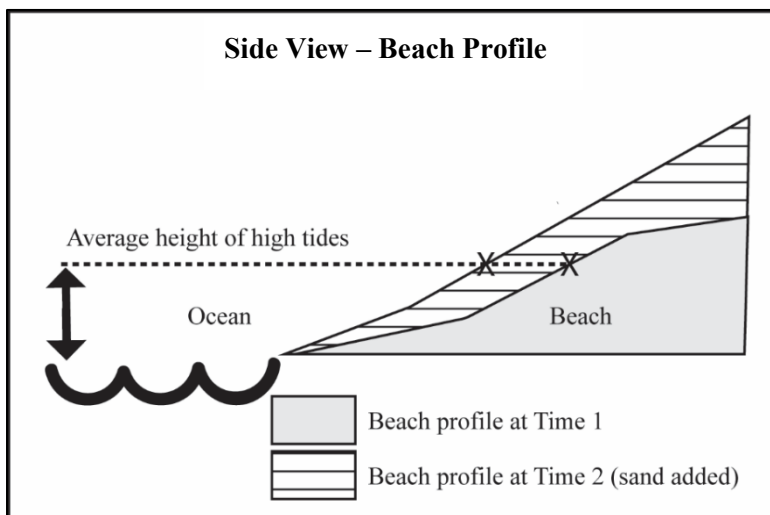
[The Metonic Cycle], first determined by Meton of Athens in 432 BC, captures a long-period change in the amplitude of the tide due to the orbital paths of the Earth and Moon relative to the Sun. The Metonic Cycle was selected [as the length of time needed to measure average tides] because it includes daily, monthly, annual, and decadal changes in the amplitude of tides

Mike Szabados, *Understanding Sea-Level Change*, 236 ACSM BULL. 10, 12 (2008), https://tidesandcurrents.noaa.gov/publications/Understanding_Sea_Level_Change.pdf [<https://perma.cc/4D8M-X9KS>].

35. This intersection of the plane and the beach profile forms the equivalent of a contour line on a topographical map. Or, imagine you are standing on a raft on a dead-calm sea, aiming a laser pointer at the beach while holding it level to the water at the height of the glass sheet. The spot

Figure 1 illustrates the land surveyor's method for locating a datum-based line, such as the mean higher-high-water line:

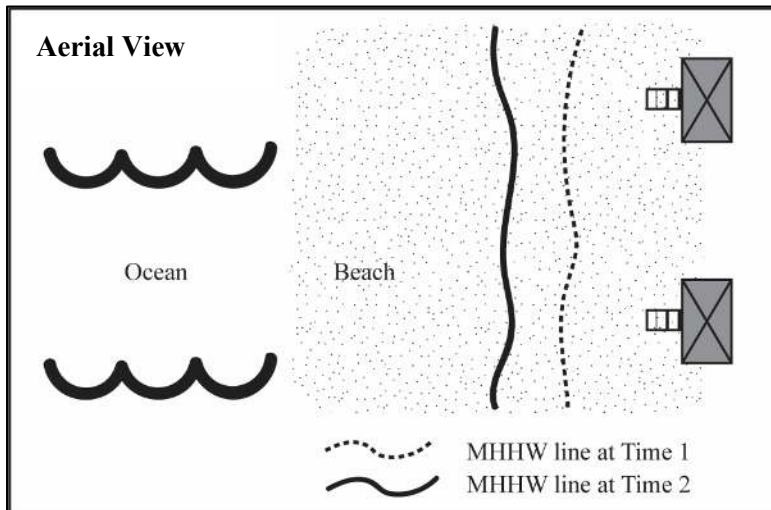
**Figure 1:
Projecting the Plane into the Beach**



The X's in Figure 1 mark the points where the mean higher-high-water plane intersects with the beach profiles from Time 1 and Time 2. Figure 2 shows the more familiar aerial view of the same beach. The two lines shown are the result of the process illustrated in Figure 1.

where the laser beam hits the sand is one point in the mean higher-high-water line. If you now paddle a few feet down the shore, then point the laser again, then connect this point with the first, you have begun the process of generating the line.

Figure 2:
Lines Produced by Projecting the MHHW Plane into the Beach



The first problem in enforcing the ocean-side boundary arises from the fact that the mean higher-high-water line is, in part, a product of the dynamic topography of the beach. The mean higher-high-water plane remains fixed for the entirety of each nineteen-year tidal epoch; the beach profile, however, is unstable. Waves, tides, wind, and other forces constantly rearrange sand on beaches.³⁶ As sand moves, the shape of the beach changes, and the result is a new mean higher-high-water line. For example, in Figures 1 and 2, the line has moved seaward owing to the now-higher beach profile.³⁷ The seaward movement of the line could have been the result of slow processes, such as regular sand deposition by near-shore currents, or it could have been the result of more rapid processes, such as the intense wave action brought on by a recent storm.

Due to the costs of collecting data, there are very few studies of short-term—hour-to-hour or day-to-day—variability in the location of the legal coastline. One limited study of beaches in North Carolina and Virginia showed that the mean high-tide line moved horizontally every twelve hours and twenty-five minutes by between 0.12 and 5.8 meters.³⁸

36. See generally A.C. BROWN & A. MCLACHLAN, *ECOLOGY OF SANDY SHORES* (2d ed. 1990); ROBIN DAVIDSON-ARNOTT, *INTRODUCTION TO COASTAL PROCESSES AND GEOMORPHOLOGY* (2010).

37. Donna Christie, *Of Beaches, Boundaries, and SOBs*, 25 J. LAND USE & ENVTL. L. 19, 24–25 (2009).

38. Mary Jean Pajak & Stephen Leatherman, *The High Water Line as Shoreline Indicator*, 18 J. COASTAL RES. 329, 330–31 (2002) (citing Robert Dolan et al., *The Reliability of Shoreline Change Measurements from Aerial Photographs*, 48 SHORE & BEACH 22, 22–29 (1980)).

On North Padre Island, studies have documented monthly changes in the location of the mean higher-high-water line of between 2.5 and 14.5 meters.³⁹ For the landowner who needs to mark and announce the boundary to prosecute trespassers, this variability presents a significant obstacle.⁴⁰ She might hire a surveyor to locate the line; however, the probability that the line will be in the exact same place, even a few hours later, is small. In other words, anything short of a real-time survey cannot establish the exact location of the mean higher-high-water line.

To understand how nature can so quickly cause such frequent and dramatic changes in line location, it is most important to remember that beaches typically feature very gradual slopes. In North Carolina, for example, beaches have slopes of between approximately three and six degrees.⁴¹ On a three-degree sloped beach, one would walk about fifty-seven feet inland from the sea before gaining just three feet of elevation; on a six-degree slope, it would take only twenty-nine feet to gain the same amount of elevation. Suppose that the mean higher-high-water plane happens to be three feet in elevation as well. If currents or tides moved the sand so that the slope of the profile changed from three to six degrees, the mean higher-high-water line would move twenty-eight feet (fifty-seven minus twenty-nine)! Even a smaller, one-degree change in slope—from three to four degrees—would cause the line to move thirteen feet. Small changes in the slope of the beach can occur very quickly, for example, as the result of a single high tide.⁴²

Even if the landowner were to go to the trouble of retaining a surveyor on the premises for real-time line drawing, there is another issue that would stand in the way of an effective criminal trespass prosecution: Surveys used to determine tidal datums like mean higher high water are inherently inaccurate. Inaccuracy in line-drawing results from irreducible error in, among other things, the measurement of the height of tides.⁴³ Studies have estimated that this error in vertical measurement translates to uncertainty in the range of three to nine meters horizontally.⁴⁴ In other words, the true higher-high-water line

39. Morton & Speed, *supra* note 30, at 1378.

40. For open spaces, like beaches, a landowner must give the public notice of the boundary location, e.g., by posting a “no trespassing” sign, before the state can enforce a criminal trespass. *See infra* text accompanying notes 175–177.

41. KARA S. DORAN, JOSEPH W. LONG & JACQUELYN R. OVERBECK, U.S. DEP’T OF THE INTERIOR, A METHOD FOR DETERMINING AVERAGE BEACH SLOPE AND AVERAGE BEACH SLOPE VARIABILITY ON U.S. SANDY COASTLINES (2015) (source estimates in radians).

42. *Id.* at 2.

43. Pajak & Leatherman, *supra* note 38, at 331.

44. *Id.*

may be thirty feet higher or lower on the beach—further away from or closer to the ocean—than the real-time surveyed line.⁴⁵

Because these two obstacles are the result of measurement problems, technological advancements might eventually solve them.⁴⁶ One can fairly easily imagine, for example, a world in which people—landowners, beach-walkers, and the police—could use their mobile devices to see the instantaneous mean higher-high-water line superimposed on a Google map image.⁴⁷

There is, however, a third obstacle to a trespass case, one that technology cannot solve and that legal scholarship and judicial opinions have largely ignored. This is the problem of *divergent lines*: sometimes the mean higher-high-water line will not be the same as the property boundary between the oceanfront owner and the state. Under the common law, certain kinds of beach change—namely change that is rapid or artificially caused—result in a property boundary that is in a different place from the datum-based line: because of these rules, finding the mean higher-high-water line would be just the beginning of a process into finding the property boundary. If our hypothetical North Padre Island landowner wants to establish her property boundaries with

45. This problem might be solved through new technology. *Id.* at 336. Technology will not, however, resolve scientific controversies over the most reliable or normatively desirable ways to calculate datums like mean higher high water. See Xin Liu et al., *A State of the Art Review on High Water Mark (HWM) Determination*, 102 OCEAN & COASTAL MGMT. 178, 188 (2014); Morton & Speed, *supra* note 30, at 1383.

46. They are both purely measurement problems, except to the extent there is controversy about what ought to be measured. The question of what to measure is more than purely scientific, and has a legal component. Note that in Texas, for example, the datum to be used in setting the boundary on Spanish or Mexican grant property is mean higher high *water*, not mean higher high tide. The word “water” means that the surveyor is to include all influences on the height of the highest daily high water, including meteorological events such as storms. Texas law was not entirely certain on this point until the Supreme Court of Texas’s decision in *John G. & Marie Stella Kenedy Mem’l Found. v. Dewhurst*, 90 S.W.3d 268 (Tex. 2002).

47. Google maps currently includes some topographic information, although the data are from other maps. *Developer Guide*, GOOGLE MAPS PLATFORM, <https://developers.google.com/maps/documentation/elevation/intro> [<https://perma.cc/66MT-X753>]. In other words, the application does not incorporate the type of real-time topographical information necessary for finding an elevation on an active beach. To do this, Google would need technology that constantly measured changes in elevation. At present, the only remote sensing tool that can accomplish this is LIDAR (Light Detection and Ranging), which must be carried by a boat or a plane, vehicles that—unlike groups of satellites—cannot continuously measure the entire earth. For an introduction to how LIDAR is used to measure beach elevations, see Hilary F. Stockdon et al., *Estimation of Shoreline Position and Change Using Airborne Topographic Lidar Data*, 18 J. COASTAL RES. 502 (2002).

certainty sufficient to support successful trespass cases, then she will have to hire a lawyer and go to court.⁴⁸

A. *Avulsion and Divergence*

Under the common law, when nature *gradually* builds up a beach such that the datum-based line moves seaward,⁴⁹ the change is known as “accretion.”⁵⁰ When the opposite occurs, and the line moves gradually landward, the change is known as “erosion.”⁵¹ The doctrine of gradual change has existed in the common law since the fourteenth century,⁵² and it is very simple: when the beach and the line change due to accretion or erosion, the property boundary also changes.⁵³

“Avulsion,” on the other hand, is a legal term for *rapid* change to a beach.⁵⁴ While accretion refers to gradual movement of the datum-based

48. It is possible that the vigilant landowner could convince the local police to encourage beach-goers to stay lower on the beach. If the property line is unenforceable, however, beach-goers are not committing a crime when they walk on or reasonably use the dry sand. Thus, police likely will not be interested in herding or arresting them without an accompanying breach of the peace. This would seem to be especially likely in areas with tourism-driven economies, where police would be even less motivated to interfere with legal use of the beach by outsiders.

49. In the geologist’s language, “accretion” refers specifically to the addition of sediment to the shore, via currents, wind, or otherwise. The law, though, is concerned with the movement of the datum-based line. If the datum-based line moves seaward slowly, the law considers that to be “accretion.” The law does not care whether “new” sand has accumulated or if sand that was already there simply moved around.

50. The common law of accretion and erosion has its origins in English cases dating to the fourteenth century. Sax, *supra* note 14, at 309.

51. As with the term “accretion,” the term “erosion” has a broader meaning in the law than it does in geology: “Erosion” is any slowly occurring change that causes the datum-based line to move landward. So, for example, if the upland is slowly subsiding, the loss in elevation will cause the line to move landward. In subsidence, sometimes caused by groundwater withdrawals, the beach has not lost sand; rather, the beach has sunk.

52. Sax, *supra* note 14, at 309.

53. Katrina M. Wyman & Nicholas R. Williams, *Migrating Boundaries*, 65 FLA. L. REV. 1957, 1958–59 (2013).

54. Blackstone used the words “small and imperceptible” as adjectives to describe the kind of change that causes erosion and accretion, as opposed to avulsion. BLACKSTONE’S COMMENTARIES 195 (William C. Sprague ed., abr., 9th ed. 1915) (1765). According to Professor Sax, scholars of the past have argued that the size of the change—small or large—should be, in addition to the rate of the change, a factor in distinguishing accretion or erosion from avulsion. Sax, *supra* note 14, at 330–34. Beginning at the latest with *The King v. Lord Yarborough*, (1824) 107 Eng. Rep. 668, 672–74 (K.B.); 3 B. & C. 91, courts are concerned only with “the meaning of ‘imperceptibly,’” that is, the rate of the change. *Id.* One can read this as consistent with Blackstone’s use of “small”: each addition or subtraction of land is so small as to make it imperceptible.

A survey of the law in the twenty-one, common law, ocean-fronting states that use tidal datums for boundary-setting shows that only Texas does not distinguish between slow and rapid change for purposes of title. See Josh Eagle, Survey of Ocean-fronting States’ Rules on Avulsion and Artificial

line seaward and erosion refers to gradual movement of the line landward, avulsion refers to rapid change in either direction.⁵⁵ I use “positive avulsion” for rapid beach change causing the datum-based line to move seaward; and, “negative avulsion” for rapid change that leads to movement of the line landward. The doctrine of avulsion, unlike the doctrine of gradual change, holds that rapid change does not move the property line.⁵⁶ In other words, after an avulsive event, the property line remains where it was before the event.⁵⁷

For example, suppose a storm—a common cause of rapid change—lowers the elevation of the beach so that, if a surveyor came out after the storm to find the mean high-tide line, she would “draw” it thirty yards further inland (Line 2) than where it had been prior to the storm (Line 1).⁵⁸ However, the property line would remain where it had been prior to the storm (Line 1). There would be a thirty-yard difference between the datum-based line (Line 2) and the property boundary (Line 1); the property boundary (Line 1) would be under water, giving the beachfront owner title to newly submerged lands; the beach, if it still existed, would be entirely private.

Accretion 1–17 (Sep. 3, 2018) (unpublished survey) (on file with the *Washington Law Review*). The majority opinion of the Supreme Court of Texas in *Severance v. Patterson*, 370 S.W.3d 705, 723 (Tex. 2012), asserts that Texas has not yet had occasion to distinguish for purposes of title, but that state law does distinguish between accretion and avulsion for other purposes. This language conflicts with language in earlier Texas Supreme Court opinions, such as the one in *Luttes v. State*, 324 S.W.2d 167, 175–76 (Tex. 1958), where the court seems to consider the imperceptible nature of the change to a beach a fact critical to title. There are two other ocean-fronting states: Louisiana, which is obviously not a common-law jurisdiction, and Hawai’i, which uses the vegetation line for boundary-setting, making accretion and avulsion relatively rare.

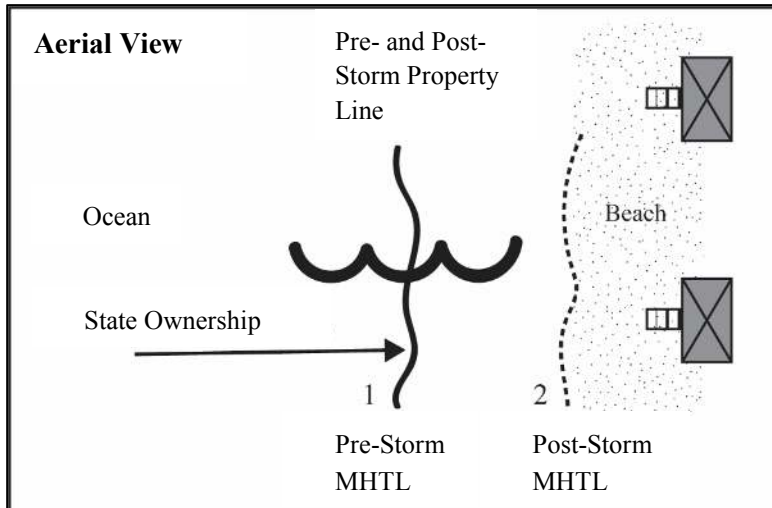
55. JOSH EAGLE, *COASTAL LAW* 304–25 (2d ed. 2015).

56. Sax, *supra* note 14, at 306.

57. *See id.*; Williams & Wyman, *supra* note 53, at 1959.

58. *See infra* Figure 3.

**Figure 3:
Divergence Resulting from Rapid Landward Movement
of MHTL (Negative Avulsion)**



The post-storm MHTL is not the post-storm property line.

Under the common law doctrine of avulsion, a beachfront owner whose property was affected by negative avulsion would possess a temporary right to reclaim the submerged part of his property, that is, a right to fill the newly submerged lands with sand out to Line 1.⁵⁹ If the landowner does not reclaim within a reasonable period of time, the right to reclaim expires, and the property line becomes once again the datum line (Line 2).⁶⁰ In other words, law treats the unreclaimed change as erosion.

Suppose the same storm raised the elevation of the beach so that the mean high-tide line (Line 2) moved thirty yards seaward.⁶¹ Under the avulsion doctrine, the property line (Line 1) would remain where it had been before the storm. Thus, the beachfront owner would own exactly

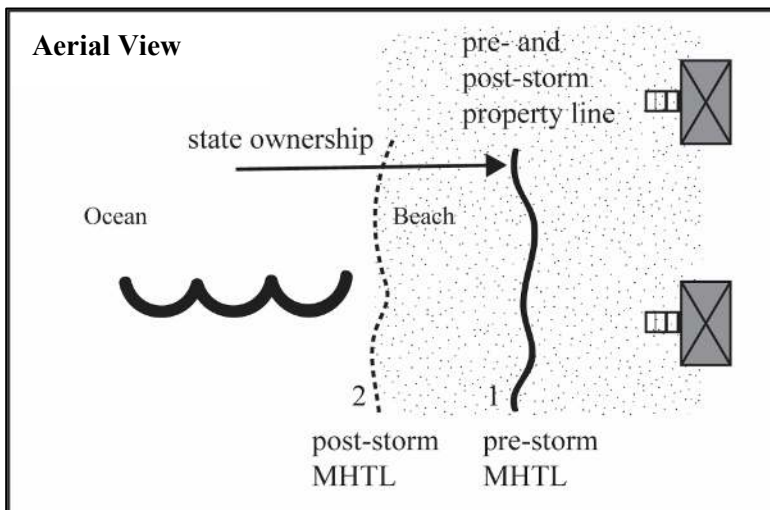
59. See, e.g., *Beach Colony II v. Cal. Coastal Com.*, 199 Cal. Rptr. 195, 201 (1984) (citing CAL. CIV. CODE § 1015 (1872) (“If a river or stream, navigable or not navigable, carries away, by sudden violence, a considerable and distinguishable part of a bank, and bears it to the opposite bank, or to another part of the same bank, the owner of the part carried away may reclaim it within a year after the owner of the land to which it has been united takes possession thereof.”); *Walton County v. Stop the Beach Renourishment, Inc.*, 998 So. 2d 1102 (Fla. 2008); *In re Town of Hempstead*, 144 N.Y.S.2d 440 (Sup. Ct. 1954).

60. See *supra* note 50.

61. See *infra* Figure 4.

what she owned beforehand, and the state would own the newly created dry sand between Lines 1 and 2. This result has a dramatic effect on the property rights of the beachfront owner and the state. Because the owner no longer owns property touching the sea, she no longer holds riparian or littoral rights. Most notably, she is not entitled to ownership of future accretion. The state, as owner of the new oceanfront parcel—the ribbon of positive avulsion that separates the former beachfront owner from the sea—will own all future accretion as the new beachfront owner.

Figure 4:
Divergence Resulting from Rapid Seaward Movement of the MHTL (Positive Avulsion)



As in Figure 3, the post-storm MHTL is not the post-storm property line.

It is unclear whether the right to reclaim extends to states as well as private landowners.⁶² Unlike waterways that are used for commercial navigation, states are unlikely to try to exercise a right to reclaim along a beach after positive avulsion, by dredging the avulsive ribbon of new upland to restore submerged status.⁶³ If states did have the right to

62. In *Stop the Beach Renourishment*, the Florida Supreme Court held that the state could exercise its right to reclaim after *negative* avulsion. *Stop the Beach Renourishment*, 998 So. at 1116. A logical question is: What did the state lose in the avulsive event that it wished to restore? After all, negative avulsion results in a loss of private upland. Although the court's opinion is confusing on this point, it appears that the court is authorizing the state to rebuild the public, pre-avulsion beach—the part of the beach below the mean high-tide line. EAGLE, *supra* note 55, at 335.

63. Government dredging of newly formed accumulations of sand is common practice in commercially navigable waterways, where doctrines such as the federal navigational servitude give

reclaim, there would be further uncertainty. The important question would be: Does the state's right to reclaim expire, like the private landowners'? On the one hand, symmetry in the rules seems fitting; on the other hand, expiration would conflict with the core function of the public trust doctrine—to prevent states from alienating trust property without prior full and transparent process.⁶⁴ If the state's right to reclaim did expire, it would mean that publicly-owned positive avulsion would, as a matter of course, shift from public to private ownership unless the state had timely dredged the newly created beach. In other words, the property boundary might ultimately shift from Line 1 to Line 2 in Figure 4.

When a surveyor arrives at a beach, she is equipped to locate the mean high-tide line. She is not in a position to know or judge whether the present property line matches that mean high-tide line. If the topography of the beach is purely a product of gradual change, that is, accretion or erosion, then it could be true that the datum and property lines match up.⁶⁵ If, on the other hand, avulsion played a role in altering the topography, then the lines might not coincide. If negative avulsion

governments the right to restore navigability without fear of liability. In oceanfront waters, other than perhaps those near ports, there is usually not a commercial navigation concern.

64. State-owned tidal and submerged lands are classified as public trust property, a type of property governed by stringent rules meant to protect the public interest in those lands. *See* Ill. Cent. R.R. Co. v. Illinois, 146 U.S. 387, 455–56 (1892) (“The ownership of the navigable waters of the harbor and of the lands under them is a subject of public concern to the whole people of the state. The trust with which they are held, therefore, is governmental, and cannot be alienated, except in those instances mentioned, of parcels used in the improvement of the interest thus held, or when parcels can be disposed of without detriment to the public interest in the lands and waters remaining.”); Richard J. Lazarus, *Changing Conceptions of Property and Sovereignty in Natural Resources Law: Questioning the Public Trust Doctrine*, 71 IOWA L. REV. 631, 650–52 (1986) (noting the “most meaningful” construction of the public trust doctrine requires that transfers of trust property, or activities affecting trust property, “occur only after consideration of any adverse impact on the trust resource and then only if such impact is either minimal or necessary”). As the Supreme Court of Alaska wrote, “[b]efore any tideland grant may be found to be free of the public trust . . . the legislature’s intent to so convey it must be clearly expressed or necessarily implied in the legislation authorizing the transfer.” *CWC Fisheries, Inc. v. Bunker*, 755 P.2d 1115, 1119 (Alaska 1988); *see also* *Gwathmey v. State ex rel. Dep’t of Env’t, Health, & Nat. Res.*, 464 S.E.2d 674, 684 (N.C. 1995) (Legislature can transfer trust lands, but only if it uses a “special grant” that lays out its intent to do so in the “clearest and most express terms.”).

On the public trust doctrine and its component rules, see MICHAEL C. BLUMM & MARY CHRISTINA WOOD, *THE PUBLIC TRUST DOCTRINE IN ENVIRONMENTAL AND NATURAL RESOURCES LAW* 3–56 (2013); Josh Eagle, *Taking the Oceanfront Lot*, 91 IND. L.J. 851, 870–79 (2016); Joseph L. Sax, *The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention*, 68 MICH. L. REV. 471, 475–91 (1970); Barton H. Thompson, Jr., *The Public Trust Doctrine: A Conservative Reconstruction & Defense*, 15 S.E. ENVTL. L.J. 47, 50–54 (2006).

65. This would be true unless artificial forces were the cause of the accretion or erosion. *See infra* section II.B.

has previously occurred, the property line would be off the beach and under the water; or, if the landowner's right to reclaim has expired, the property line would be identical to the mean high-tide line. If positive avulsion has previously occurred, the property line would be in the middle of the dry-sand beach; or, if the right to reclaim applies to the state and the right has expired, then the mean high-tide line could once again be the property line. The important point is that, while the surveyor can potentially locate the datum-based line, she cannot know where the property line is.

The question of whether a particular change to the beach constitutes gradual change (erosion or accretion) or rapid change (avulsion) is a mixed question of fact and law.⁶⁶ There is no agreed-upon legal definition of what rates of change qualify as gradual or rapid.⁶⁷ A finder of fact would first examine aerial photos, satellite images, or other historical data on change to the beach over time in an effort to judge rate of change. She would in addition receive testimony from coastal oceanographers on the likely causes of change to the beach over time, such as storms, currents, or other events. Based on these factual inputs, the finder of fact would conclude that the change in question should be characterized, for legal purposes, as either gradual or rapid.⁶⁸

66.

Since the problem in [accretion] cases . . . is usually more historical than legal, and since such cases are usually tried to the Court, which is ordinarily competent to give proper weight to the various items of evidence, the testimony may properly take a wide range, the Court admitting anything which has any rational tendency to throw light on the problem in hand.

Ussery v. Anderson-Tully Co., 122 F. Supp. 115, 122–23 (E.D. Ark. 1954).

67. Henry De Bracton's thirteenth-century treatise ON THE LAWS AND CUSTOMS OF ENGLAND contains this description of accretion:

[It] is an imperceptible increment which is added so gradually that you cannot perceive [how much] the increase is from one moment of time to another. Indeed, though you fix your gaze on it for a whole day, the feebleness of human sight cannot distinguish such subtle increases, as may be seen in [the growth of] a gourd and other such things.

HENRY DE BRACTON, 2 BRACTON ON THE LAW AND CUSTOMS OF ENGLAND 44 (Samuel F. Thorne trans., 1968) (cited in Sax, *supra* note 14, at 313–14). This somewhat vague and arbitrary test is identical to the one courts use today. See, e.g., Accardi v. Regions Bank, 201 So.3d 743 (Fla. App. 2016); *State v. Murphy*, 202 So.3d 1243 (Miss. 2016); S & R Am. Farms, LLC v. Russell Farm & Ranch Corp., No. A-15-998, 2016 WL 7094135 (Neb. Ct. App. Dec. 6, 2016).

68. For a good example of the kinds of facts entailed in a judicial proceeding quieting title to oceanfront land, see *Luttes v. State*, 324 S.W.2d 167 (Tex. 1958). In *Luttes*, among other things, the landowner's expert examined core samples that purported to show whether layers of sand had been added gradually or rapidly. *Id.* at 172–73.

B. Artificial Change and Divergence

The common law treats certain man-made influences on the topography of the beach like avulsive events.⁶⁹ In other words, change caused by artificial forces does not affect the pre-existing property line and, like avulsive change, causes datum-based lines and property lines to diverge.⁷⁰ The question of whether any artificial forces have caused change to the beach in the days, weeks, months, or years prior to the surveyor's arrival on the scene introduces more uncertainty to the process of locating the ocean-side boundary. As with the gradual-rapid question, the natural-artificial question is one for the finder of fact.⁷¹

The rationale for freezing the line in the face of artificial change is simple. Movement of the ocean-side boundary is literally a zero-sum game. For every square meter of submerged land that accrues to the state by virtue of erosion, the neighboring oceanfront owner loses a square meter of dry land. In this context, it would be unwise to have rules that allow one party to increase the size of its landholdings through relatively low-cost measures such as dumping sand on the beach or building sand-trapping groins. The fact that the state is one of the parties adds strength to this rationale: as a general rule, the law disfavors transfers of sovereign property to private parties, insisting on clearly written grants indicating clearly expressed intent.⁷² It is one thing to allow the sovereign to transfer land without a grant due to natural changes to the beach (as accretion rules do). It would be quite another to allow oceanfront owners to intentionally take submerged land from the state and convert it to their own, dry-private property.⁷³

69. See WATERS AND WATER RIGHTS 6-236-39 § 6.03 (3rd ed. 2017) [hereinafter § 6.03 WATERS].

70. *Id.* Of the twenty-one ocean-front states that use datum-based lines, nineteen have rules preventing upland owners from gaining title to artificial accretion. See Eagle, *supra* note 54, at 22–29. It is hard to imagine, however, that any court today would grant title to new upland created by a landowner dumping sand on the beach in front of their home—due to the rapid rate of adding sand by dumping, the new upland would also belong to the state under the doctrine of avulsion.

71. See *Kansas v. Meriwether*, 182 F. 457, 462 (8th Cir. 1910) (“We have already considered the facts disclosed by the findings of the master and the proof and have reached the conclusion that [the accretion] was not in fact formed by any artificial devices.”).

72. See Sax, *supra* note 14, at 311 (“[T]he law regarding movement at the water’s edge built on the general proposition that if land ownership were to change, the change must be pursuant to some lawful means for transferring property from one owner to another.”). Courts applied the requirement of an explicit, formal transfer with particular strength to land transfers alleged to have been made by the crown. *Id.* at 312. This requirement lives on today in the heart of the public trust doctrine. See discussion *supra* note 64.

73. See *Revell v. People*, 52 N.E. 1052, 1057 (Ill. 1898) (“[A]ppellant had no right, by any device whatever, to extend his boundary line beyond the water’s edge, and when he did so an injury was

Following this rationale, courts that have faced the issue have held that a landowner who causes changes to the topography of her oceanfront lot is not entitled to the spoils, if any, of that effort.⁷⁴ At least three ocean-fronting states have rules on artificial change that go beyond this to cover man-made impacts on the property caused by a third party.⁷⁵ In these states, a landowner is only entitled to natural accretion.⁷⁶ Off-property, man-made causes of accretion include activities that artificially add material to sediment supply, such as the dredging of a channel, as well as those that trap sand on the landowner's property, such as a neighbor's groin or jetty.⁷⁷

As with the question of slow or rapid change, only a court proceeding can resolve the question of whether existing beach topography is a product of artificial or natural forces. A court will have to answer two questions—one purely legal and the other a mixed question of fact and law—in order to determine whether an oceanfront owner should gain title to newly formed accretion. First, what is the jurisdiction's definition of "artificial"? As noted above, courts might consider landowner-caused accretion to be artificial, and otherwise-caused accretion to be natural. One court has ruled that accretion caused by on- or off-property sand trapping is "artificial," while accretion caused by off-property sediment enhancement is "natural."⁷⁸ After it defines "artificial," the court would then have to decide whether the identified artificial force or forces actually caused the accretion in question to occur. Coastal geomorphology is complex, and expert opinions on the exact causes of beach change in a given location will vary. The surveyor is neither

inflicted on the rights of the [S]tate, which might be inquired into and abated in a court of equity on the application of the [A]ttorney [G]eneral.").

74. See *Bonelli Cattle Co. v. Arizona*, 414 U.S. 313, 327 (1973), *overruled on other grounds by Oregon ex rel. State Land Bd. v. Corvallis Sand & Gravel Co.*, 429 U.S. 363, 371 (1977) ("Where accretions to riparian land are caused by conditions created by strangers to the land, the upland owner remains the beneficiary thereof.").

75. § 6.03 WATERS, *supra* note 69, at 6-239 (California, Mississippi, and Texas are the three states).

76. *State ex rel. State Land Comm'n v. Super. Ct. of Sacramento Cty.*, 900 P.2d 648, 665-66 (Cal. 1995).

77. *Id.* In *Luttes v. Texas*, 324 S.W.2d 167, 175 (Tex. 1958), the Supreme Court of Texas made it clear that Texas courts would only consider "purely natural and imperceptible" accretions as "genuine or 'legal'" accretions. The court also implied that the scope of investigation into the cause of accretions would go beyond the location of the property to which accretion attached, referencing off-property artificial forces such as "the creation of spoil banks along the Intracoastal Canal and Harlingen Ship Channel." *Id.* at 175-76.

78. *State ex rel. State Lands Comm'n v. Super. Ct. of Sacramento Cty.*, 25 Cal. Rptr. 2d 761, 763 (Cal. Ct. App. 1993).

equipped, nor authorized, to make a determination on the artificial-natural question.

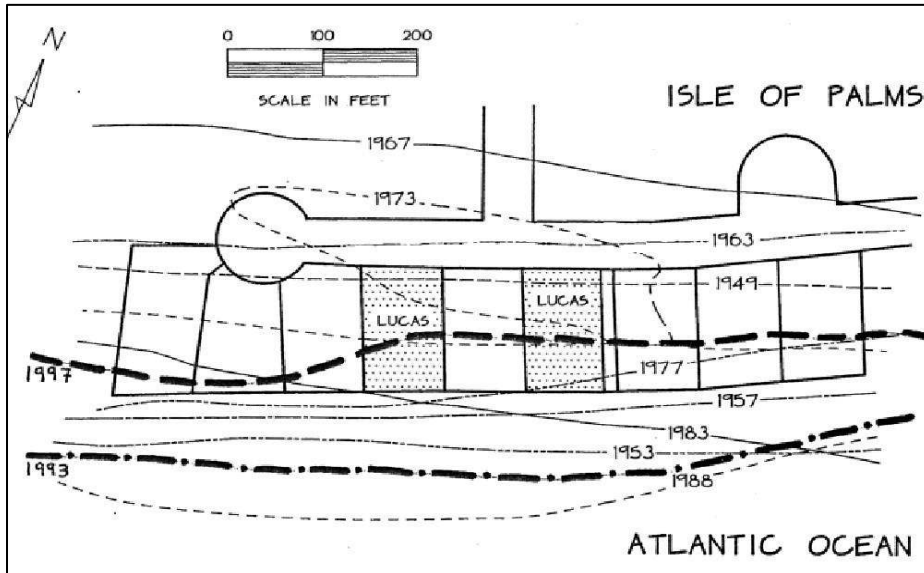
C. History and Unknowability

The unknowability described above is largely a product of the fact that a surveyor is only able to capture information about the present. The beach, though, is constructed of layers of sand that have accumulated over time, like the rings of a tree.⁷⁹ Each layer is the result of an event like a storm, a high tide, or the cycle of a local sediment pattern.⁸⁰ The legal labels attached to the layers—artificial or natural accretion, or avulsion—bear on the question of title to the property. (Figure 5 provides an illustration of layers of change on a sandy beach in South Carolina. The drawing presents a greatly simplified version of historical change because it shows data on a coarse time-scale, with years between MHTL measurements.)

79. E. Robert Thieler et al., *Modern Sedimentation on the Shoreface and Inner Continental Shelf at Wrightsville Beach, North Carolina, U.S.A.*, 71 J. SEDIMENTARY RES. 958, 962–64 (2001).

80. *Id.*

Figure 5:
Lines Showing the Approximate Location of the MHTL at Various Times Between 1949 and 1997, Isle of Palms, South Carolina



The map shows nine platted lots, including the two lots that were at issue in *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003 (1992). Just above the Lucas lots is a small cul-de-sac street, Beachwood East, which the developer built sometime before 1985. Only a court can establish, for purposes of title, whether the indicated line movements were slow or rapid, natural or artificial.

Layers of artificial accretion or avulsion can have the effect of ending the oceanfront owner's nominal and legal status as an oceanfront owner.⁸¹ The "first" layer of positive avulsion locks the ocean-side boundary in place and creates a new oceanfront owner—the state. Subsequent accretion belongs to the state, because the state is now the oceanfront owner.⁸² There is no guarantee that the state will remain forever as the oceanfront owner. Imagine that the state's new land

81. See *Stop the Beach Renourishment, Inc. v. Fla. Dep't of Envtl. Prot.*, 560 U.S. 702, 709 (2010) ("[W]hen a new strip of land has been added to the shore by avulsion, the littoral owner has no right to subsequent accretions. Those accretions no longer add to his property, since the property abutting the water belongs not to him but to the State."); *L.A. Athletic Club v. City of Santa Monica*, 147 P.2d 976, 978 (Cal. Ct. App. 1944) (artificial accretion converts oceanfront owner, possessing right to future accretions, to ordinary owner whose property boundary is fixed at the line where artificial accretion first attached).

82. See *supra* note 81.

increases through artificial accretion until the mean high-tide line is thirty feet seaward of the ocean-side boundary. (Artificial accretion causes the two lines to diverge.) If erosion were to erase these gains entirely, the state would lose its status as an oceanfront property owner, and that status would transfer to the party owning the lot just behind the state-private boundary.

This example only scratches the surface of the real-world complexity that would entail in trying to sort out state and private ownership of the beach. In the real world, the beach is more like a braid of woven strands than a tree of relatively even, marked rings.⁸³ Events do not deposit sand in regular, discernible layers. The same event, or combination of events, will effect changes to the topography of the beach that vary over small distances in terms of rates, degrees, and direction of change.⁸⁴ Different locations within a single parcel of land, for example, might see gains in elevation, while other areas might see a decrease. Imagine that a storm affected elevations along a lot's one thousand feet of waterfront in a variety of ways. In some spots, the storm raised elevation, causing the datum-based line to move seaward, but leaving the property boundary where it was before the storm. The state owns this new positive avulsion. On other parts of the property, the datum-based line did not change, and thus remained identical to the property boundary. As weeks and years pass, accretion occurs, adding to both state and landowner property. Or does it? It would be impossible to determine as a scientific matter to whose property these increases have attached.

Even assuming that one had the resources to conduct a complete quest for the truth of ownership, the needed historical data does not currently exist. Labeling beach layers accurately as, for example, rapidly or gradually formed, would require hourly or daily observations of beach change over a significant period of time.⁸⁵

There is one more source of uncertainty wrapped within the layered and interwoven ribbons of sand. The presence of the state as owner eliminates the quieting effect of time. The oceanfront owner cannot gain title to state-owned public trust property, including state-owned positive avulsion or artificial accretion, through adverse possession or a similar doctrine: adverse possession generally does not apply to divest sovereign

83. DAVIDSON-ARNOTT, *supra* note 36.

84. *Id.*

85. As noted, this can sometimes be done by taking core samples from the beach. *See* Luttes v. State, 324 S.W.2d 167, 172–73 (Tex. 1958). The geologist's opinion on whether change occurred rapidly or slowly is not, of course, a substitute for a court's determination as to how the change ought to be labelled.

owners of title.⁸⁶ The prohibition on adverse possession against the state is consistent with many property rules that disfavor sovereign grants of property to private parties.⁸⁷

The presence of the state as owner or potential owner of ribbons within the beach means that there are no articulable time limits to the adequate scope of historical research. The ribbon of positive avulsion found at the top of a wide beach may be more than 100 years old, but it continues to establish that all sand seaward is public and owned by the state. In the hypothetical beach quiet title action, the court will have to decide whether there are time limits to the inquiry on historical change.⁸⁸ If so, the period would have to be long enough to respect the spirit of disfavoring state transfer.⁸⁹ If not, there would be no possible way to sort out ownership.⁹⁰

D. Why Rules on Avulsion and Artificial Change Exist

One way to simplify the process of locating the ocean-side boundary would be to eliminate the rules that cause datum-based lines to diverge from the property boundary. If the datum-based line were always the

86. *United States v. California*, 332 U.S. 19, 40 (1947) (“The Government, which holds its interests here as elsewhere in trust for all the people, is not to be deprived of those interests by the ordinary court rules designed particularly for private disputes over individually owned pieces of property; [and] Officers of the Government who have no authority at all to dispose of Government property cannot by their conduct cause the Government to lose its valuable rights by their acquiescence, laches, or failure to act.”). Following the Supreme Court’s logic in *Illinois Central Railroad Co. v. Illinois*, 146 U.S. 387 (1892), the general ban on adverse possession against the government should be absolute with respect to public trust lands, such as submerged or formerly submerged sandy beach. In that case, the Court strictly limited intentional transfers of trust lands; logic would dictate that the prohibition on unintentional transfers, such as by adverse possession, would be even stronger.

87. While the state can sell or give away land, the common law sets up significant checks on such transfers. In a private-to-private sale, for example, deeds are to be construed against the grantor, that is, in the light most favorable to the grantee. The common law flips this presumption, holding that where a deed is ambiguous, it should be interpreted so as to retain title in the sovereign. *See Gwathmey v. State ex rel. Dep’t of Env’t, Health, & Nat. Res.*, 464 S.E.2d 674, 684 (N.C. 1995) (“The General Assembly has the power to convey such lands, but under the public trust doctrine it will be presumed not to have done so.”).

88. In title disputes between private parties and states concerning potential public trust lands, courts regularly go back in time to consider facts from the moment the state came into being and before. *See PPL Mont., LLC v. Montana*, 565 U.S. 576 (2012); *Phillips Petroleum Co. v. Mississippi*, 484 U.S. 469 (1987); *Pollard v. Hagan*, 44 U.S. 212 (1845).

89. And, of course, the proceeding would require data on causes, rates, and directions of beach change from the beginning to the end of the period.

90. The assumption here is that there would be a point in time in the state’s history before any measurements of beach change had occurred. In the absence of measurements verifying private ownership, a court should not have the power to divest the state of public trust property.

property line, then—with some advances in technology—it would be possible to know the location of the boundary in real-time and, thus, to enforce that boundary.

It is unlikely, though, that state legislatures or courts will be interested in doing away with rules on avulsion and artificial change. Both rules are logically integral to the broader doctrine of shoreline boundaries, which uses automatic adjustments in the public-private boundary to keep submerged lands in public hands while making land that is usually dry available for private improvement.⁹¹ The general rule that boundaries move in harmony with movement of the waterline is an elegant solution to the “problem” of unstable real estate, but the rule’s exceptions are necessary to protect the interests and expectations created by the general rule. While it seems fair for landowners to give up land that has gradually become submerged, and vice versa, it does not seem as fair to mandate that one party transfer land to another in the wake of either sudden changes to their property, or changes that occurred due not to acts of nature, but to those of the landowner or other people.

As noted above, the common law has long included special treatment of sovereign land transfers. As Professor Joseph L. Sax carefully explained, the evolution of the ambulatory boundary depended upon the notion of gradual and *imperceptible* change.⁹² The only way for the common law to overcome its aversion to the transfer of crown-owned submerged land to a private owner was for courts to describe the change as being beyond the possibility of proof.⁹³ If the sovereign could prove the location of the boundary prior to the accumulation of sediment, then the sovereign would be entitled to ownership of the land. But, if the accretion had occurred so slowly and over such a long period that knowledge of the past eroded and proof became impossible, then it was acceptable for the land to be “re-titled” in the name of the oceanfront owner.⁹⁴ Slow and imperceptible is another way of saying that, as far as anyone knew, no crown-to-private transfer had ever occurred.

As Professor Sax pointed out, avulsion—having occurred rapidly over a short period of time—made proof of the prior boundary possible.⁹⁵ Consistent with general principles of sovereign grants, the King (or state) would retain ownership of positive avulsion and, consistent with

91. These automatic adjustments can be thought of as mandated transfers of land from the state to the beachfront owner (accretion) or from the owner to the state (erosion).

92. Sax, *supra* note 14, at 311–13.

93. *Id.*

94. BLACKSTONE’S COMMENTARIES, *supra* note 54, at 195.

95. Sax, *supra* note 14, at 309–11.

the public trust doctrine, would have an obligation to defend its title for the benefit of the people.⁹⁶ Any court or legislature seeking to eliminate rules against avulsion would have to justify the departure from general principles. Such an act would be, to paraphrase Professor Richard Epstein, a taking of public property for private use without just compensation.⁹⁷

Moreover, while landowners might initially think that the elimination of avulsion rules would be beneficial, insofar as it might enhance the right to exclude, further thought might convince them otherwise. The law of negative avulsion, after all, is favorable to landowners, allowing them the opportunity to lawfully reclaim lost land by, for example, renourishing the beach. Eliminating the possibility of avulsion would mean that sudden and short-lived events, such as storm surges or flooding, would shift title frequently and suddenly between oceanfront owners and the state.⁹⁸ What about eliminating only the possibility of positive avulsion, while leaving in place rules that protect landowners against sudden loss of land? Because such a change would be so one-sided in favor of landowners, judges or legislators supporting it would have difficulty explaining why the change is consistent with their obligation to protect state-owned trust property.⁹⁹

Similarly, it is difficult to imagine the court or legislature that would be willing to sanction private, accretion-causing activities that result in mandated transfers of public trust land from the state to private parties. As noted in Part II, states define “artificial” in different ways. Some states, such as California, use broad definitions that prevent landowners from obtaining title to land accreted as a result of artificial forces both near and far from the property.¹⁰⁰ On the other hand, some states define

96. *Id.* at 311–13.

97. Richard A. Epstein, *The Public Trust Doctrine*, 7 CATO J. 411, 417–22 (1987).

98. *See* Bohn v. Albertson, 238 P.2d 128, 129 (Cal. Ct. App. 1951).

99. Legislation eliminating the state’s future rights in cases of avulsion is tantamount to a transfer of state public trust property, specifically, property that was navigable, submerged land prior to the avulsive event. The public trust doctrine allows such transfers only in very limited circumstances. *See* Ill. Cent. R.R. Co. v. Illinois, 146 U.S. 387, 455–56 (1892). These restrictions are deeply rooted in the Anglo-American legal tradition. In *Illinois Central*, the Supreme Court quoted with approbation an opinion of the Supreme Court of New Jersey:

The sovereign power itself, therefore, cannot, consistently with the principles of the law of nature and the constitution of a well-ordered society, make a direct and absolute grant of the waters of the state, divesting all the citizens of their common right. It would be a grievance which never could be long borne by a free people.

Id. at 456 (citing *Arnold v. Mundy*, 6 N.J.L. 1 (1821)).

100. *State ex rel. State Lands Comm’n v. Super. Ct. of Sacramento Cty.*, 25 Cal. Rptr. 2d 761, 763 (Cal. Ct. App. 1993).

the term narrowly, to include only accretion-causing acts of the landowner herself. Narrowing a broad definition would reduce the scope of the inquiry into the geological history of the beach needed to establish boundaries. It would not, however, completely eliminate the need for a judicial proceeding on the artificial-natural question: for example, a landowner could dispute the fact that her actions, say in building a sand-trapping jetty or groin, were the cause of accretions to her property.¹⁰¹

One possible way to eliminate the necessity of artificial-accretion rules would be to take a different approach to negating the wrongful transfer of land from public to private ownership. Specifically, a state could opt to regulate the kinds of activities that cause artificial change (to prevent it from occurring) rather than claiming title to the results of artificial change. South Carolina, for example, bans the construction of new seawalls and other erosion control devices.¹⁰² Such measures could eliminate some causes of artificial accretion, but not all. The South Carolina statute does not require owners of existing, pre-1988, structures to remove them, and those structures continue to artificially influence patterns of accretion and erosion.¹⁰³

II. THE CONSEQUENCES OF LOSING A BOUNDARY

Real-time locational uncertainty precludes successful trespass actions against members of the public. The location of the boundary on the date the landowner wants to enforce her boundary, call it Day 1, cannot be known until a judge signs the order in the quiet title action on Day 500 (or whenever the case ends). After the order is entered, it will be possible for a landowner to know that the trespasser was on her property on Day 1, but it would have been impossible for the trespasser (or anyone else for that matter) to have known this on Day 1. In the absence of real-time knowledge, the state cannot prove the elements of criminal trespass, which includes the specific intent to cross a known property boundary.¹⁰⁴

101. *See, e.g.,* *Brundage v. Knox*, 117 N.E. 123, 125–26 (Ill. 1917) (finding that accretion was natural, and thus belonged to lakefront property owner, because “the pier constructed by [landowner] in 1890 . . . had no appreciable effect in causing accumulations to form on the shore, because it did not extend far enough into the water”).

102. S.C. CODE ANN. § 48-39-290(B)(2)(a) (West 2018).

103. *Id.*

104. Note also that a court proceeding will not establish the location of the line on Day 500, but on Day 1. Much avulsion and artificial change could have occurred since Day 1. The most important word in the last sentence is “could,” because it is the *possibility* of line divergence that creates the need for judicial input.

Other than precluding trespass actions, what is the effect of acknowledging that, as a matter of law, beach boundaries are unenforceable?

A. A Much Less Problematic Rationale for Public Dry-Sand Access

Over the past fifty years, courts and legislatures—most notably in New Jersey, Florida, Oregon, and Texas—have established public rights to use what were assumed to be private, excludable sandy beaches. As described below, states have used a variety of theories toward this end. These theories have been and remain controversial, in large part because courts' holdings required the expansion of existing public rights, or the creation of new public rights, the effect of which was perceived to diminish private property rights.¹⁰⁵

For example, in a series of cases, New Jersey courts held that the state not only holds fee title to traditional public trust property—land seaward of the ocean-side boundary—but also owns something akin to an appurtenant easement over some of the state's dry-sand beaches.¹⁰⁶ The theory is that the public cannot fully enjoy the state's part of the beach unless members of the public can use the dry sand for the limited purposes of resting and walking.¹⁰⁷ The public trust appurtenant easement is limited in another way as well: it only exists on those beaches where it is a necessary appurtenance.¹⁰⁸ So, a court would be

Application of the rule of lenity would amplify the difficulties in prosecution of alleged beach trespass insofar as it requires courts to resolve uncertainty in favor of the defendant. Note, *The New Rule of Lenity*, 119 HARV. L. REV. 2420, 2420 (2006). Also, and not a small matter, basic due process provides “that no man shall be held criminally responsible for conduct which he could not reasonably understand to be proscribed.” *United States v. Harriss*, 347 U.S. 612, 617 (1954); see also *State v. Ibbison*, 448 A.2d 728, 733 (R.I. 1982) (overturning beach trespass conviction due to legal uncertainty regarding the location of the ocean-side boundary).

105. See, e.g., David J. Bederman, *The Curious Resurrection of Custom: Beach Access and Judicial Takings*, 96 COLUM. L. REV. 1375, 1380 (1996) (“[J]udicial activists recognize custom-based property rights as an easy, and cheap, means of vesting a public interest in a valuable resource.”); James L. Huffman, *Why Liberating the Public Trust Is Bad for the Public*, 45 ENVTL. L. 337, 372 (2015) (noting that opening beaches via the doctrine of custom put “the rights of every property owner on the Oregon coast . . . at stake”); Barton H. Thompson, Jr., *Judicial Takings*, 76 VA. L. REV. 1449, 1451 (1990) (“Faced by growing environmental, conservationist, and recreational demands, for example, state courts have recently begun redefining a variety of property interests to increase public or governmental rights, concomitantly shrinking the sphere of private dominion.”).

106. *Matthews v. Bay Head Improvement Ass’n*, 471 A.2d 355, 368–70 (N.J. 1984); *Van Ness v. Borough of Deal*, 393 A.2d 571, 573–74 (N.J. 1978); *Borough of Neptune City v. Borough of Avon-by-the-Sea*, 294 A.2d 47, 54 (N.J. 1972).

107. “Reasonable enjoyment of the foreshore and the sea cannot be realized unless some enjoyment of the dry sand area is also allowed.” *Matthews*, 471 A.2d at 365.

108. *Id.* at 369 (“All we decide here is that private land is not immune from a possible right of

less likely to find that the easement exists on private dry-sand beaches that are directly adjacent to a state-owned, dry-sand park.¹⁰⁹ There is no question that this holding required the expansion of existing public trust doctrine; in one of its opinions, the Supreme Court of New Jersey admitted as much, with the majority stating that the doctrine is not meant to be “fixed or static,” but rather to “be molded and extended to meet changing conditions and needs of the public it was created to benefit.”¹¹⁰

In Oregon, by contrast, the state’s supreme court has held that *all* dry-sand beach in the state is open to public use.¹¹¹ The court justified its holding on the ground that beaches fall into a separate category of real property, use of which is governed not by the common law, but by uncommon, customary law.¹¹² Applying Blackstone’s six elements of custom,¹¹³ the court found that the public had enjoyed use of the entire beach “as public recreational land according to an unbroken custom running back in time as long as the land has been inhabited.”¹¹⁴ On its face, the custom rationale for public use sidesteps thorny Takings Clause issues that arise when the state alters established property rights; the argument, after all, is that there has been no alteration because the rules have been in place since time immemorial. Not everyone has bought into this “no-change” spin: as Justices Scalia and O’Connor later wrote of the Oregon court’s approach, “[t]o say that [the creation of public rights

access to the foreshore for swimming or bathing purposes, nor is it immune from the possibility that *some* of the dry sand may be used by the public incidental to the right of bathing and swimming.” (emphasis added)).

109. The Supreme Court of New Jersey emphasized the need for trust-based access because “[t]here is no public beach in the Borough of Bay Head.” *Id.* at 368.

110. *Neptune City*, 294 A.2d at 54.

111. *State ex rel. Thornton v. Hay*, 462 P.2d 671, 676 (Or. 1969) (“Strictly construed, prescription applies only to the specific tract of land before the court, and doubtful prescription cases could fill the courts for years with tract-by-tract litigation. An established custom, on the other hand, can be proven with reference to a larger region. Ocean-front lands from the northern to the southern border of the state ought to be treated uniformly.”).

112. *Id.* at 676–77 (“The other reason which commends the doctrine of custom over that of prescription as the principal basis for the decision in this case is the unique nature of the lands in question. This case deals solely with the dry-sand area along the Pacific shore, and this land has been used by the public as public recreational land according to an unbroken custom running back in time as long as the land has been inhabited.”). Professor Bederman critiques this statement of the law, arguing that the Oregon court “radically transformed the doctrine of localized community practices into a surrogate for the common law of property itself.” Bederman, *supra* note 105, at 1421. In other words, the dry-sand beaches of the state were not local, but widespread.

113. *Thornton*, 462 P.2d at 677.

114. *Id.* at 676–77.

through the custom rationale] raises a serious Fifth Amendment takings issue is an understatement.”¹¹⁵

Courts in other states, such as Florida and Texas, have employed more targeted means of opening dry sand to public use, using approaches that stress facts pertaining to historical public use on specific stretches of beach. The theory of public prescriptive easement is one such history-based approach: the law requires proof that the public has used the beach for a statutory period, usually for a period lasting between ten to twenty years.¹¹⁶ In some ways, public prescription appears to be less radical than adding new property to the public trust or using custom in a broad-brushed manner: easements apply only to limited stretches of beach. In addition, as with any form of prescription or adverse possession, the creation of the easement is dependent on a showing of neglect on the part of oceanfront landowners.¹¹⁷ The fact that oceanfront owners have allowed the public to use the beach without intervention for a long period of time might make the formal declaration of a right to continue to do so seem like less of a one-sided imposition. At the same time, there are reasons why courts might be tougher on claims of public—as opposed to private—prescriptive easements.¹¹⁸ For example, allowing the creation of a public easement might seem unfair to a landowner because she would have faced more difficulty enforcing her rights to prevent prescriptive use by large numbers of people than she would have had the use been exclusive to one person. In the latter situation, it is easy to know whom to sue in a civil trespass action; when trespassers are numerous and different every day, this would not be the

115. *Stevens v. City of Cannon Beach*, 510 U.S. 1207, 1212 (1994) (Scalia, J., dissenting from denial of cert.).

116. 7 JAMES L. BROSS ET AL., *THOMPSON ON REAL PROPERTY* §§ 60.03(b)(6)(v)–(vi) (David A. Thomas ed., 2d ed. 2006); see also *City of Daytona Beach v. Tona-Rama, Inc.*, 294 So. 2d 73 (Fla. 1974); *Concerned Citizens of Brunswick Cty. Taxpayers Ass’n v. Holden Beach Enters.*, 404 S.E.2d 677 (N.C. 1991); *Severance v. Patterson*, 370 S.W.3d 705 (Tex. 2012).

117. One of the justifications for adverse possession doctrine is that the “former title holder demonstrated a lack of interest in the land for such a long period of time that she effectively acquiesced in the occupation of her land by another.” JOSEPH WILLIAM SINGER, *PROPERTY* 158 (5th ed. 2017). With respect to prescriptive easements, the acquiescence is to use, rather than occupation, by another.

118. See William A. Dossett, *Concerned Citizens of Brunswick County Taxpayers Ass’n v. Holden Beach Enterprises: Preserving Beach Access Through Public Prescription*, 70 N.C. L. REV. 1289, 1307–08 (1992) (“Because a public easement is less limited in scope and creates a more permanent encumbrance than a private easement, courts have placed a greater burden on the claimant attempting to prove public prescription.”).

case.¹¹⁹ Perhaps for this reason, some states have refused to recognize the public prescriptive easement.¹²⁰

By contrast, a holding or a new statute premised on real-time locational uncertainty simply acknowledges a problem created by traditional common law and its recognition of the dynamism of shorelines; unlike prior beach access theories, locational uncertainty is an argument for inaction, not action. Put another way, it is not a normative argument, but a fact. As discussed in the next section, recognition of unenforceability does not alter private property rights, it simply describes them as they were and are.¹²¹

B. The Effect on Constitutional Challenges

Counsel for oceanfront owners have been aggressive and creative in challenging state actions that facilitate public use of what their clients perceive to be private dry sand.¹²² The principal constitutional basis for challenges has been the Takings Clause of the Fifth Amendment.¹²³ In recent years, lawyers have attempted to develop theories based on other provisions in the Bill of Rights, namely the Due Process Clause of the

119. To be fair to owners of record, adverse possession and prescriptive easement doctrine incorporate elements that give those owners the notice and opportunity to assert ownership before the adverse claim ripens. SINGER, *supra* note 117, at 161. One of the elements in adverse possession, for example, is the requirement that occupation be exclusive. *Id.* at 148. This element is generally not required for a prescriptive easement; most courts have allowed prescriptive easements to ripen where use of the easement had been shared between the owner and the claimant. *Id.* at 204. However, the weakened exclusivity requirement still gives the owner the opportunity to observe and identify the claimant. Inherent in the theory of public prescription is the idea that the state is claiming the easement on behalf of all, even those who may not yet have visited the property.

120. *See, e.g.,* Miller v. Grossman Shoes, Inc., 440 A.2d 302, 304–05 (Conn. 1982); Forest Hills Gardens Corp. v. Baroth, 555 N.Y.S.2d 1000, 1002 (N.Y. Sup. Ct. 1990).

In a twist on prescription, courts have in some cases found that upland owners have implicitly deeded rights of way to the public by allowing people to use the dry sand for lengthy periods. *See* Gion v. City of Santa Cruz, 465 P.2d 50 (Cal. 1970), *superseded by statute as stated in* Scher v. Burke, 395 P.3d 680 (Cal. 2017). This is an even more one-sided approach than public prescription; it penalizes owners for engaging in the socially desirable behavior of permitting use.

121. The “reasonable right to exclude” I propose as a replacement for the unenforceable ocean-side boundary will give landowners more, or certainly clearer, rights than they currently enjoy. *See infra* Part IV.

122. To get a sense of the number and scope of ongoing challenges, see the current coastal law cases filed by Pacific Legal Foundation’s Property Rights project. PAC. LEGAL FOUND., <https://pacificlegal.org/?s=coastal> [<https://perma.cc/E3FK-56DY>].

123. *See, e.g.,* Nollan v. Cal. Coastal Comm’n, 483 U.S. 825 (1987); Grupe v. Cal. Coastal Comm’n, 212 Cal. Rptr. 578 (Cal. Ct. App. 1985); Nies v. Town of Emerald Isle, 780 S.E.2d 187 (N.C. Ct. App. 2015); Severance v. Patterson, 370 S.W.3d 705 (Tex. 2012); Brannan v. State, 365 S.W.3d 1 (Tex. App. 2010), *rev’d*, 390 S.W.3d 301 (Tex. 2013).

Fifth Amendment,¹²⁴ the Fourth Amendment,¹²⁵ and the First Amendment.¹²⁶

The absence of a firm right to exclude substantially impairs Fifth Amendment claims related to public use of the beach. The Supreme Court's modern regulatory takings jurisprudence, set out in cases such as *Penn Central Transportation Co. v. City of New York*¹²⁷ and *Lucas v. South Carolina Coastal Council*,¹²⁸ revolves around a comparison between the plaintiff's property rights before and after the contested state action.¹²⁹ If a plaintiff landowner had no right to exclude beforehand, it is difficult to see how state action decreeing public rights to use the beach would constitute any change at all, never mind a change that would be "functionally equivalent to" a condemnation of the property.¹³⁰

More importantly, recognition of unenforceability would remove such state actions from the *Loretto* category of "permanent physical invasion[s]." ¹³¹ In *Loretto v. Teleprompter Manhattan CATV Corp.*,¹³² the Supreme Court held that when the state grants a third party the right to enter onto a landowner's property, a taking has occurred, and the state must pay compensation to the landowner.¹³³ If the landowner did not have the ability to prevent third parties from entering onto the property, then the state could authorize non-invasive third-party use of the

124. See *Crystal Dunes Owners Ass'n v. City of Destin*, No. 11-14595, 2012 WL 1293117, at *2 (11th Cir. Apr. 17, 2012).

125. See *Severance v. Patterson*, 566 F.3d 490, 501–02 (5th Cir. 2009).

126. See Complaint at 10, *Goodwin v. Walton Cty.*, 248 F. Supp. 3d 1257 (2017) (No. 3:16-cv-364/MCR/CJK).

127. 438 U.S. 104 (1978).

128. 505 U.S. 1003 (1992).

129. EAGLE, *supra* note 55, at 858.

130. *Lingle v. Chevron U.S.A. Inc.*, 544 U.S. 528, 539 (2005) ("Although our regulatory takings jurisprudence cannot be characterized as unified, these three inquiries (reflected in *Loretto*, *Lucas*, and *Penn Central*) share a common touchstone. Each aims to identify regulatory actions that are functionally equivalent to the classic taking in which government directly appropriates private property or ousts the owner from his domain."). For a discussion of how beach-title uncertainty would have affected the *Lucas* case, see Josh Eagle, *Who Owned the Lucas Lots? What "No Property" Looks Like on the Beach*, 53 REAL PROP. PROB. & TR. J. 89 (2018).

131. *Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419, 439 (1982).

132. 458 U.S. 419 (1982).

133. In *Loretto*, the City of New York passed an ordinance granting a cable company the right to install lines and a box on privately owned apartment buildings. *Id.* at 423. The Court categorized the installations as "permanent," implicitly defining that term more closely to "indefinite" than to "for a very long period of time." *Id.* at 426.

beach.¹³⁴ In other words, the possibility of a third-party invasion depends upon the existence of an enforceable right to exclude.

Similarly, the absence of a right to exclude would dramatically reduce the chances of success in a Fourth Amendment claim. In at least one case, plaintiffs have attempted to frame state action meant to facilitate public use of the beach as an unreasonable seizure of property.¹³⁵ In *Severance v. Patterson*,¹³⁶ the U.S. Court of Appeals for the Fifth Circuit held that the plaintiff could plead a Fourth Amendment cause of action after the State of Texas ordered her to remove her home from a beachfront lot she owned.¹³⁷ The state's order was based on the fact that, due to negative avulsion resulting from a hurricane, the home had come to be located on dry sand that was subject to a public easement.¹³⁸

The Fifth Circuit wrote that the plaintiff could prevail under the Fourth Amendment if she were able to prove, first, that a seizure had occurred and, second, that the seizure was unreasonable.¹³⁹ The plaintiff would have a hard time proving a seizure: per the Fifth Circuit, a seizure occurs when the state causes a “meaningful interference with an

134. “The Court has held that physical takings require compensation because of the unique burden they impose: A permanent physical invasion, however minimal the economic cost it entails, eviscerates the owner’s right to exclude others from entering and using her property—perhaps the most fundamental of all property interests.” *Lingle*, 544 U.S. at 539 (citing *Loretto*, 458 U.S. at 433; *Dolan v. City of Tigard*, 512 U.S. 374, 384 (1994); *Nollan v. Cal. Coastal Comm’n*, 483 U.S., 825,831–32 (1987); *Kaiser Aetna v. United States*, 444 U.S. 164, 176 (1979)).

135. Plaintiffs have made the takings parallel, Fourth Amendment unreasonable seizure argument, in at least one other case. *Presley v. City of Charlottesville*, 464 F.3d 480 (4th Cir. 2006) (holding Fourth Amendment cause of action may lie where City published a map that depicted a public trail crossing plaintiff’s property.).

136. 566 F.3d 490 (5th Cir. 2009).

137. *Id.* at 501–02. From the plaintiff’s perspective, there are two differences between a Fifth Amendment taking-of-property claim and a Fourth Amendment unreasonable seizure-of-property claim. First, while the Takings Clause requires that the government pay compensation for the taking of property, the clause does not prevent the government from taking the property after paying for it. On the other hand, the Constitution bars unreasonable seizures, with or without compensation. The second difference between the Fourth and Fifth Amendment claims is where the plaintiff may file the respective actions. When state regulations are at issue, a plaintiff must file the takings in state court, and exhaust her state court remedies, before having the opportunity to be heard in federal court (via petition for certiorari to the Supreme Court). *Williamson Cty. Reg’l Planning Comm’n v. Hamilton Bank*, 473 U.S. 172 (1985). My guess is that plaintiffs are motivated more by the latter than the former, believing that they will have a better chance with a federal judge, rather than a state court judge, weighing the impact of state law on their property.

138. Texas’ Open Beaches Act requires the State’s General Land Office to “strictly and vigorously enforce the prohibition against encroachments on and interferences with the public beach easement.” TEX. NAT. RES. CODE ANN. § 61.011(c) (West 2018). A court had previously determined the existence of a public beach easement on a parcel seaward of the plaintiff’s lot. *See Severance v. Patterson*, 345 S.W. 3d 18, 22 (2010).

139. *Severance*, 566 F.3d at 502.

individual's *possessory interests in that property*.”¹⁴⁰ Without a right to exclude, there is not a possessory interest, unless possession is shared with the world. If possession is shared with the world, there is no meaningful interference when the world insists that the landowner not monopolize use.

The most recent type of constitutional claim relating to public use of the beach can be found in *Goodwin v. Walton County*,¹⁴¹ a lawsuit that, among other things, challenged a local ordinance that prohibited oceanfront owners from placing signs on the beach.¹⁴² The Goodwins, owners of an oceanfront lot on Florida's Gulf Coast, claimed that the ordinance, passed in June 2016, violated the First Amendment because the ordinance prevented them from using signs to express their opinions about the extent of their ownership of the beach.¹⁴³

Even if the dry sand were incontrovertibly private, the Goodwins would have a difficult time proving that the ordinance wrongfully bans protected speech. The facts of the case are quite similar to those in *City of Ladue v. Gilleo*,¹⁴⁴ in which the city's ordinance prevented Ms. Gilleo from displaying political signs in her front yard. The Supreme Court ultimately found in Ms. Gilleo's favor, holding that signs attached to private property represented a discrete category of speech.¹⁴⁵ While the city was entitled to place reasonable restrictions on the time, place, and manner of Ms. Gilleo's speech, it could not wholly ban the distinct and irreplaceable category of speech from property.¹⁴⁶ The Walton County ordinance does not ban speech from property altogether, but only prohibits the posting of signs on the dry-sand beach, where signs can interfere with emergency vehicles and can become dangerous projectiles in high wind conditions.¹⁴⁷ The ordinance does not prohibit the

140. *Id.* at 501 (emphasis added).

141. 248 F. Supp. 3d 1257 (N.D. Fla. 2017).

142. Complaint, *Goodwin v. Walton Cty., Fla.*, 248 F. Supp. 3d 1257 (N.D. Fla. 2017) (No. 3:16—cv—364/MCR/CJK).

143. *Id.*

144. 512 U.S. 43 (1994).

145. *Id.* at 57–58.

146. *Id.* at 56 (“Displaying a sign from one's own residence often carries a message quite distinct from placing the same sign someplace else, or conveying the same text or picture by other means. Precisely because of their location, such signs provide information about the identity of the ‘speaker.’”).

147. WALTON COUNTY FLA. CODE OF ORDINANCES ch. 22, § 22-55 (2018) (“It shall be unlawful for any person to place, construct or maintain an obstruction on the beach. Obstructions include, but are not limited to, ropes, chains, signs, or fences.”). The county code defines “beach” as “the soft sandy portion of land lying seaward of the seawall or the line of permanent dune vegetation.” *Id.* § 22-02.

Goodwins from posting signs on any part of their property landward of the vegetation line.

As with the Fourth and Fifth Amendment claims, the fact of unenforceability substantially alters the nature of a First Amendment lawsuit such as the Goodwins'. First, the government has greater leeway in restricting speech on public property.¹⁴⁸ Put differently, the existence of a public right to use the dry sand takes the *Goodwin* case out of the protective framing of *City of Ladue*. Second, the fact of unenforceability highlights the reality that a homeowner cannot be sure she is placing “no trespassing” signs on private dry-sand beach, at least not if she ventures much past the vegetation line. Due to changing topography and divergence, signs placed on private beach today might rest on public beach tomorrow. This volatility makes the “no trespassing” warning misleading speech that potentially harms the public by coercing beachgoers off quasi-public property.¹⁴⁹

III. A REASONABLE RIGHT TO EXCLUDE

How should the law fill the vacuum created when the right to exclude has vanished? Is a replacement right necessary, or is it enough to say the landowner has an unenforceable right to exclude?

From a property theory perspective, it seems necessary to replace the unenforceable right to exclude with another right or set of rights. While there are many other kinds of property without clear boundaries, such as

148. The beach would likely qualify as a public forum, given its similarity to sidewalks and parks, and the fact that speech would not interfere with the primary function of the beach. See ERWIN CHERMERINSKY, CONSTITUTIONAL LAW: PRINCIPLES AND POLICIES 1143–44 (3d ed. 2006). The government cannot ban all speech in a given public forum, but it can “regulate speech . . . in a manner that minimizes disruption of a place while still protecting freedom of speech.” *Id.* at 1131.

Walton County has advanced the argument that the dry sand at issue in *Goodwin* is public, on the ground that “the public had a right to use the Goodwins’ dry beach property under the doctrine of custom.” Defendant’s Memorandum of Points and Authorities at 5, *Goodwin v. Walton Cty., Fla.*, 248 F. Supp. 3d 1257 (N.D. Fla. 2017) (No. 3:16—cv—364/MCR/CJK). As discussed *supra* section III.A, custom is more problematic than unenforceability as a rationale for public dry-sand access.

149. The ordinance is content neutral insofar as it does not single out speech relating to property ownership. Even if the ordinance explicitly prohibited the posting of “no trespassing” signs on dry sand seaward of the vegetation line, there is an argument that such a restriction would be permitted under the First Amendment on the ground that “no trespassing” signs constitute advocacy of the landowner’s illegal claim to ownership of the dry sand. CHERMERINSKY, *supra* note 148, at 998–1000. While the signs would not lead to imminent disorder, a court might find that the harm produced by using deception to reduce public use of publicly available beach is substantial enough to warrant a restriction.

the copyright, it is hard to conceptualize property without any boundaries at all.¹⁵⁰

As a practical matter, the creation of a well-crafted replacement right could provide economic value to landowners, the public, and the state. If the right were structured in a way that allowed landowners to protect reasonable expectations, many would be better off than they are now.¹⁵¹ The same would be true for beach-goers. Moreover, if the process of crafting the replacement made both parties *feel* better off than they were before, it would reduce conflict and the costs associated with conflict.

Without a replacement right, landowners will continue to be in the unsatisfying position of having the mere right to call the police to complain about objectionable public use. To keep the peace, the police might respond to the call by shepherding people away from homes, where possible, or encouraging them to visit other parts of the beach away from the residence or business of the complaining landowner. The police, however, will be aware of the difficult issues involved in locating the real-time property boundary, and will likely err on the side of public use, particularly in tourism-dependent communities.¹⁵²

Finally, it is logical to conclude that enforceability must arise somewhere. No one would dispute that oceanfront owners can use trespass laws to keep others out of residential and commercial structures on the property.¹⁵³ But is there a way to locate a viable exclusion line elsewhere on the property, somewhere between the structure and the sea?

150. The “fair use” doctrine in copyright law creates a fuzzy boundary, but it does set out rules for determining when an actionable trespass has occurred. The unenforceable right to exclude does not produce limits on public use of the beach.

The question of whether a right to exclude is an essential feature of property has been the subject of recent scholarship. *See* Stern, *supra* note 20, at 1169–70 n.5. The claim here is much smaller: The common law of oceanfront boundaries renders those boundaries unenforceable.

151. Obviously, landowners do not share common expectations about public use of the beach seaward of their properties. Given the impossibility of enforcing the boundary through trespass, landowners are currently dependent on the subjective judgment of police officers as the arbiters of reasonable expectations.

152. This bias toward public use should not be taken too far, however, regardless of how many tourist dollars are at stake. For the same reasons that the landowner cannot use the law to force the public from the beach, the state cannot simply claim that the entire beach is a public park, governed by the same rules and standards that would apply in any other public park. Doing so would ignore the fact that the state’s boundary is also, and equally, unenforceable. This is why Professor Sax wrote that “some accommodation must be made between public and *private* entitlements.” Sax, *supra* note 14, at 356 (emphasis added).

153. *See infra* text accompanying notes 174–175.

A. *The Exclusion Line*

Another way to put this question is: Walking landward from the sea, where does the geological history of the beach begin to be immaterial to the location of the boundary? Any change that has occurred since the state in question came into being would be relevant to locating the boundary.¹⁵⁴ For example, recall that a thin band of positive avulsion eliminates the landowner's status as an oceanfront owner and makes the state the new oceanfront owner. In other words, all accretion that accumulates after the avulsive event ends belongs to the state. An avulsive ribbon formed on the day after statehood continues to have potential relevance to the location of the ocean-side boundary indefinitely.¹⁵⁵

As noted above, the reason that the impacts of 150-year-old avulsive ribbons continue to matter is that there is no adverse possession of state property; and, on account of the public trust doctrine, oceanfront property would seem to be least suited to an exception to that rule.¹⁵⁶ One must thus go back to the beginning—the moment after the state or territory came into being—to look for evidence of, among other things, avulsive ribbons or artificial accretion. It is the possibility that either of those changes might have occurred that creates the uncertainty that, in turn, makes mens rea and trespass enforcement impossible.

Any process meant to establish the true public-private boundary would obviously be expensive, due to the costs of acquiring historical data, expert analysis of those data, and other litigation costs. The process, if conducted on a large scale, would also be potentially disruptive to real estate markets because title to property would remain in limbo until the conclusion of the process.

154. In fact, one could probably go beyond statehood to the time when the state was part of a territory. The federal government, as trustee of the territory, would be the beneficiary of any positive avulsion or artificial accretion occurring during that time. *See Shively v. Bowlby*, 152 U.S. 1, 49 (1894) (“[T]erritories acquired by [C]ongress . . . are held with the object, as soon as their population and condition justify it, of being admitted into the Union as states, upon an equal footing with the original states in all respects; and the title and dominion of the tide waters, and the lands under them, are held by the United States for the benefit of the whole people, and, as this court has often said, . . . ‘in trust for the future states.’” (citing *Knight v. United Land Ass’n*, 142 U.S. 161, 183 (1891))).

155. It is always possible that the effect of positive avulsion or artificial accretion, that is, the establishment of the state as oceanfront owner, might have been voided by subsequent events. For example, it is possible that the erosion could erase the avulsive or artificial ribbon, returning oceanfront status to the first-row private owner.

156. *See* text accompanying *supra* notes 86–90.

It is possible that a state could, in order to soothe markets or to pacify unsettled landowners, circumvent the no-quieting-of-sovereign-claims problem by expressly transferring or quitclaiming its interest in the beach to the first-row private landowner.¹⁵⁷ One state has tried to do something like this: In 1981, the Maine legislature passed a statute giving landowners clear title to public trust lands that landowners had, over the years, altered to their own benefit without state permission.¹⁵⁸ The statute did this by freezing the public-private boundary at the location of the mean low-tide line on October 1, 1975.¹⁵⁹ So, if a landowner had, prior to the end of September 1975, filled and bulkheaded trust wetlands adjacent to her property, the law would give her fee ownership of the filled area.

On its face, the Maine statute would seem applicable to the beaches as well as wetlands.¹⁶⁰ However, application of the law to human-caused beach change is far more difficult than application to bulkheaded wetlands, where the physical boundary would be frozen by the bulkheading. On the beach, the property boundary will have moved frequently since October 1, 1975, due to erosion, accretion, or avulsion. Thanks to these events, a landowner may own more land than she did in 1975; more importantly, because positive avulsion or artificial accretion may have occurred since 1975, it is possible that the state is now the oceanfront owner. This possibility creates the need for a quiet title action to answer the artificial-natural and avulsion-accretion questions. Thus, it would still not be possible to locate the line in real time.¹⁶¹ This same reasoning explains why freezing the line as of any date, even the date of statehood, does not lead to greater certainty with respect to the current location of the line.¹⁶²

157. See William J. Bussiere, Note, *Extinguishing Dried-up Public Trust Rights*, 91 B.U. L. REV. 1749, 1781 (2011) (“Courts have been clear that only an express legislative action directed toward a particular parcel can remove the impression of public trust rights. . . . Adopting a statewide legislative declaration quieting title to previously filled tidelands would . . . reap economic benefits for landowners, who could be more certain in their ability to develop property and more confident in a price for that property . . .”).

158. ME. REV. STAT. ANN. tit. 12, § 1865 (West 2018).

159. *Id.* § 1865(2)(A).

160. The statute defines “filled land” as “portions of the submerged and intertidal lands that have been rendered by human activity to be no longer subject to tidal action or below the natural low-water mark on October 1, 1975.” *Id.*

161. Setting the line as it was on October 1, 1975 could have allowed for trespass enforcement on that date, had the statute been signed into law on that date and not six years later. The Maine legislature wisely chose a date six years prior, thus removing the incentive for landowners to engage in last-minute filling projects.

162. Another way to put this is to say that the line cannot be frozen, except momentarily. The

Setting aside the idea of identifying true, permanent right-to-exclude lines, or exclusion lines, there are at least two second-best approaches that would lead to greater locational certainty, and fewer disputes, over the long run. First, one could base the location of the line on the location of structures, such as oceanfront homes. A legislature could set the line at a fixed distance from the home, say thirty feet.¹⁶³ On the plus side, this approach would protect the privacy interests that form one of the most important modern rationales for trespass laws.¹⁶⁴ On the minus side, a standard distance would not always work well, for example, if the beach were less than thirty-feet wide. In such cases, the “no-use-within-X-feet-from-the-house” rule would prevent any public use of the dry sand.¹⁶⁵

A second approach would be to choose a datum-or science-based line that is more stable than the mean high-tide line. The most stable candidate, because it is least susceptible to change,¹⁶⁶ is the vegetation line, that is, the place where plant life begins to be viable.¹⁶⁷ Even though the vegetation line is more stable than other datum-based lines, it would not work well in all situations. Specifically, after a storm has destroyed the vegetation on the oceanfront property, the oceanfront owner would lose her exclusion line.¹⁶⁸ A fair and workable rule would perhaps set the property boundary at the vegetation line, and give the

only way to avoid this problem would be to abandon migratory boundary rules in favor of a fixed boundary system—for example, one based on Global Positioning System (GPS) data.

163. In 2017, Walton County, Florida adopted an ordinance protecting “the public’s long-standing customary use of the dry sand areas of the beaches.” The ordinance set the public use boundary at the more seaward of (1) a line located fifteen feet seaward of a permanent habitable structure, or (2) a line located fifteen feet seaward of the to the “toe of the dune.” WALTON COUNTY FLA. CODE OF ORDINANCES ch. 23, § 23-2 (2018).

164. Other rationales for a right to exclude, such as the exclusive right to profit, are not as powerful with respect to the dry sand, given that states generally prohibit the construction of permanent structures on what is often called the “active beach,” that is, the part of the beach affected by tidal forces. NAT’L OCEANIC & ATMOSPHERIC ADMIN., PROTECTING THE PUBLIC INTEREST THROUGH THE NATIONAL COASTAL ZONE MANAGEMENT PROGRAM: HOW COASTAL STATES AND TERRITORIES USE NO-BUILD AREAS ALONG OCEAN AND GREAT LAKE SHOREFRONTS 38 (2012).

165. It is not clear whether the public would be entitled to use wet-sand areas, or even submerged beach, that fell within the thirty-foot zone.

166. See Morton & Speed, *supra* note 30, at 1378 (“Of the beach features surveyed, the vegetation line is the most stable observable boundary that is controlled by regular flooding associated with high water levels.”).

167. Texas law defines the “line of vegetation” to mean “the extreme seaward boundary of natural vegetation which spreads continuously inland.” TEX. NAT. RES. CODE ANN. § 61.001(5) (West 2018).

168. Large storms, such as hurricanes, often eradicate dunes and vegetation.

landowner a reasonable amount of time following the storm to restore vegetation at the pre-storm location.

The use of a visible line, like a vegetation or wash line, would have the enormous benefit of reducing confusion over line location. Oceanfront owners, beach-goers, and the police would have little problem agreeing on the line location in real time. Adoption of the vegetation line, moreover, would create a powerful rationale for eliminating rules on avulsion and artificial accretion; building a sand-trapping groin, for example, could no longer have the potential to increase the size of the upland lot.¹⁶⁹

Earlier, this Article argued that it would be difficult for a state to eliminate divergence-causing rules on avulsion and artificial accretion. These obstacles are much less daunting when the dry sand is explicitly under shared public-private ownership. So long as the public can use the beach up to the vegetation line, it does not matter who owns the dry sand or the reasons why it changes. With respect to artificial accretion, a switch to the vegetation line would reduce landowners' incentive to add to a beach in the hope of gaining new land, because all new land would be open to public use. The benefits of artificial accretion would accrue not only to the landowner, but to the public at large, while the costs of the project would be borne solely by the landowner.

B. Beyond the Exclusion Line

From the perspective of some oceanfront owners, legislation establishing an exclusion line landward of where they perceive its current location to be might feel like a loss of property. While the fact of unenforceability should prevent this feeling from being remedied in court through the Takings Clause, landowners would rightly be concerned about the ways in which the new boundary would dent their investment-backed expectations.¹⁷⁰ Specifically, landowners would

169. It should be noted that Hawai'i, which uses the vegetation line as the public-private boundary, has faced issues similar to problems meant to be addressed by rules on artificial accretion. Specifically, some landowners in Hawai'i have attempted to move the vegetation line seaward by using underground, horizontal irrigation systems. Jan TenBruggencate, *Erosion Hasn't Slowed Shoreline Construction*, HONOLULU ADVERTISER (Sept. 18, 2006), <http://thehonoluluadvertiser.com/article/2006/sep/18/ln/FP609180340.html> [<https://perma.cc/7K6F-T3AN>].

170. Under the Supreme Court's regulatory takings jurisprudence, the Takings Clause protects only *reasonable* investment-backed expectations. *Penn Cent. Transp. Co. v. City of New York*, 438 U.S. 104, 124–25 (1978). Given that every oceanfront lot, by definition, shares a boundary with public property, it does not seem reasonable for owners to expect that the view of the beach from their residences would not include members of the public. It would be reasonable, however, for

understandably be concerned that allowing the public greater and more proximate use of the beach could interfere with their ability to use and enjoy their beach homes (or businesses) in the way they expected to when they purchased them.

It is possible, though, to structure a revision of oceanfront boundary law so that it actually enhances landowners' ability to protect reasonable expectations. The most practical and effective means of doing this would be to reconceive of the ocean-side boundary as consisting of two parallel lines, the exclusion line and something we can call the "nuisance line."

The nuisance line could be located at the land-water interface: roughly the point where the sea meets the beach. The oceanfront owner would have a right to exclude a member of the public from the area seaward of the vegetation line and landward of the nuisance line, but only if that person used the beach in a way that unreasonably interfered with the landowner's right to use and enjoy her home or the beach.¹⁷¹ The oceanfront lot would be reconstructed, in property law terms, as a core area of exclusion fortified by an outer ring of lesser, but still important, rights.

The notion of concentric rings of property rights is familiar in the law. The most obvious analogy is to the law of private nuisance, which gives landowners the right to abatement of, or damages for, off-property activities that unreasonably interfere with their ability to use and enjoy their property.¹⁷² Fourth Amendment jurisprudence divides property into areas of varying levels of protection based on the resident's reasonable expectations of privacy in each area.¹⁷³

Moreover, the common law of trespass has long incorporated the idea that some parts of some properties, namely areas outside of structures, could be used by third parties without any harm to the landowner. According to Professor Wayne LaFave, "trespass was not a crime at

oceanfront owners to expect that public use would not unreasonably interfere with their ability to use and enjoy their residence and the beach.

171. The right would best be enforced through the criminal code; a provision would fit neatly into state trespass codes, which often include different sets of elements for trespasses on different kinds of property. LAFAVE, *supra* note 16, § 21.2 (noting special state trespass laws addressing trespasses to "railroad property, school property, a medical facility, or a nuclear facility").

172. *See generally* ALLAN BEEVER, *THE LAW OF PRIVATE NUISANCE* (2013).

173. *See* *Oliver v. United States*, 466 U.S. 170, 177–78 (1984) ("No single factor determines whether an individual legitimately may claim under the Fourth Amendment that a place should be free of government intrusion not authorized by warrant. In assessing the degree to which a search infringes upon individual privacy, the Court has given weight to such factors as the intention of the Framers of the Fourth Amendment, the uses to which the individual has put a location, and our societal understanding that certain areas deserve the most scrupulous protection from government invasion." (internal citations omitted)).

common law . . . unless it was accompanied by or tended to create a breach of the peace.”¹⁷⁴ The common law viewed trespass to structures as included within the crime of burglary; third-party use of land could be prosecuted not under trespass law, but under statutes meant to protect public safety.¹⁷⁵

Modern trespass law recognizes this same dichotomy.¹⁷⁶ As Professor LaFave points out, the Model Penal Code “lists two varieties” of criminal trespass statutes, one “having to do only with buildings and occupied structures,” and the other addressing areas beyond structures.¹⁷⁷ Under this latter category of statute, the landowner must have given notice against trespass by “fencing the property, posting the property, or actual communication with the trespasser.”¹⁷⁸

It is not possible for a landowner to do any of these accurately, that is, to provide a member of the public with notice of the location of the ocean-side boundary. Given this reality, it seems more than reasonable to nevertheless endow oceanfront owners with a functional right that they can use to, within reasonable limits, police the beach.

What would the contours of the reasonable right to exclude look like? Importantly, the creation of a private right over public beach use would give oceanfront owners rare private standing to police public harms. In other words, like the special injury rule in public nuisance law,¹⁷⁹ the reasonable right to exclude would allow landowners to bring the law to bear on harms that ordinarily could only be addressed by a public official.¹⁸⁰ In communities where public officials are loath to act, perhaps because of tourism concerns, such a private right of action might be a useful tool for motivating prosecutors.¹⁸¹

174. LAFAVE, *supra* note 16, at 224 n.1 (quoting *People v. Goduto*, 21 Ill. 2d 605 (1961)).

175. *See also id.* at 231.

176. *Id.*

177. *Id.*

178. *Id.* at 232.

179. In civil actions, individual members of the public do not ordinarily have standing to collect damages for harm to public property. The special injury rule gives standing to a limited subset of the public that has suffered harm different in kind from that suffered by the typical citizen.

180. Unreasonable public use of the beach harms both the oceanfront owner and the public at large. Ordinarily, the owner would have no special status with respect to activities on public, or in this case, quasi-public, property. The oceanfront owner’s reasonable right to exclude should allow the owner to initiate a prosecution by private criminal complaint. For a discussion of issues relating to private prosecutions, see Tyler Grove, *Are All Prosecutorial Activities Inherently Governmental: Applying State Safeguards for Victim-Retained Private Prosecutions to Outsourced Prosecutions*, 40 PUB. CONT. L.J. 991 (2011).

181. Prosecutors have discretion as to whether or not to prosecute cases initiated by a private complaint. *Id.* at 1007.

As for the substantive content of the reasonable right to exclude, courts should be able to draw on private nuisance law for clues as to what types of activities might impinge on oceanfront owners' use and enjoyment. Typical examples of private nuisances include activities that produce noises, smells, pollution, or other harms that have more than a *de minimis* impact on use and enjoyment.¹⁸² On the beach, oceanfront owners should similarly have the right and power to address issues such as loud music and trucks, as well as activities that interfere with use of the beach itself such as allowing pets to use the beach as a litter box.¹⁸³

CONCLUSION

Beaches are at the intersection of both land and sea, and of private and public property. In the sixteenth century, Hugo Grotius's treatise on the law of the sea, *Mare Liberum*,¹⁸⁴ characterized the ocean as fundamentally public. One of the rationales Grotius used to support this characterization was that areas of the sea could not practically be marked or fenced and were thus not suited to private ownership.¹⁸⁵ William Blackstone, on the other hand, argued that private, exclusive ownership was the key to maximizing the value of dry land.¹⁸⁶ Without the incentives provided by the right to exclude, people would not invest in making land more valuable to society at-large, for example, by plowing and planting fields.¹⁸⁷

Given that the beach is part ocean and part land, it is no surprise that the legal constructs developed by Grotius and Blackstone do not, in their most stringent formulations, fit the beach. The hybrid nature of beaches also explains why they are so often the subject of public controversy: Parties on both sides of the dispute are prone to want to force the beach into one extreme view or the other. One can tell a story about the litany of beachfront cases in which the court opinions reach a hybrid result by

182. See BEEVER, *supra* note 172.

183. Complaint at 1, 4, *Goodwin v. Walton Cty.*, 248 F. Supp. 3d 1257 (N.D. Fla. 2017) (No. 3:16—cv—364/MCR/CJK). These activities include setting up tents, allowing pets to defecate on the sand, and driving vehicles across the beach.

184. HUGO GROTIUS, *THE FREEDOM OF THE SEAS* (James Brown Scott ed., 1916) (1609).

185. *Id.* at 31.

186. BLACKSTONE'S COMMENTARIES, *supra* note 54, at 195.

187. Harold Demsetz, *Toward a Theory of Property Rights*, 57 AM. ECON. REV. 347, 348–50 (1967).

crudely mixing terms and concepts from the law of public and private property.¹⁸⁸

But there is no reason why adept policymakers and scholars cannot design a novel set of property rules that adequately account for the public and private interests that must co-exist within a space that changes frequently and often dramatically. The replacement for the missing right to exclude should be a tool that landowners can use to protect the universal interest in attractive, enjoyable beaches. At the same time, the law should not allow for over-enforcement of private rights, nor coercion that enables private landowners to portray public beach rights as less than they are. Some of the most gratifying benefits of moving on from the fiction of an enforceable ocean-side boundary will accrue to policymakers, who are now free to design a fair and practical set of rules without threat of liability for taking what is neither private nor public property.

188. Perhaps the best example of this is in an opinion of the Supreme Court of New Jersey that overlaid the public trust doctrine over dry sand owned by a non-profit, while at the same time allowing the non-profit owners to charge members of the public a reasonable entry fee. *Matthews v. Bay Head Improvement Ass'n*, 471 A.2d 355 (N.J. 1984).