MITIGATING MYOPIA:
CLIMATE CHANGE, ROLLING EASEMENTS, AND THE JERSEY SHORE

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I. INTRODUCTION

In early October 2012, Long Beach, New Jersey’s municipal website had a peculiarly contentious display. Below more typical township announcements was a list of property owners’ addresses written above a question, “Why won’t these homeowners sign their Easements?” Further down the page were two images of contemporary homes standing on fragile cliffs of sand, feet from the Atlantic Ocean. The motive of the listing was to pressure recalcitrant landowners into signing perpetual storm damage reduction easements, allowing the State to periodically build and rehabilitate sand dunes on the signers’ property.2 Despite the tactic, many still refused to sign, fearing loss of control of their property, a drop in land value, and obstructed beach access, ocean views, and sea breezes.3

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3 Id. The purpose of the easements was to allow Long Beach Township and the State of New Jersey to, among other things: construct and repair dune systems; deposit sand; renourish the dunes periodically; and ensure public access to the beach under the state’s Public Trust Doctrine. Letter from Craig R. Homesley, Chief, Civil Projects Support Branch, Real Estate Div., Dep’t of the Army to Dave Rosenblatt, Adm’r, Office of Eng’g and Constr., N.J. Dept. of Env’tl Prot. and Joseph H. Mancini, Mayor of Long Beach Twp., N.J. (June 17, 2010) (on file with author), available at http://www.longbeachtownship.com/images/explanation_of_easements.pdf.
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On October 22, 2012, a tropical depression in the Caribbean Sea strengthened into Tropical Storm Sandy.4 Sandy soon became a Category 1 Hurricane, striking the Caribbean and Bahamas before moving up the eastern United States as a gigantic “super-storm” covering 1000 miles.5 At 8:00 P.M. on October 29th, Sandy, since downgraded to a tropical nor’easter,6 made landfall at Atlantic City, New Jersey.7 Severe winds and flooding followed, resulting in one of the most catastrophic storms in U.S. history and the worst New Jersey had ever seen.8 More than eighty Americans died.9 And the storm is estimated to have cost New York and New Jersey over $71 billion.10

Coastal communities in the region were particularly devastated. Water inundated lower Manhattan, shutting down significant portions of the city.11 In New Jersey, flooding and fire destroyed entire blocks of houses.12 In the coastal town of Mantoloking, for example, the Atlantic Ocean carved two inlets directly through the barrier island and wiped dozens of houses directly off their foundations.13 In nearby Seaside Heights, the town’s famous beachfront amusement park and boardwalk were obliterated.14 Even five months after the storm, the

5 Id.
6 A nor’easter is a type of cyclonic storm system made up of northeasterly winds that strike the eastern coast of North America. Know the Dangers of Nor’easters, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (Feb. 7, 2013), http://www.noaa.gov/features/03_protecting/noreasters.html. A hurricane is downgraded to a tropical storm when its sustained winds go below seventy-four miles per hour. See Tropical Cyclone Climatology, NAT’L WEATHER SERV., NAT’L HURRICANE CENT. (last visited Apr. 2, 2013), http://www.nhc.noaa.gov/climo/#bacc.
7 Dwyer, supra note 4.
13 Blake et al., supra note 9, at 17.
14 Id.
park’s iconic Jet Star Roller Coaster was still submerged by ocean waters.\textsuperscript{15}

The importance of dune protection became obvious amidst Sandy’s devastating aftermath.\textsuperscript{16} Unsurprisingly, shorelines with the largest dunes suffered the least amount of damage.\textsuperscript{17} In Mantoloking, fifty-six homes were swept away by floodwaters and another two hundred destroyed.\textsuperscript{18} Yet homes built behind nearby twenty-two-feet high, one-hundred-feet wide dunes suffered little, if any, damage.\textsuperscript{19} Overlooking the post-Sandy recovery efforts, New Jersey governor Chris Christie joined the fight to gain storm-protection easements on beachfront properties, calling landowners who still refused to sign “extraordinarily selfish and short-sighted.”\textsuperscript{20}

After the storm, Long Beach Township mayor Michael Mancini appeared confident that Sandy would lead landowners to grant the township easements.\textsuperscript{21} Indeed, Mancini upped the ante by enforcing a never used 2010 town ordinance requiring beachfront owners who had not signed the storm-reduction easements to engineer and construct their own dunes—an expensive task.\textsuperscript{22} Without construction of the dunes, building permits would not be issued to the landowners.\textsuperscript{23} In response, landowners accused Mancini of extortion and civil rights


\textsuperscript{17} See, e.g., Hutchins, supra note 16, at 13.

\textsuperscript{18} Witnessing What’s Left of Sandy-Ravaged Mantoloking, N.J., \textsc{CBSNewYork}, (Jan. 15, 2013, 8:09 PM), http://newyork.cbslocal.com/2013/01/15/exclusive-witnessing-whatsleftofsandy-ravaged-mantolokingn-j/.

\textsuperscript{19} Spoto, supra note 16, at 12.


\textsuperscript{21} See Hutchins, supra note 16 (“[Sandy] is a potential flashpoint in a longrunning, long-controversial government effort to replenish the beaches on LBI, and a microcosm for the overall picture of beach replenishment along the Jersey Shore.”).


\textsuperscript{23} Id.
violations. Given the continued gridlock and heated rhetoric, litigation seemed imminent.

Litigation surrounding littoral, or coastal, property is not uncommon in New Jersey. This is because the private interests of New Jersey landowners are often at odds with those of the general public, who are trustees of much of the shore under New Jersey’s Public Trust Doctrine. That doctrine provides that the government holds, in trust, the State’s tidal waters and guarantees public access to them for recreational and economic purposes.

Another source of such conflicts is a characteristic unique to coastal and riparian property boundaries: they move, often slowly, but sometimes suddenly and unexpectedly too. And because the public typically owns most tidal waters, but not necessarily the land abutting them, there is an inherent tension when the land gives way to the water, and vice-versa. Legal principles try to accommodate such changes, however, so as to prevent constant conflict over the reconfiguration of boundary lines. Three of these principles are the doctrines of

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24 Id.
26 Littoral is a noun meaning “[o]f or relating to the coast or shore of an ocean, sea, or lake.” BLACK’S LAW DICTIONARY 1018 (9th ed. 2009).
28 See, e.g., Matthews v. Bay Head Imp. Ass’n, 471 A.2d 355, 358 (N.J. 1984) (“The public trust doctrine acknowledges that the ownership, dominion and sovereignty over land flowed by tidal waters, which extend to the mean high water mark, is vested in the State in trust for the people. The public’s right to use the tidal lands and water encompasses navigation, fishing and recreational uses, including bathing, swimming and other shore activities.").
accretion, erosion, and avulsion. Accretion occurs when water causes deposits to build on dry land.⁵² Erosion occurs when land is slowly and imperceptibly lost to moving water.⁵³ Finally, avulsion occurs when land is suddenly and perceptibly lost to water.⁵⁴ When the sea gradually rises or falls and accretion or erosion occurs, title shifts with the waterline.⁵⁵ When an avulsive event happens, however, the boundaries traditionally remain the way they were.⁵⁶

The accretion and erosion doctrines grant a degree of flexibility to boundaries adjacent to water by permitting property title to adapt to common, predictable changes in water boundaries.⁵⁷ Similarly, the avulsion doctrine prevents the hardship that would result if such principles were applied to quick, unpredictable changes.⁵⁸ In the absence of an avulsive event, then, courts treat the interplay between public water and private land as a type of zero-sum game: dynamic shoreline boundaries will sometimes eat away at private property while, in other places, add to them in equal measure.⁵⁹ These doctrines have a sound scientific basis, for shorelines generally maintain a "dynamic equilibrium"; while often shifting shape and size, they maintain a total "net balance" of area as a larger system of sand.⁶⁰

Global climate change will upset this equilibrium, however, by causing sea levels to rise and inundate the coasts.⁶¹ The Atlantic Coast is in a particularly precarious position because sea levels are rising up

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⁵³ See id.
⁵⁴ See id. at 265–66; Sax, supra note 30, at 306.
⁵⁵ See Sax, supra note 30, at 306.
⁵⁶ See id.
⁵⁷ See Wildwood Crest v. Masiarellla, 240 A.2d 665, 667 (N.J. 1968) ("The proprietor of lands having a boundary on the sea is obliged to accept the alteration of his boundary by the changes to which the shore is subject." (quoting Ocean City Ass’n v. Shriver, 64 N.J.L. 550, 554 (N.J. 1900) (internal quotation marks omitted))).
⁵⁹ See Ocean City, 64 N.J.L. at 554 ("He is subject to loss by the same means that may add to his territory, and, as he is without remedy for his loss, so he is entitled to the gain which may arise from alluvial formations.").
⁶⁰ See Kaufman & Pilkey, supra note 31, at 14–15 ("Despite . . . incessant motion, beaches continue to border the continent with about the same area from one year to the next. But like a person constantly changing position in a large armchair, not everything will be in the same place all the time.").
to four times faster than average global rates.\textsuperscript{42} Roughly eighty percent of New Jersey's coast is considered to be highly vulnerable to flooding.\textsuperscript{43} To make matters worse, New Jersey's extremely dense population already strains the environmental stability of the coast.\textsuperscript{44} Not only will planning for the future require solutions that permit beach preservation but it must also acknowledge that such efforts might one day be economically unfeasible and even unsafe.\textsuperscript{45} This reality requires the implementation of planning policies that permit adaptation to the uncertainties of climate change, while allowing for at least a partial coastal retreat, if necessary.\textsuperscript{46}

One such planning strategy is the implementation of rolling easements. First, an easement is an interest in land that gives the easement holder a right to use a designated portion of someone else's land for a designated and limited use.\textsuperscript{47} For example, if A wished to periodically drive on B's private road in order to gain quicker access to a local highway, A might pay B for an easement permitting him such access. To combat climate change and sea level rise, then, the government could obtain rolling easements on private littoral property. In the event that the property burdened by the easement becomes permanently inundated, a rolling easement does not remain underwater with the land it was attached to before the inundation but, rather, shifts landward onto beachfront property.\textsuperscript{48} To reconfigure the metaphor, in one sense the easement does not roll at all but remains bound to the beach locale as it moves landward.

This Comment explains why rolling easements are necessary in


\textsuperscript{43} CLING & SANCHIRICO, supra note 41, at 28.

\textsuperscript{44} NORBERT P. PSUTY & DOUGLAS D. OFIARA, COASTAL HAZARD MANAGEMENT: LESSONS AND FUTURE DIRECTIONS FROM NEW JERSEY 1 (2002).


\textsuperscript{46} See JAMES G. TITUS, ENVTL. PROT. AGENCY, ROLLING EASEMENTS 10 (2011) (defining rolling easements and describing how they might be implemented throughout the United States), available at http://water.epa.gov/type/oceb/cre/upload/rollingeasementsprimer.pdf.

\textsuperscript{47} See supra note 1.

\textsuperscript{48} TITUS, supra note 46, at 4.
New Jersey and the problems that might arise if they are implemented. Part II of this Comment gives a brief description of the New Jersey coastline and the science behind climate change and sea-level rise. Part III then provides a background on rolling easements, with a focus on Texas, where the doctrine has had its greatest impact but has recently been repudiated by the state’s Supreme Court in *Severance v. Patterson.* Part IV discusses two lessons New Jersey can learn from cases like *Severance:* (1) the need to fine-tune the avulsion doctrine and (2) the importance of striking a more appropriate balance between public and private interests in the shoreline. Finally, Part V concludes.

II. PRESERVING THE SHORE: PAST, PRESENT, AND FUTURE

A. The New Jersey Shore and Sea Level Rise

The New Jersey shoreline is made up of 127 miles of barrier islands, inlets, and bays, among other features. New Jersey is the most densely populated state in the United States, and unsurprisingly, the coast is crowded too, especially in the summer. Housing and commercial properties take up most of the state’s coastal land, the most developed in the country. Accordingly, the state derives most of its annual billion-dollar tourism revenue from its coastal counties. In coastal states like New Jersey, the enormous economic value of coastal property has traditionally justified beach stabilization efforts, which seek to maintain a static, unchanging shoreline. Increased sea levels, however, will make stabilization efforts more costly.

This increase is, in part, an effect of global warming. The Earth’s average temperature has gone up by 1.4°F over the last one hundred years and will continue to rise from 2°F to 11.5°F over the next

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49 370 S.W.3d 705, 708 (Tex. 2012).
50 *Psuty & O’Farra, supra* note 44, at 9-10.
52 NATIONAL CONFERENCE OF STATE LEGISLATURES, NEW JERSEY: ASSESSING THE COSTS OF CLIMATE CHANGE 2 (2008), available at http://www.ncsl.org/print/environ/ClimatechangeNJ.pdf [hereinafter NATIONAL CONFERENCE]; see *Psuty & O’Farra, supra* note 44, at 1 (“In some locations along the shore, the summer population expands by a factor of five to ten or more compared with permanent winter residents.”).
53 *Psuty & O’Farra, supra* note 44, at 1.
54 NATIONAL CONFERENCE, supra note 52, at 2.
55 See *Titus, supra* note 46, at 1 (“Shore protection is common because it generally costs less than what the protected property is worth.”).
56 Id. at 30.
57 Id.
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century.\textsuperscript{58} Human activities are principally responsible for the warming of the Earth, namely through the burning of fossil fuels, which leads to heat-trapping gases in our atmosphere.\textsuperscript{59} This warmer climate causes sea-level rise because water expands when it warms and higher global temperatures cause the melting of land-based ice on the poles, which consequently results in meltwater flowing into oceans.\textsuperscript{60}

Deeper seas lead not only to shoreline change but also to an increase in coastal flooding after storms.\textsuperscript{61} This is because storm surge—or the rise in normal tide levels caused by a storm—moves further inland when water levels are higher.\textsuperscript{62} To make matters worse for New Jersey, the northeastern United States is seeing much higher sea-level rise than average.\textsuperscript{63} Scientists are unsure about why this is so, but some suggest that slower circulation of water in the north Atlantic and the sinking of landmass in the northeast might be the cause.\textsuperscript{64} What is more, storms are getting stronger as a result of the increases in ocean temperatures.\textsuperscript{65} The New Jersey coast is particularly vulnerable to “cold-core cyclones” called nor’easters, which, if conditions are right, can cause even more damage than a hurricane.\textsuperscript{66}

B. Arming the Shore: Traditional Approaches

For a layman, the problem of coastal erosion and flooding might seem easily solved. Why not just build a wall? But walls have their limitations, and they have been tried before.\textsuperscript{67} Even without sea level rise, coastal areas are already vulnerable to flooding and storm damage that result in shoreline erosion. In fact, coastal protection in New

\textsuperscript{59} Id.
\textsuperscript{60} Id.
\textsuperscript{61} See Psuty & Ofiara supra note 44, at 155.
\textsuperscript{64} Id.
\textsuperscript{66} Psuty & Ofiara, supra note 44, at 110.
Jersey historically focused on stabilization or armoring methods, like seawalls, to prevent erosion. The following brief exploration of stabilization methods will provide not only a historical lens into traditional beach policies but also will show how sole focus on such methods is inadequate for dealing with sea level rise and how beaches function as a larger ecological system of shifting sands. Shoreline armoring involves a diverse array of approaches to beach preservation. Generally, we can group these methods into two categories: structural “hard” approaches and nonstructural “soft” approaches.

1. “Hard” Approaches

Hard approaches use large structures that extend along the shoreline and protect the coastline from the effects of waves. An example of a hard approach is the fifteen-foot seawall built in Sea Bright and Monmouth Beach, New Jersey. The goal of a hard approach is to reduce the rate of shoreline loss where the structure stands—in other words, to “defend a line.” These solutions, however, are not only short-term but also economically and ecologically counterproductive. Hard structures like seawalls prevent the dispersal of sand and reflect energy from waves. As a result, beaches get steeper as waves hit the shore with more force. Moreover, structures like seawalls are expensive and do not last long because they are worn away by the relentless power of the ocean. Finally, hard structures have significant negative externalities, for they decrease the amount of sand that cycles throughout the coastal region and nourishes other beaches.

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68 See, e.g., Psuty & Ophiara, supra note 44, at 159 (“The history of shoreline stabilization in the state is a long narrative of attempts to maintain a shoreline position.”).
69 See generally id. at 157–74.
70 See id. at 162–63.
71 See id. at 41.
72 Id.
73 Id. at 162; see also Kaufman & Pilkey, supra note 31, at 192 (“Shoreline engineering is brought into the natural system by the people who are responsible for creating the problems, and their solutions usually cost taxpayers more money than the property behind the shoreline is worth, especially since the beach is often destroyed by its fortification.”).
74 Psuty & Ophiara, supra note 44, at 162.
75 Id.
76 Id.
77 Externalities refer to instances where the actions of a community have deleterious effects on others and the community responsible for creating them ignores those effects. Psuty & Ophiara, supra note 44, at 5.
78 Id. at 162.
2. “Soft Approaches”

Due to the shortcomings of hard methods like seawalls, today “soft” approaches are more common.79 Soft approaches often include “beach nourishment,” which involves placing sand from another source, usually an offshore site or inlet, onto an eroded beach or dune in order to counter erosion and to broaden and heighten coastal surfaces.80 Much like hard approaches, beach nourishment is also very costly.81 Beaches are much more complex than what one sees when walking along the shoreline.82 Scientists describe the “true beach” as “a wedge of sediment three or four miles wide stretching underwater to depths of thirty or forty feet.”83 Beach nourishment consequently places sand on only a small part of the upper beach.84 As with seawalls, the result is often steeper beaches that erode more quickly than natural ones.85 What often follows after this erosion is a costly cycle of replenishment: sandfill costs hundreds of dollars per linear foot and replacement usually occurs every two to six years.86 Because of the cyclical nature of these projects, governments find it useful to create projects that incorporate periodic replenishment over a long period of time.87

Historically, the cost of beach re-nourishment in New Jersey has been split between the federal government and the state, with the federal government footing sixty-five percent of the bill.88 This is an agreement actually central to the Long Beach dispute described in Part I; the Army Corp of Engineers refuses to push forward with the beach restoration project until storm-reduction easements are signed by all affected properties.89 The dispute is emblematic of the forces, both natural and man-made, that influence the environmental, social, and economic landscape of the shoreline.

79 KAUFMAN & PILKEY, supra note 31, at 192.
80 See PSUTY & OFIARA, supra note 44, at 174–77.
81 Id. at 174–77.
82 See KAUFMAN & PILKEY, supra note 31, at 216.
83 Id.
84 Id.
85 Id.
86 PSUTY & OFIARA, supra note 44, at 176; see also Fiore, supra note 2 (“Replenishment has other hidden costs. In Surf City, [New Jersey,] the Army Corps had to pay $15.7 million for a cleanup after residents started turning up World War I-era munitions on the beach. These had been unexpectedly sucked up by the dredger from a borrow pit two miles offshore.”).
87 PSUTY & OFIARA, supra note 44, at 176.
88 Id. at 183.
89 See Fiore, supra note 2.
III. ROLLING EASEMENTS: A SOLUTION

The realities of sea level rise and coastal erosion require forward planning, including a consideration of approaches addressing the real possibility that continuous beach stabilization will one day be impossible.\(^90\) And the pervasiveness of residents’ recalcitrance in granting easements to their individual municipalities means that a statewide approach is appropriate.\(^91\) Indeed, in difficult economic times, such a strategy is the best option.\(^92\) This Part will explore the use of rolling easements to address sea level rise. After an explanation of useful terms, it will introduce and define the rolling easement concept and then discuss its implementation in other states.

A. Essential Terms Designating Littoral Boundaries

Before exploring rolling easements in more depth, a brief primer on essential terms used to describe littoral boundaries is necessary. First, most American jurisdictions, including New Jersey,\(^93\) follow the English rule in delimiting the boundary between state and private lands as the mean high-water mark.\(^94\) The mean high-water mark is simply the average point at which tidal waters reach on a beach.\(^95\) On public tidal lands, data over the past 18.6 years is used to calculate the line.\(^96\) The area between the mean high-water mark and the mean low-water mark is typically known as the “wet beach.”\(^97\) Immediately landward of the wet beach is the “dry beach,” which extends from the

\(^90\) See Titus, supra note 46, at 4 (“If it is unrealistic to prevent development of low-lying coastal lands that could eventually be submerged by a rising sea, an alternative is to allow development with the conscious recognition that land will be abandoned if and when the sea rises enough to submerge it.”).

\(^91\) See, e.g., Spoto, supra note 25, at 1.

\(^92\) See, e.g., Psuty & Ofiara, supra note 44, at 7 (“In the absence of large subsidies from the federal government or the state to rebuild and defend the present shoreline position, coastal planning should shift toward managing coastal hazards rather than strictly coastal stabilization.” (internal quotation marks omitted)).

\(^93\) See, e.g., Neptune City v. Avon-by-the-Sea, 294 A.2d 47, 49 (N.J. 1972) (“The tidewater land lying between the mean high and low water marks, as well as the ocean covered land seaward thereof to the state’s boundary, is owned by the State in fee simple . . . .”).

\(^94\) See generally A. Dan Tarlock, Riparian Land—Location of Water Boundaries—Boundaries of Tidal Navigable Waters, L. of Water Rights and Res. § 3:35 (2012) (describing origin of state ownership of navigable waters in England). Other states, such as Virginia and Massachusetts, draw the line more in favor of private landowners, at the mean low-water mark. Id.

\(^95\) See id.

\(^96\) See id. The figure of 18.6 years is derived from “theoretical considerations of an astronomical character.” Borax Consol. v. Los Angeles, 296 U.S. 10, 27 (1935) (internal quotations omitted).

\(^97\) See Titus, supra note 46, at 16.
mean high-water mark to the edge of dune grass or other plant life, known as the “vegetation line.”

States use these terms to describe both boundary lines between public and private property as well as to structure the extent of public access to the wet beach. On a private beach in New Jersey, the public will own the area of the beach from the mean-high watermark to the water while the private owner will have title to the dry beach.

B. What is a Rolling Easement?

A rolling easement can be “a broad collection of arrangements under which human activities are required to yield the right of way to naturally migrating shores.” The most unique part of the instrument is that it is an interest in land that attaches to the shoreline, no matter where it moves. But it might also be drafted to prevent harmful shoreline armoring or the construction of permanent structures on portions of the property.

Consider the following example. Blackacre is beachfront property on a two-mile wide barrier island. The property has a house set back approximately five feet from a dune in poor condition. The mean high-water mark is 150 feet from the dune. The owner of Blackacre signs an easement that allows the government to enter and periodically replenish and reinforce the dune. The easement also prohibits the owner of the property from building permanent structures, such as bulkheads or seawalls. In return, the owner receives guaranteed continuous protection from beach erosion at no cost, but on one condition: that the dune line must hold a required minimum distance from the mean high-water mark. If the minimum threshold is met, the government has the power to shift the dune landward and remove any structures that might prevent such movement.

One obvious consequence of such an agreement is that it may eventually require the complete removal of a landowner’s home. This concern can be assuaged for two reasons. First, the easement line would shift only when the ocean is precipitously close to the dune such

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98 Id.
99 See, e.g., id., at 15–18 (describing littoral property laws in the fifty states).
100 See Raleigh Ave. Beach Ass’n v. Atlantis Beach Club, Inc., 879 A.2d 112, 119 (N.J. 2005). Even if the dry beach is privately owned, “reasonable” access must be provided to the public in order to access the publicly owned wet beach. Id.
102 See Titus, supra note 46, at 23–25.
103 Id.
that reinforcing permanent structures like houses is prohibitively expensive or even physically impossible.\textsuperscript{104} In such a case, a house would already be in danger of imminent damage from coastal flooding and storms.\textsuperscript{105} Second, most forecasted sea-level rise will occur in the second half of this century, meaning that the removal of permanent structures might not occur for decades, if ever.\textsuperscript{106} Indeed, for a “typical coastal parcel, submergence by the rising sea is so uncertain and far in the future that it has no practical impact on how an owner uses the land, whether or not there is a rolling easement.”\textsuperscript{107}

Thus, the use of rolling easements acknowledges two realities: (1) that preventing development altogether on valuable coastal lands is unpopular and unfeasible; and (2) that these lands may nevertheless one day have to be abandoned to the rising sea.\textsuperscript{108} Rolling easements accommodate this notion by fostering a “living shoreline”—one that allows coastal ecosystems to move inland with a rising sea while simultaneously permitting certain stabilization efforts.\textsuperscript{109}

1. In Practice

Recognition of sea-level rise and the need for adaptive responses to it are a part of coastal regulation in several states.\textsuperscript{110} Maine’s Coastal Sand Dune Rules\textsuperscript{111} are one example.\textsuperscript{112} They regulate coastal sand dune systems, which are broadly defined as “sand and gravel deposits within a marine beach system, including, but not limited to . . . frontal dunes, dune ridges, back dunes and other sand and gravel areas deposited by wave or wind action.”\textsuperscript{113} The rules restrict construction in any zone within an “erosion hazard area,” the definition of which is also appropriately broad.\textsuperscript{114} If any part of a dune system can reasonably be expected to become a coastal wetland\textsuperscript{115} due to shoreline change in

\textsuperscript{104} Id. at 89–90.

\textsuperscript{105} Id.

\textsuperscript{106} See Lemenz, supra note 63.

\textsuperscript{107} Titus, supra note 46, at 151.

\textsuperscript{108} Id. at 151.

\textsuperscript{109} Id. at 4–5.

\textsuperscript{110} See generally Meg Caldwell & Craig Holt Segall, No Day at the Beach: Sea Level Rise, Ecosystem Loss, and Public Access Along the California Coast, 34 ECOLOGY L.Q. 533, 572–75 (2007) (describing legislative responses to coastal erosion in Maine, Massachusetts, North Carolina, South Carolina, and Oregon).

\textsuperscript{111} 06-096 ME. CODE R. ch. 355 § 3 (LexisNexis2013).

\textsuperscript{112} See Caldwell & Segall, supra note 110, at 572.

\textsuperscript{113} 06-096 ME. CODE R. ch. 355 § 3(1).

\textsuperscript{114} 06-096 ME. CODE R. ch. 355 § 3(P).

\textsuperscript{115} The rules define coastal wetlands as “all tidal and subtidal lands; all areas with vegetation present that is tolerant of salt water and occurs primarily in salt water or
the next century, it is an erosion hazard area. Accordingly, the construction or rehabilitation of structures that prevent the movement of wind, water, or sand is prohibited in these locations.

Although the term is not found within them, the rolling easement doctrine plays a significant role in Maine’s Coastal Sand Dune Rules. Natural landward migration, for example, is an aspect of the regulations’ definition for coastal sand dune system. For example, the rules’ conditions for shoreline construction permits state that if a “shoreline recedes such that a coastal wetland . . . extends to any part of the structure . . . for a period of six months or more, then the approved structure along with appurtenant facilities must be removed and the site must be restored to natural conditions within one year.”

Maine’s coastal regulations are thus strikingly forward-looking. They explicitly recognize the folly of prescribing rigid guidelines for shoreline construction and instead put landowners on notice that their land use expectations must adapt to a rising sea.

Massachusetts and South Carolina also have legislation addressing future coastal erosion. The Massachusetts Code of Regulations asserts that a dune’s ability to move landward on retreating shorelines protects the coast from storm damage. Appropriately, the regulations prohibit any structure within 100 feet of a coastal dune from “interfering with the landward or lateral movement of the dune.” And South Carolina’s Beachfront Management Act states that both the public and private sectors have an interest in allowing the beach system sufficient space to “accrete and erode in its natural cycle . . .” The legislation also explicitly encourages those who own permanent structures on the coast to retreat from it. Consistent within these states’ legislation is an acknowledgement of the vulnerability of the coast and the critical importance of minimally invasive strategies, and even retreat, to protect it.

estuarine habitat; and any . . . contiguous lowland that is subject to tidal action during the highest tide level for each year in which an activity is proposed . . .” 06096 ME. CODE R. ch. 355 § 3(I).

116 06096 ME. CODE R. ch. 355 § 3(P).
117 06096 ME. CODE R. ch. 355 § 3(J), (W).
118 See 06096 ME. CODE R. ch. 355 § 10(A).
119 Id.
120 See Caldwell & Segall, supra note 110, at 572–75.
121 310 MASS. CODE. REGS $10.28(1) (2013).
122 Id; see also Caldwell & Segall, supra note 110, at 572.
124 § 48-39-250(6).
2. Severance v. Patterson

Traditionally, however, the State of Texas applied the rolling easement doctrine “more forcefully and for a longer period of time than any other U.S. state.”\textsuperscript{125} The Court of Appeals of Texas, in \textit{Feinman v. State}, first explicitly elucidated the concept.\textsuperscript{126} In \textit{Feinman}, a hurricane caused a vegetation line in Galveston, Texas to shift landward onto coastal property.\textsuperscript{127} As a result, several landowners found that all or part of their land was seaward of the vegetation line.\textsuperscript{128} Because such structures inhibited the public’s access to the ocean, the Texas Attorney General prevented the landowners from repairing or rebuilding any structures seaward of the line.\textsuperscript{129}

The Attorney General based his authority to do so on the Texas Open Beaches Act (OBA).\textsuperscript{130} The OBA prohibits landowners from erecting permanent structures that interfere with the public’s access to Texas beaches.\textsuperscript{131} The law, passed in 1959, protects the public’s access to the shoreline up to the vegetation line in locations where the public has a right of use or an easement.\textsuperscript{132} The OBA says explicitly that any beachfront property abutting the Gulf of Mexico is burdened by a public access easement.\textsuperscript{133} The single issue presented in \textit{Feinman} was whether, under the OBA, a public access easement established along a vegetation line moved automatically with the line after a hurricane.\textsuperscript{134} The court in \textit{Feinman} said yes, ruling that although the OBA did not specifically use the phrase “rolling easement,” the concept was implicit in the act.\textsuperscript{135}

\textsuperscript{126} Feinman v. State, 717 S.W.2d 106 (Tex. Ct. App. 1986); see also Richard McLaughlin, supra note 125, at 376.
\textsuperscript{127} \textit{Feinman}, 717 S.W.2d at 107.
\textsuperscript{128} \textit{Id.}
\textsuperscript{129} \textit{Id.}
\textsuperscript{130} \textit{Id.}
\textsuperscript{131} TEX. NAT. RES. CODE ANN. § 61.012 (West 2011); \textit{Feinman}, 717 S.W.2d at 718–19.
\textsuperscript{132} \textit{Feinman}, 717 S.W.2d at 107, 111.
\textsuperscript{133} § 61.012 (“If the property is in close proximity to a beach fronting the Gulf of Mexico, the purchaser is hereby advised that the public has acquired a right of use or easement to or over the area of any public beach by prescription, dedication, or presumption, or has retained a right by virtue of continuous right in the public since time immemorial, as recognized in law and custom.”).
\textsuperscript{134} \textit{Feinman}, 717 S.W.2d at 110.
\textsuperscript{135} \textit{Id.}
The court ruled this way for three reasons. First, the court said that an easement’s purpose should withstand changes to the terrain to which it is attached. Texas case law previously recognized that easements alongside rivers and seas survived such changes. Second, because the purpose of the OBA was to protect public access beaches where the public had a right to use them, if the easement could not shift, weather events would cause it to shrink significantly or even, as in this case, disappear. Allowing such a result would frustrate the OBA’s purpose of securing public access to the shoreline. Finally, the court believed that allowing the easement to remain at the original vegetation line would be unfeasible because it would require that the boundary be determined by pure guesswork once that line disappeared or moved. After all, the previous dune line had been “obliterated” by the hurricane. After Feinman, Texas courts consistently held that the public access easement moved with the vegetation line, whether inland or toward the sea.

In 2012, however, the Supreme Court of Texas ruled that the state did not recognize the rolling easement doctrine. The facts of that case, Severance v. Patterson, were much like Feinman. A hurricane caused the vegetation line on Galveston Island’s West Beach to move significantly, placing two of landowner Carol Severance’s three properties seaward of the vegetation line. The most seaward lot (“Lot 1”) was destroyed by the storm, but was previously encumbered by a public use easement. The adjacent lot (“Lot 2”), now on the seaward side of the shifted vegetation line, was not so encumbered. The Texas Attorney General claimed that the easement on Lot 1 rolled landward with the vegetation line onto Lot 2. Thus, Severance’s house on Lot 2 interfered with the public’s use of the beach and was
in violation of the OBA. Accordingly, the State sought removal of the house on that lot. In response, Severance sued state officials in federal court. Severance argued that Texas, by trying to enforce the easement without proving its existence on land never encumbered by an easement, infringed her constitutional protection against uncompensated takings.

The subsequent procedural history of Severance is complex. Severance brought suit in the United States District Court for the Southern District of Texas, which ruled that the easement had indeed shifted onto Lot 2 as a result of the Hurricane. Severance appealed that ruling to the Fifth Circuit Court of Appeals. The Fifth Circuit then certified unsettled questions of Texas law to the Texas Supreme Court. Those questions asked: (1) Does Texas recognize rolling easements? (2) If so, does the concept derive from the OBA or the common law? and (3) If a rolling easement shifts onto a lot previously unencumbered by any easement, is the landowner entitled to any compensation?

In response, the Texas Supreme Court ruled that in the case of an avulsive event, like a hurricane, easements do not shift landward with the vegetation line. The court, however, later granted Texas’s motion for a rehearing. When Severance sold the property at issue, the Court sent the case back to the Fifth Circuit to address whether the case was now moot. The Fifth Circuit ruled that it was not, and reinstated Texas’s rehearing of the certified questions at issue. At long last, the court finally ruled on the issue in March of 2012.

After the rehearing, the Supreme Court of Texas weighed the public’s right to beach access against private property owners’ right to exclude others from their property. In its analysis of the OBA, the
court emphasized that the Act did not create any new property rights for Texans and, therefore, the State had the burden of establishing that a public access easement exists on any given parcel of land. Thus, the court held that, despite years of appellate courts saying otherwise, Texas did not recognize the rolling easement doctrine. Citing the doctrines of erosion, accretion, and avulsion, the court said “avulsive events such as storms and hurricanes that drastically alter pre-existing littoral boundaries do not have the effect of allowing a public use easement to migrate onto previously unencumbered property.” Severance, then, rebuts the holding in Feinman that preventing an easement from shifting with the shoreline would frustrate the purpose of the OBA. A newly made beachfront property such as Lot 2, then, could never be burdened by an easement. Since no such easement could be proven on Carol Severance’s property, the State could not force her to remove her property without compensating her. Most importantly, the public use easement adjacent to the property was lost to the sea.

Justice Medina, in his dissent, argued that the majority’s erosion/avulsion distinction was merely an exercise in semantics, stating that if “an easement was established over the dry beach before the avulsive event, it must remain over the new dry beach.” Joining Medina, but writing separately, Justice Lehrmann said that the precise metes and bounds of the original easement were unimportant. Instead, the critical inquiry was the “locale” and purpose of the easement. In this

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161 Id. at 719.
162 See Severance, 370 S.W.3d. at 711 (“[T]he OBA did not purport to create public easements along Texas’s ocean beaches, but recognized that mere pronouncements of encumbrances on private property rights are improper.”).
163 Id. at 721–25.
164 See supra Part I (discussing erosion, accretion, and avulsion).
165 Severance, 370 S.W.3d. at 725.
166 See id. at 724 (“In those situations, when changes occur suddenly and perceptibly to materially alter littoral boundaries, the land encumbered by the easement is lost to the public trust, along with the easement attached to that land. Then, the State may seek to establish another easement as permitted by law on the newly created dry beach and enforce an asserted public right to use the private land.”).
167 Id. at 724, 792.
168 See id. at 724 (“In those situations, when changes occur suddenly and perceptibly to materially alter littoral boundaries, the land encumbered by the new easement is lost to the public trust, along with the easement attached to that land.”)
169 Id. at 737 (Medina, J., dissenting).
170 Severance, 370 S.W.3d at 752 (Lehrmann, J., dissenting).
171 Id. (Lehrmann, J., dissenting). Such reasoning is consistent with an easement
case, the purpose of the easement was access to the Gulf of Mexico and, thus, the easement was attached to the beach in that location.\textsuperscript{172} In addition, Justice Lehmann said that the ruling would be unfair to non-littoral property owners, who obviously purchased property nearby the beach with the expectation that they will have access to it.\textsuperscript{173} That expectation would, of course, be in danger after \textit{Severance}'s ruling that public access could disappear with a suddenly changed shoreline.

\section*{IV. LESSONS FROM \textit{SEVERANCE}}

In considering the use of rolling easements in New Jersey, two important lessons concerning coastal land use and protection can be learned by reading \textit{Severance}. First, the long-established avulsion doctrine, which New Jersey also follows, requires fine-tuning, lest it directly interfere, as it did in \textit{Severance}, with the shifting of an established easement in the event of a sudden inward shoreline encroachment. Second, as Justice Lehmann in his \textit{Severance} dissent noted, courts should not allow shorefront landowners' private interests to trump the wider community's interest in access, enjoyment, and preservation of the nearby beach. These lessons, and the issues surrounding them, are particularly pertinent in New Jersey, because they recently arose in two cases in front of New Jersey courts, \textit{City of Long Branch v. Liu}\textsuperscript{174} and \textit{Borough of Harvey Cedars v. Karan}.\textsuperscript{175}

\subsection*{A. Lesson One: Fine-Tuning the Avulsion Doctrine}

As stated, an avulsion is a sudden, perceptible “loss or addition to land by the action of water or otherwise” that is often the result of “violent shifts of land” caused by storms and floods.\textsuperscript{176} Under, the

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\item created by custom, which “is not limited to one particular individual or the owner of a particular estate, nor is it constricted by metes and bounds. Instead, it attaches to a locale, in this case the dry beach.” \textit{Id.} at 745 (Guzman, J., dissenting).
\item See \textit{id.} at 752 (Lehmann, J., dissenting) (“Here, the easement provided the public with access to the Gulf and the associated recreational opportunities. The specific metes and bounds location of the easement is unimportant to that purpose; instead, proximity to the Gulf is the critical determinant of its utility and thus its location.”).
\item \textit{Id.} at 755 (Lehmann, J., dissenting).
\item \textit{Borough of Harvey Cedars v. Karan}, 70 A.3d 524 (N.J. 2013).
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common law, when an avulsion occurs, property lines do not shift and the previous mean high water mark remains as the dividing line between public and private property. Avulsion is the opposite of accretion, which is a slow and imperceptible addition or reduction in land, where title shifts. Much judicial ink is spent on deciding whether an addition or loss of land is the result of an avulsion or an accretion, and thus title often turns on how courts choose to interpret the innately nebulous term “perceptible.”

*Severances* shows that the avulsion doctrine is likely to be viewed by some courts as incompatible with rolling easements. The easement at issue in *Severance* shifted onto Severance’s property after a classic avulsive event: a hurricane. The Court used the doctrine to extinguish the easement that had previously burdened Severance’s adjacent property but was now underwater, stating that it was “unsupported by ancient common law precepts, to hold that a public easement can suddenly encumber an entirely new portion of a landowner’s property or a different landowner’s property that was not previously subject to that right of use.”

The Supreme Court of New Jersey itself, in *City of Long Branch v. Liu*, recently bolstered the strength of the avulsion doctrine, applying it to man-made as well as natural events. In that case, the coastal town of Long Branch sought to acquire a portion of the Lius’ land by eminent domain. The Lius contested the valuation of their property, asserting that a government-sponsored 225-foot extension of the dry beach in front of their home enlarged their property, as their deed said that their property extended to the mean high-water mark.

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179 Liu, 4 A.3d at 550.
180 Stop the Beach Renourishment, 506 U.S. at 708.
181 See Sax, supra note 30, at 351 (“[T]he deeply rooted doctrinal ‘accretion/avulsion’ distinction . . . continues to generate a good deal of wasteful litigation, with pointless and expensive lay and expert testimony, and dispute over distinctions that ought to make no difference.”). Indeed, this was a central purpose behind Justice Medina’s dissent in *Severance*. See Severance, 370 S.W.3d at 734 (Medina, J., dissenting) (“Because the Court’s vague distinction between gradual and sudden or slight and dramatic changes to the coastline jeopardizes the public’s right to free and open beaches, recognized over the past 200 years, and threatens to embroil the state in beachfront litigation for the next 200 years, I respectfully dissent.”).
182 Severance, 370 S.W.3d at 720.
183 Id. at 723.
184 Id. at 549.
185 Id. at 547.
186 Id.
court held that the man-made addition was in fact an avulsive event and, therefore, the new beach was state-held public land.\textsuperscript{187} Interestingly, \textit{Liu} shows that, while the avulsion doctrine may frustrate rolling easement legislation, it can also preserve the fruits of the State's restoration efforts by protecting newly created beaches from claims by nearby private property owners.\textsuperscript{188}

The problem remains, however, that, as a result of climate change, avulsive events like floods and hurricanes will become more common and the doctrine could frustrate efforts to protect beaches.\textsuperscript{189} Unsurprisingly, the implications of global climate change were completely outside the concern of those who crafted the common law principles.\textsuperscript{190} As Professor Joseph Sax points out, at common law, littoral landowners often had a duty to protect eroding shorelines with seawalls.\textsuperscript{191} Accordingly, the doctrine of accretion served a balancing function to provide compensation for the burden of such duties.\textsuperscript{192} Today, however, seawalls are seen as detrimental to the health of the shoreline and, instead, retreat is more desirable for shore preservation, no matter how quickly the inundation occurs.\textsuperscript{193}

In the age of sea level rise, an emphasis on the perceptibility of erosive events in designating littoral boundaries is therefore misplaced. The avulsion doctrine attempts to protect the injustice that would occur if a landowner's title disappeared suddenly and unexpectedly.\textsuperscript{194} The soundness of that justification, however, weakens

\textsuperscript{187} See id. at 554-55. The legislature could provide, in the event they repudiate the avulsion doctrine, that man-made additions to beaches sponsored by taxpayer money are held in trust for the public. Thus the result in \textit{Liu} would remain the same.

\textsuperscript{188} Rolling easement legislation, then, would have to explicitly provide that, notwithstanding changes in the background principles of avulsion, additions of land with taxpayer funds are property of the public at large, not the adjacent private landowners.

\textsuperscript{189} See Christie, supra note 38, at 61 ("[R]estoring beaches to deal with modern day problems caused by erosion and sea level rise simply does not neatly fit into common law categories of accretion or avulsion—it is \textit{sui generis}. New legal principles are necessary to address the public interests and effect on private property rights. The legislature and the courts have the ability to fill in gaps in the common law that fail to address these modern day problems and issues adequately.").

\textsuperscript{190} See Sax, supra note 30 at 306–08.

\textsuperscript{191} See id.

\textsuperscript{192} See id.

\textsuperscript{193} See Severance v. Patterson 370 S.W.3d 705, 725 (Tex. 2012) ("[A]vulsive events such as storms and hurricanes that drastically alter pre-existing littoral boundaries do not have the effect of allowing a public use easement to migrate onto previously unencumbered property.").

\textsuperscript{194} See Christie, supra note 38, at 47–48 ("The doctrine of avulsion mitigates the hardship caused by applying the doctrines of accretion or erosion to sudden, perceptible changes in the water line.").
when severe weather events and coastal flooding become more frequent and predictable. If the shoreline shifts landward because of an avulsion, courts should therefore be permitted, as the dissent noted in *Severance*, to consider the “locale” and purpose of the easement rather than its precise metes and bounds.\(^{195}\)

In *Severance*, the purpose of the easement was access to the beach on the Gulf of Mexico and, the dissent argued, the easement should be attached to the beach as it moves inland.\(^{196}\) So the issue is really one of perception: the *Severance* court viewed the beach on Galveston Island as a single entity, which, once underwater, was destroyed. When the water moved inland, whatever sand was in front of it was a new beach, free from the restraints of the inundated one. But it is doubtful that most people view beaches so rigidly. Beaches are not static. As such, it is necessary to allow flexible legal devices that secure and preserve access to the beach to remain with it when it shifts inland.\(^{197}\)

B. Lesson Two: Balancing Interests in Obtaining Rolling Easements

The facts and result of *Severance* also show how beachfront landowners’ interests in the adjacent ocean are often prioritized over the similar interests of the community at large. Justice Lehrmann in her dissent, for example, noted that, without a rolling easement doctrine, beach access for non-littoral property owners would be compromised.\(^{198}\) This, in turn, would result in a decrease in property and rental values because a prime motive for purchasing or renting a home near the shore is to access the ocean.\(^{199}\) And Justice Guzman noted that Texas “has long recognized the need for a balance between public and private use of one of the state’s most valuable resources . . . .”\(^{200}\) This balance was upset by the court’s decision that the limited access the easement provided for could be hampered in the event of an avulsion.\(^{201}\) The inherent conflict between public and

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\(^{195}\) *Severance*, 370 S.W.3d at 752 (Lehrmann, J., dissenting).

\(^{196}\) *Seeid*. (Lehrmann, J., dissenting) (“Here, the easement provided the public with access to the Gulf and the associated recreational opportunities. The specific metes and bounds location of the easement is unimportant to that purpose; instead, proximity to the Gulf is the critical determinant of its utility and thus its location.”).

\(^{197}\) *Id.* (Lehrmann, J., dissenting) (“The servitude’s boundary is natural and dynamic, responding to the ever-changing course of a navigable waterway.”).

\(^{198}\) *Id.* at 755 (Lehrmann, J., dissenting).

\(^{199}\) *Id.* (Lehrmann, J., dissenting).

\(^{200}\) *Id.* at 744 (Guzman, J., dissenting).

\(^{201}\) *Severance*, 370 S.W.3d at 744 (Guzman, J., dissenting) (“A public-use easement like that at issue here does not cede exclusive use of the land to the public, but instead leaves the rights of the property owner, with the exception of the right to exclude the public from access to the beach around the house.”).
private coastal land has also hampered New Jersey’s efforts to secure and maintain easements on coastal property. As mentioned, the state has significant difficulty obtaining easements for beach protection in the first place.\textsuperscript{202} And, even when it does obtain easements to protect nearby beaches, the state has been subject to costly litigation and judgments when such efforts interfere with beachfront landowners’ property.\textsuperscript{203} Advancing rolling easements, whether through a transactional or a legislative/regulatory mode, then, will require a “reasoned balance” between a private owner’s land interests and the public’s right to shoreline protection and access.\textsuperscript{204}

Although, given the steady march of the seas, New Jersey could theoretically ensure a cost-effective inland migration of the shoreline by simply prohibiting beachfront landowners from armoring their properties from the sea.\textsuperscript{205} The state could then itself refrain from armoring the shore. The result would be a de facto rolling easement program, in which nature could run its course.\textsuperscript{206} The sea would move inland and no one would be permitted to stop it. Individuals seeking to purchase a home or business near the shore would do so with awareness of the risks they take by such actions.\textsuperscript{207}

A solution to forego all attempts to stop the shore is, for quite obvious reasons, politically unfeasible, especially in New Jersey. For one, the Jersey Shore is extremely densely populated, and therefore, a decision to prohibit all beach preservation efforts could adversely affect the lives and safety of hundreds of thousands of people.\textsuperscript{208} Additionally, the shore provides an outstanding economic boon to the state. In 2008, for example, the Jersey Shore earned more than $23 billion in tourism revenue.\textsuperscript{209} Finally, the Jersey Shore is so intertwined with and essential to the culture and identity of New Jersey that preventing any and all shoreline armoring and then condemning properties as the shoreline encroaches is an admittedly outlandish

\textsuperscript{202} See supra Part I.
\textsuperscript{203} See infra pp. 29-30.
\textsuperscript{204} Severance, 370 S.W.3d at 733 (Tex. 2012) (Medina, J., dissenting).
\textsuperscript{205} See Titus, supra note 46, at 89.
\textsuperscript{206} See id. at 41-48.
\textsuperscript{207} See id. at 1 (describing “retreat” as a potential response to sea level rise, which would include “[a]llowing wetlands, beaches, and other coastal habitats to migrate naturally as the sea encroaches inland; move people out of harm’s way; and prevent new construction in vulnerable areas”).
\textsuperscript{209} Romano, supra note 208.
suggestion.\textsuperscript{210} But the proposition is worth addressing for this reason: once New Jersey does act to preserve the shore, it often needs to get permission from, or pay, private landowners to do so.\textsuperscript{211} And, as shown in Part I, this is not often easy for the state to accomplish. The state government’s frustration with noncooperation was particularly evident in March 2013, when Governor Christie threatened to publicly name the individual landowners who might think “their view of the Atlantic Ocean is more important than the lives and the property of their neighbors.”\textsuperscript{212} The infamously brash governor, it seemed, took a page from the playbook of Long Beach Mayor Michael Mancini.\textsuperscript{213} Governor Christie’s frustration, however, was certainly eased by the New Jersey Supreme Court’s recent decision in \textit{Borough of Harvey Cedars v. Karan},\textsuperscript{214} which will permit the state to perform larger and more comprehensive beach preservation projects at lower costs.

1. \textit{Borough of Harvey Cedars v. Karan}

In 1973, Harvey and Phyllis Karan built a beachfront home in the Borough of Harvey Cedars on Long Beach Island.\textsuperscript{215} The three-story home had “two floors open onto exterior decks, which provided a panoramic view of the beach and ocean.”\textsuperscript{216} In 2008, pursuant to a massive beach restoration project run by the Army Corps of Engineers and the New Jersey Department of Environmental Protection, the Borough of Harvey Cedars sought eighty-two perpetual easements over local beachfront properties.\textsuperscript{217} The easements would permit the construction of dunes on beachfront properties “sufficient to hold

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\item[210] See, e.g., Molly Hennessy-Fiske & Scott Gold, \textit{New Jersey Shore, Ravaged by Sandy, Might Never Be the Same}, L.A. TIMES, Nov. 4, 2012, at 2, \textit{available at} \url{http://articles.latimes.com/2012/nov/04/nation/lanajerseyshore20121104} (“It wasn’t unusual for generations of a family to head to the same stretch of beach, for children to play in the same neon-lighted arcades that once entertained their grandparents. Interrupting that tradition [after Hurricane Sandy], local residents said, would be the greatest loss of all.”); Wayne Parry, \textit{Will Jersey Shore Ever Be the Same?}, CHIL DAILY HERALD, Nov. 4, 2012, \textit{available at} \url{http://www.dailyherald.com/article/20121103/business/711039887?interstitial=1} (describing the Jersey Shore as an American icon).

\item[211] See Romano, \textit{supra note} 208 (chronicling the state’s difficulty in getting shoreline easements in postSandy New Jersey); \textit{supra Part I}.


\item[213] See \textit{supra Part I}.


\item[215] \textit{Id.} at 528.

\item[216] \textit{Id.}

\item[217] \textit{Id.} at 527–28.
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back storm-triggered waves capable of destroying or seriously damaging homes or businesses.\textsuperscript{218} Sixteen property owners, however, refused to grant the Borough an easement.\textsuperscript{219} The Karans were part of this group.\textsuperscript{220} In response, the Borough acquired a portion of the Karans’ land through eminent domain and constructed a twenty-two foot high, thirty-foot wide dune on their property.\textsuperscript{221} Because the large dune blocked their ocean view, the Karans sued the Borough for appropriate compensation.\textsuperscript{222} A trial court then appointed three independent commissioners to determine the appropriate amount of compensation.\textsuperscript{223} Unsatisfied with the commissioners’ conclusions, the Karans demanded a jury trial.\textsuperscript{224}

According to the Army Corps of Engineers, the Karans’ property gained an enormous benefit from the dune because, without it, there was a fifty-six percent chance of their home being entirely destroyed in the next thirty years.\textsuperscript{225} The issue at the hearing was whether such testimony could be presented to a jury in determining just compensation for the condemned land.\textsuperscript{226} The trial court said no, reasoning the dune was part of a “public project . . . intended to provide storm protection to the entire community.”\textsuperscript{227} Thus, the benefit of the dune was a “general” benefit, rather than a “special” benefit.\textsuperscript{228} Traditionally, general benefits do not decrease an award of just compensation because the community as a whole enjoys them.\textsuperscript{229} Conversely, “special benefits,” which “directly increase[] the value of particular tracts,” are considered by juries awarding compensation in eminent domain cases.\textsuperscript{230} Thus, testimony regarding the protection afforded the Karans’ home by the construction of the dune was barred

\textsuperscript{218} Id.
\textsuperscript{219} Id.
\textsuperscript{220} Lara, 70 A.3d at 528.
\textsuperscript{221} Id. at 527–28.
\textsuperscript{222} Id. at 528. The Karans initially rejected the Borough’s offer of $300 compensation for the land taken and any future diminution in value as a result of the dune construction. Id.
\textsuperscript{223} See Village of Ridgewood v. Sreele Inv. Corp., 28 N.J. 121, 131–32 (1958) (“There is no reason why a man whose land is taken for a public improvement should be made to contribute more for the public and common benefit than his neighbor, whose lands are not taken but who is equally benefited by the improvement.”).
\textsuperscript{224} Lara, 70 A.3d at 528.
\textsuperscript{225} Id. at 529.
\textsuperscript{226} Id.
\textsuperscript{227} Id.
\textsuperscript{228} Id.
\textsuperscript{229} Id. at 529; 533–34.
\textsuperscript{230} Lara, 70 A.3d at 529 (internal quotation marks omitted).
and the jury was instructed to disregard any general benefits in its compensation analysis. At the end of trial, the jury awarded the Karans $375,000 as compensation for their lost ocean view. The Appellate Division affirmed.

The Supreme Court reversed and awarded the Borough a new trial, stating, “the terms general and special benefits do more to obscure than illuminate the basic principles governing the computation of just compensation in eminent domain cases.” Stating that it “need not pay slavish homage to labels that have outlived their usefulness,” the Court held instead that “just compensation should be based on non-conjunctural and quantifiable benefits, benefits that are capable of reasonable calculation at the time of the taking.” Thus, the critical question after Harvey Cedars is not whether a benefit is deemed “general” or “specific,” but, rather, whether the value of that particular benefit is “reasonably calculable.” If it is, then that benefit is to be considered by a jury in a simple calculation of just compensation: the fair market value of the property before the taking, less the fair market value of the property afterwards. Since the jury at trial was forbidden from considering “quantifiable storm protection benefits,” the verdict was reversed and the case remanded for a new trial. The Karans later settled with the Borough for one dollar.

231 Id. at 529, 531.
232 Id. at 531.
233 Id.
234 Id. at 540.
235 Id.
236 Karan, 70 A.3d at 540.
237 Id. at 548. The Court did not see this standard as a new one. Indeed, the Court stated that, in the 1892 case State v. Hudson County Board of Chosen Freeholders, 25 A. 322 (1892), it had “clearly expected that benefits emanating from a public project that enhanced the value of the remainder property in a partial takings case—benefits that were nonspeculative and reasonably calculable at the time of the taking—would be weighed in fixing an award of just compensation.” Karan, 70 A.3d at 407-408.
238 Id. at 543-44.
239 Id. at 544.
2. Shore Protection After Karan

The facts at play in Harvey Cedars illustrate of the concept of “moral hazard.” A moral hazard exists when socially undesirable behavior is encouraged by an expectation on the part of the person committing such behavior that it will go unnoticed and, perhaps, even rewarded.241 For example, the initial damages award in Harvey Cedars was based on the diminution in overall value of the Karans’ home, which, at the time of trial, was indisputably $1.9 million.242 But how could a house be so valuable that, as one expert testified, had a fifty-six percent chance of being destroyed within thirty years if no dunes were built to protect it?243

One answer to that question is that the risk that the State will not construct dunes is low, otherwise prospective homeowners would be hesitant to pay $1.9 million for homes that would either (a) be destroyed in 30 years; or (b) require expensive, and out-of-pocket, dune replenishment.244 So the paradox inherent in cases like Harvey Cedars is this: if the government does not build any beach dunes and the Karans’ home is either drastically reduced in value or completely destroyed, then the government did not owe the Karans a penny. Under the lower courts’ decision in Karan, when the government did build and replenish beachfront dunes, however, it owed property owners money for the decrease in inflated value of their home—even though that value was inflated, in large part, because of the virtually guaranteed protective presence of those dunes in the first place.245 The

243 Id. at 79.
244 See Romano, supra note 208 (describing a wealthy Long Beach Island landowner who spent in excess of $100,000 on his own “bulletproof” dunes). Another reason why homes like the Karans’ are so highly valued despite their perilous locations is the existence of federal flood insurance. Generally, private insurers are hesitant to insure catastrophic flood damage because of the high underwriting costs. Daniel A. Farber, Basic Compensation for Victims of Climate Change, 155 U. PA. L. REV. 1605, 1631 (2007). In response, the United States created the National Federal Flood Insurance Program (NFIP). Id. at 1630; Judith Kildow & Jason Scorse, OpEd., End Federal Flood Insurance, N.Y. TIMES, Nov. 29, 2012, available at http://www.nytimes.com/2012/11/29/opinion/endfederalfloodinsurance.html. Today, this program is one of the United States’ greatest domestic expenses, Farber, at 1630. From 1978 to 2011, the government paid out roughly $24 billion in flood insurance claims, Kildow & Scorse, supra note 244. Unsurprisingly, the NFIP is now in billions of dollars of debt. Id.
245 A counter to this argument is that the general population receives increased home values by virtue of the dunes’ existence. Why, then, should the Karans have to pay more merely because of the unfortunate (in this circumstance, at least) placement
Supreme Court’s reversal in *Harvey Cedars* eliminates this paradox. Now that fact finders are permitted to take into account the measurable benefits of such projects, the state can more easily burden shoreline property with easements and face less drastic judgments. The result will be a more realistic and fair distribution of the economic burdens of shoreline protection.

Indeed, New Jersey has already begun to utilize *Harvey Cedars* in shore preservation efforts. Shortly after the decision, Governor Christie issued an executive order expressly permitting the Attorney General to “immediately take action to coordinate . . . legal proceedings necessary to acquire the necessary easements or other interests in real property for the system of Flood Hazard Risk Reduction Measures.” Additionally, the Governor called for the state Department of Environmental Protection’s creation of the Office of Flood Hazard Risk Reduction Measures, which will be tasked with “acquir[ing] the necessary interests in real property” to assist flood reduction.

*Harvey Cedars* therefore grants New Jersey significant leverage in dealing with shorefront property owners. Given the insignificant settlement awarded to the Karans after the decision, property owners will now be far less likely to litigate compensation awards in takings cases. The State can use this newly found flexibility in implementing rolling easements by eminent domain. In drafting the easements, New Jersey could look to Maine’s coastal regulations for guidance and permit the mobility of the dunes in the event of shoreline encroachment on the easement. This solution would provide flexibility to the State’s sea-level rise mitigation efforts. Nothing would prevent New Jersey from continuously replenishing existing dunes. But in the event that such was deemed prohibitively expensive or unsafe, the existing easement would permit the shore to continue its inward progression. That progression, unfortunately, is inevitable. Burdening shorefront properties with rolling easements will allow landowners to confront this reality and permit the State to adjust to it.

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247 *Id.* at 3.

248 *See supra* note 110 and accompanying discussion.
C. The Impact of Retreat

Establishing rolling easements is more logistically achievable after Harvey Cedars. But whether rolling easements are politically feasible is another question entirely. The psychological impact of instituting new ways of thinking about shoreline property principles would undoubtedly be strong. This is because rolling easements necessarily invoke the “r” word: retreat. And, after Sandy, New Yorkers have expressly said that retreat is not an option.\(^{240}\) When asked about a potential plan to purchase homes in vulnerable coastal areas, for example, Union Beach Mayor Paul Smith rejected the notion, saying that not one of his residents expressed a desire to give up his or her home. Smith said, “[w]e don’t want to buy people out. We want them to rebuild. If they have to build higher, they’ll build higher. We want people to stay. We don’t want them to go."\(^{250}\)

Experts, such as scientist Orrin Pilkey, proclaim that such a mentality is, at best, shortsighted. In an editorial for the New York Times shortly after Hurricane Sandy, Professor Pilkey said that “this ‘let’s come back stronger and better’ attitude, though empowering, is the wrong approach to the increasing hazard of living close to the rising sea.”\(^{251}\) Instead, Pilkey suggested smarter development of the shore and also the beginning of a retreat from the edge of the sea.\(^{252}\) The rolling easement doctrine, however, is a fitting political fix to the above viewpoints and to an environmental crisis. The doctrine would: (1) permit shoreline re-nourishment; (2) accommodate inland migration of the shoreline if environmentally or economically necessary; and (3) provide notice to current and future Jersey Shore landowners that awareness of potentially uncontainable natural forces must play a role in how they use their coastal properties. Neither repetitive, costly rebuilding nor complete shoreline retreat is likely feasible. Finding a middle ground, therefore, which provides a means by which landowners and governments can successfully adapt to a rising sea is the best solution.


\(^{251}\) Pilkey, supra note 67.

\(^{252}\) Id.
V. CONCLUSION

No matter what measures are taken by governments to protect the shoreline, one thing is for certain: the sea will continue to rise and New Jersey will have to adapt. Nonetheless, longstanding tradition and economics require innovative adaptive responses. This Comment has argued that one potential response is the implementation of rolling easements on New Jersey’s shorelines. Such implementation will require New Jersey to rethink ancient concepts of coastal property law and forcefully invoke the government’s eminent domain power. If successful the state will foster continued preservation and, when necessary, safe retreat.