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Sea Level Rise and Takings Liability

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Abstract

As the coastal United States faces the stark reality of sea level rise, an inevitable consequence of climate change that is already in motion, takings liability is the elephant in the room when governments plan for and then take (or attempt to take) adaptation measures. Adapting to sea level rise and its variety of impacts will often require government action—to deal with emergencies, to address the slow transformation of coastal environments, to keep coastal residents safe from increasingly worse storms and storm surge, and to ensure that areas of the coast that are becoming unlivable are abandoned in orderly and productive ways. However, these necessary and desirable government actions for the public good often conflict with the decisions that private property owners along the coastline want to make for their individual properties. From that conflict of desires emerges the potential for constitutional takings legal battles that can impede productive coastal adaptation.

This article provides an overview of basic taking law, then surveys the variety of ways that government action—and sometimes inaction—in response to sea level rise can generate takings litigation, from coastline eminent domain and protective infrastructure projects to building and land use regulations to disinvestment in vulnerable communities. The contours of sea level rise adaptation measures and their legal risks are still emerging. As climate science and prediction continue to develop and as danger in vulnerable areas becomes imminent, however, coastal adaptation to sea level rise will become increasingly necessary in many coastal communities—simultaneously increasing the need for governments to understand their potential constitutional liability and to do what they can to mitigate that legal risk.

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This article aims to help governments (especially local governments) understand the takings risks they face when they adopt more aggressive measures to enhance public welfare in the face of rising seas. It argues that the risk of constitutional takings litigation and, potentially, liability constitutes one more reason for governments to actively involve their constituents in adaptation planning through meaningful public and stakeholder participation that strives to effectuate clearly articulated and consensus-driven coastal community values.

I. Introduction

In many parts of the coastal United States, sea level rise is an inevitable consequence of climate change that is already in motion.[2] Sea level rise will generally be worse for those areas of the coast that were already eroding or sinking for other reasons,[3] and it can also be exacerbated by increasing numbers of more severe storms and the storm surge they bring with them.[4] In addition, sea level rise is impacting and will continue to impact coastal communities in a variety of ways, from causing inundation and flooding to changing commercially, aesthetically, and culturally important ecosystems to intruding into coastal aquifers and ruining drinking water supplies.[5]

Dealing with sea level rise and its variety of impacts will thus often require government action—to deal with emergencies, to address the slow transformation of coastal environments, to keep coastal residents safe from increasingly worse storms and storm surge, and to ensure that areas of the coast that are becoming unlivable are abandoned in orderly and productive ways.[6] However, because much of the property along the coasts is privately owned (and often highly priced), necessary and desirable government action for the *public* good may conflict with the decisions that individual property owners want to make for their own properties.[7] As one classic example, a coastal landowner wants to build a seawall to armor their property, but the state or local government prohibits the seawall to prevent more widespread beach erosion.[8]

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2 Rebecca Lindsey, *Climate Change: Global Sea Level*, Climate.gov (Apr. 19, 2022), https://www.climate.gov/news-features/understanding-climate/climate-change-global-sea-level [https://perma.cc/WS3B-PNGS].

3 Rachel Ramirez, *Where sinking cities are pushing sea level rise into overdrive*, CNN.com (Mar. 6, 2024), https://www.cnn.com/2024/03/06/climate/sinking-cities-us-sea-level-rise-climate/index.html [https://perma.cc/S44D-MS2F].

4 Lindsey, *supra* note 2.

5 Christina Nunez, *Sea levels are rising at an extraordinary pace. Here's what to know*, Nat'l Geographic (Apr.10,2023),https://www.nationalgeographic.com/environment/article/sea-level-rise-1 [https://perma.cc/T5QL-96VH].

6 *See id*. (discussing measures that coastal cities are taking).

7 *See infra* Part III.

8 Takings lawsuits after states refused to allow seawalls and other coastal protections such as riprap—or, in some cases like California, after the state removed existing protections—began

Moreover, conflicts increasingly arise when a local or state government wants to abandon coastal infrastructure like a road because of too much damage from coastal storms, but the local residents want the responsible government to keep rebuilding the highway.[9]

Any time government action—and possibly inaction—conflicts with how private landowners want to use their property, the potential for a constitutional taking legal battle emerges. In constitutional takings litigation, a property owner argues that a government has regulated private property so severely that the effect is essentially the same as the government acquiring that property through eminent domain: taking title to private land through forced sale.[10] While the government's action will rarely be *per se* illegal, the U.S. Constitution's Takings Clauses require the government to pay "just compensation" to the property owner.[11] In the context of coastal adaptation to sea level rise, it is this threat that governments might have to *pay* for some of the regulations they enact to adapt to sea level rise that creates legal risk for those governments, potentially deterring necessary coastal adaptation measures.[12]

This article begins in Part II with an overview of basic takings law, including its connections to eminent domain. Part III then surveys the variety of ways that coastal adaptation to sea level rise might—and indeed has begun to—generate takings litigation. As has always been the case in takings challenges against governments, most of these claims will not succeed. Nevertheless, the expense of takings litigation and potential for liability to private landowners contribute to the failure

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in earnest in the 1990s. *See generally*, *e.g.*, Wilson v. Commonwealth, 583 N.E.2d 894 (Mass. App. 1992); Stevens v. City of Cannon Beach, 854 P.2d 449 (Or. 1993) (en banc); Scott v. City of Del Mar, 58 Cal. App. 4th 1296 (1997).

9 *See infra* Part III.B.4.

10 Pennsylvania Coal Co. v. Mahon, 260 U.S. 393, 415 (1922) ("The general rule at least is that while property may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking.").

11 Cedar Point Nursery v. Hassid, 594 U.S. 139, 149–50 (2021).

12 On the U.S. Supreme Court, the late Justice Stevens often voiced this general concern about the effect of the Court's evolving takings jurisprudence on government action. *See* Lucas v. South Carolina Coastal Council, 505 U.S. 1003, 1070 n.6 (1992) (Steven, J., dissenting) (noting that "the costs to the government are likely to be substantial and are therefore likely to impede the development of sound land-use policy"); Nolan v. California Coastal Comm'n, 483 U.S. 825, 866 (1986) (Steven, J., dissenting) (noting "the unprecedented chilling effect that such a rule will obviously have on public officials charged with the responsibility for drafting and implementing regulations designed to protect the environment and the public welfare"); First Eng. Evangelical Lutheran Church v. County of Los Angeles, 482 U.S. 304, 340 (1986) (Stevens, J., dissenting) (predicting that "[c]autious local officials and land-use planners may avoid taking any action that might later be challenged and thus give rise to a damages action. Much important regulation will never be enacted, even perhaps in the health and safety area."). However, numerous other courts and commentators have raised the same concern. *See* Michael W. Graf, *The Determination of Property Rights in Public Contracts After* Winstar v. United States*: Where Has the Supreme Court Left Us?*, 37 Nat. Res. J. 197, 232 n.175 (1998) (summarizing sources from the second half of the 20th century).

of many governments (especially local governments) to adopt more aggressive measures to adapt to sea level rise—including measures to facilitate coastal retreat in the many areas of the coast that will eventually become uninhabitable by humans. Part IV therefore outlines some of the ways that state and local governments can avoid or mitigate takings liability. This article concludes that coastal governments need both to pursue legal strategies and to engage in extensive and meaningful public communication and participation to minimize the risks not just of actual takings liability, but also expensive and distracting takings litigation.

II. Overview of Takings Law

A. Takings Under the U.S. Constitution

1. Basics of Eminent Domain Law

The Fifth and Fourteenth Amendments to the U.S. Constitution prohibit the taking of private property for public use without compensation by, respectively, the federal and state or local governments. Specifically, the Fifth Amendment states that "[n]o person shall be . . . deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation,"[13] while the Fourteenth Amendment states that "[n]o State shall . . . deprive any person of life, liberty, or property, without due process of law . . . ."[14] The U.S. Supreme Court has confirmed numerous times that the Fifth Amendment's takings prohibition has been "incorporated" through the Fourteenth Amendment's Due Process clause, so that the Fifth Amendment prohibition also applies to state and local governments.[15]

Importantly, the U.S. Constitution does not forbid federal, state, and local governments from taking private property *at all*, and eminent domain remains constitutionally permissible for all levels of government. Instead, the Constitution imposes three requirements on governments that choose to take private property. First, governments must put that private property to a public use. The public use requirement has become very easy to meet, because the U.S. Supreme Court has essentially equated it to any public purpose.[16] Thus, governments can acquire

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13 U.S. Const., amend. V.

14 U.S. Const., amend. XIV, § 1.

15 *See, e.g.*, Dolan v. City of Tigard, 512 U.S. 374, 383–84 (1994).

16 Kelo v. City of New London, 545 U.S. 469, 472–75 480–82 (2005) (equating "public use" with a broad public purpose); Haw. Hous. Auth. v. Midkiff, 467 U.S. 229, 243–44 (1984) (same).

properties and transfer them to other private entities in pursuit of economic revitalization[17] or the breakup of real property oligarchies.[18]

Second, governments must pay just compensation, meaning a fair price for the property.[19] Just compensation generally requires that the government compensate the owner for the fair market value of the property at its highest and best use, regardless of how the owner is currently using the property (but not including the value that the government will be creating).[20] Current zoning law is often a good indicator of highest and best use; for example, if the property is currently a single-family home, but zoning laws would allow the property owner to build an apartment building, the apartment building will probably qualify as highest and best use.[21]

Finally, the government must observe fair procedures in taking private property to satisfy due process of law. In eminent domain, due process usually requires notice, an opportunity to protest that is often focused on the valuation rather than the stated public purpose, and access to both administrative and eventually court tribunals to resolve ongoing disputes.[22]

2. Takings versus Eminent Domain

Takings cases are different from exercises of eminent domain in terms of the government's intention. As the previous discussion indicates,[23] in eminent domain, the relevant government intentionally acquires private property for public use, such as to expand a street or add a turn lane. In contrast, in a taking case, the government engages in some regulatory measure—enacting a statute, promulgating a regulation, imposing permit conditions, creating new zoning requirements—that has the effect of interfering with the use of private property.[24] The government did not want to take title, but the interference with the private property may be of a type or be extensive enough that it will be deemed, at least as far as the just compensation requirement is concerned, essentially the same as eminent domain.[25] For this reason, constitutional takings lawsuits are sometimes termed "inverse condemnation"

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17 *Kelo*, 545 U.S. 469 at 472-75.

18 *Midkiff*, 467 U.S. 229 at 241–42.

19 U.S. Const., amend. V; *see, e.g.*, Rex Realty Co. v. City of Cedar Rapids, 322 F.3d 526, 528-29 (8th Cir. 2003).

20 United States v. Fuller, 409 U.S. 488, 490–91 (1973); United States v. Mertz, 376 U.S. 192, 195–96 (1962).

21 *See, e.g.*, U.S. *ex rel.* Tenn. Valley Auth. v. 1.72 Acres of Land in Tenn., 821 F.3d 742, 752–54 (6th Cir. 2016).

22 *See, e.g.*, *Rex Realty Co.*, 322 F.3d at 528-29 (8th Cir. 2003).

23 *See supra* Part II.A.1.

24 United States v. Clarke, 445 U.S. 253, 256 (1980).

25 *Id.* at 257.

actions, meaning that instead of the government condemning property through an eminent domain proceeding, the property owner claims that government regulation accomplished the same goal.[26]

3. Three Types of Takings under the U.S. Constitution

The U.S. Supreme Court recognizes three categories of constitutional takings.[27] First, the government can physically take private property by taking title, by actually occupying that property, or by forcing the private landowner to endure some physical invasion by the government or by the general public.[28] In a classic physical taking, for example, a government condemns private land for a public road or a government building. According to the U.S. Supreme Court, "[w]hen the government physically takes possession of an interest in property for some public purpose, it has a categorical duty to compensate the former owner, regardless of whether the interest that is taken constitutes an entire parcel or merely a part thereof."[29] Thus, when courts classify the government's action as a physical taking, the private property owner is automatically entitled to compensation. Physical takings can include regulations that allow others to use private property, such as requiring building owners to allow cable television providers to string the necessary wires for cable television across the property or up the building.[30]

Until 1922, the prohibition on uncompensated governmental taking of private property was limited to physical takings.[31] In 1922, however, in *Pennsylvania Coal Co. v. Mahon*, the U.S. Supreme Court recognized that a second category of taking exists—specifically, that federal, state, and local regulation of a property's *use* might also amount to an unconstitutional taking of private property.[32] As Justice Oliver Wendell Holmes articulated in that decision, "while property may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking."[33]

The "too far" language from *Pennsylvania Coal* means that most regulatory takings are evaluated through a balancing test.[34] Federal courts now evaluate the need for compensation through the three-factor

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26 *Id*.

27 Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Plan. Agency, 535 U.S. 302, 321–326 (2002).

28 *Id*. at 322–323.

29 *Tahoe-Sierra Pres. Council*, 535 U.S. at 322 (citing United States v. Pewee Coal Co., 341 U.S. 114, 115 (1951)).

30 Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419, 421, 425-35 (1982).

31 Robin Kundis Craig, *Of Sea Level Rise and Superstorms: The Public Health Police Power as a Means of Defending Against "Takings" Challenges to Coastal Regulation*, 22 N.Y.U. Env't. L.J. 84, 89 (2014) (citation omitted).

32 260 U.S. 393 (1922).

33 *Id*. at 415.

34 Penn Cent. Transp. Co. v. City of New York, 438 U.S. 104, 124 (1978); Craig, *supra* note 31, at 89–90 (citation omitted).

balancing test that the Supreme Court established in *Penn Central Transportation Co. v. New York City*.[35] Under the *Penn Central* test, courts examine: (1) "[t]he economic impact of the regulation on the claimant," (2) "the extent to which the regulation has interfered with distinct investment-backed expectations," and (3) "the character of the governmental action."[36] Governments tend to win regulatory taking cases evaluated through the *Penn Central* analysis,[37] an acknowledgement that most government regulation is both even-handed (i.e., does not single out particular property owners) and serves important public purposes, like protecting public health and safety.

Finally, in *Lucas v. South Carolina Coastal Council*, the U.S. Supreme Court recognized a small set of categorical takings.[38] In *Lucas*-type taking claims, a government regulation deprives the property owner of *all* economic use of the property.[39] Like physical takings, these categorical regulatory takings automatically require compensation to the private property owner.[40] However, "all" means *all*. If the landowner retains some use of the property, however small, courts will use the *Penn Central* balancing test instead of the *Lucas* categorical rule.[41] Thus, according to the Supreme Court, *Lucas* created "a narrow exception to the rules governing regulatory takings for the 'extraordinary circumstance' of a permanent deprivation of all beneficial use," and, as a result, *Lucas* categorical takings are "relatively rare."[42]

In *Lucas,* the Supreme Court also referenced three exceptions that might help governments avoid taking challenges to regulations.[43] Although the legal boundaries of these exceptions are still developing, they are all relevant to actions taken to combat sea level rise. The Court's exceptions are: (1) public necessity and grave threats; (2) the discovery of new knowledge and changed circumstances; and (3) "background principles," or existing limitations on property rights within the relevant state's property law, such as prohibitions on public and private nuisance.[44]

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35 438 U.S. 104 (1978).

36 *Id*. at 124.

37 Lynda L. Butler, Murr v. Wisconsin *and the Inherent Limits of Regulatory Takings*, 47 Fla. St. U. L. Rev. 99, 104–105 (2020).

38 505 U.S. 1003 (1992).

39 *Id*. at 1017, 1019.

40 *Id*. at 1019, 1029, 1031–32.

41 *Tahoe-Sierra Pres. Council*, 535 U.S. at 324 n.19.

42 *Id.*

43 *Lucas*, 505 U.S. at 1029-30.

44 *Id*. at 1029-31.

B. Takings Claims Based on State Constitutions

The U.S. Constitution is not the only legal basis for taking claims; state constitutions generally also prohibit taking of private property without compensation.[45] Moreover, in some states, the state constitution might be *more* protective of private property rights than the federal Constitution. The Virginia Constitution, for example, prohibits private property from being "…*damaged or* taken for public use without just compensation . . . ."[46] Kentucky similarly requires compensation "for property taken, injured or destroyed by" government entities.[47]

Private property owners, however, cannot always rely on state constitutions, even if they are more favorable to them. Although the U.S. Constitution's taking prohibitions apply to state governments, state constitutional taking prohibitions do *not* apply to the federal government.[48] Thus, if an act of Congress or federal agency regulation or action causes the problem, a state constitution is irrelevant to the resulting taking claim.

III. A Typology of How Sea Level Rise Adaptation Strategies Can Prompt Takings Claims

A consequence of constitutional takings law is that federal, state, and local governments can be exposed to liability when they work to mitigate sea level rise and its impacts. Coastal management strategies to respond to sea level rise are already generating takings litigation, and as noted, fear of lawsuits and their financial consequences can have a chilling effect on governments' willingness to develop and implement adaptation plans.

This Part delineates the variety of adaptation strategies that can limit the rights of private property owners and might qualify as compensable takings. As this Part and Part IV detail, various adaptation mechanisms implicate different categories of takings law. These include: using eminent domain to "buy out" vulnerable property owners, building protective infrastructure to resist rising seas that physically occupy or force seawater onto private property, and implementing building and land use regulations—such as no-build provisions, setbacks, elevation

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45 Ilya Somin, *Learning from the History of State Damagings Clauses*, Jotwell Const. L. (Aug. 6, 2019), https://conlaw.jotwell.com/learning-from-the-history-of-state-damagings-clauses/ [https://perma.cc/2UVD-HHK3] ("[V]irtually all state constitutions require the government to pay compensation when it 'takes' private property.").

46 Va. Const., art. I, § 11 (emphasis added); *see also* Ca. Const., art. 1, § 19(a) ("Private property may be taken *or damaged* for a public use and only when just compensation, ascertained by a jury unless waived, has first been paid to, or into court for, the owner.") (emphasis added).

47 Ky. Const. § 242.

48 *See* U.S. Const., art. VI, cl. 2; Robin Kundis Craig et al., Water Law 308 (2d ed. 2024).

requirements, and rolling easements, to accommodate changed circumstances.[49] Comprehensive planning to respond to sea level rise often combines these strategies.[50]

Classically, government adaptation involves affirmative acts. The above examples, for instance, are all government actions, or affirmative steps. Increasingly, however, coastal property owners are bringing constitutional takings claims based on government inaction.[51] Typically, these lawsuits involve government decisions to disinvest in communities vulnerable to sea level rise, such as choosing not to maintain infrastructure or provide services.[52] This Part explores the potential takings risks arising from both types of coastal adaptation.

A. Knight in Coastal Armor: Protective Infrastructure Projects

Many governments along vulnerable coastlines are investing in protective infrastructure to resist rising seas.[53] Popular choices include hard armoring, or sea walls, and soft armoring, or "living" shoreline areas that buffer storm surge and protect the coastline.[54] In some areas, armoring projects by individual landowners create more problems than they solve and can lead to advanced coastal erosion on neighboring lands.[55] In these cases, governments might wish to stop private property owners from building certain kinds of infrastructure. Both situations—governments building their own projects and trying to limit private property owners from doing the same—might give rise to takings liability.

1. Government-Authorized Protective Infrastructure on Private Property

As discussed in Part II, any permanent, government-authorized physical occupation of private property is a compensable taking per se, no matter how minor the invasion or how much it may benefit the broader community or landowner themselves.[56] Whether the government

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49 *See infra* Subparts A & B, Part IV.

50 *See, e.g., Sea Level Rise Adaptation Strategies*, Cal. Coastal Comm'n, https://www.coastal.ca.gov/climate/slr/vulnerability-adaptation/adaptation/ [https://perma.cc/TQ4W-3JVQ].

51 *See infra* Subpart B.4.

52 *See id*.

53 *What is shoreline armoring?*, Nat'l. Ocean Serv., NOAA (updated Jun. 16, 2024), https://oceanservice.noaa.gov/facts/shoreline-armoring.html [https://perma.cc/2EPB-WQ5E].

54 *See generally* Ankita Singhvi et al., *The grey–green spectrum: A review of coastal protection interventions*, 311 J. Env't. Mgmt. 114824 (2022), https://doi.org/10.1016/j.jenvman.2022.114824 [https://perma.cc/8T4W-XF9Z].

55 *See generally* Gary Griggs, *The Impacts of Coastal Armoring*, 73 Shore & Beach 13 (2005).

56 *Loretto*, 458 U.S. at 435-440. (increasing or protecting value and benefit to broader public welfare, however, are relevant to whether compensation is "just," and how much might

itself owns or installs protective infrastructure on a portion of a private landowner's property or authorizes an agent to do so, a private property owner is guaranteed compensation.

However, governments need to be cognizant of where private property ends along the coast. In most states, coastal property ownership extends only to the mean high tide line, and the relevant state owns the submerged coastal shoreline.[57] As a result, government building below the mean high tide line (or whatever other line the state uses) cannot be a taking of private property. Moreover, this boundary is ambulatory, calculated as the average of high tides over 18.6 years.[58] As sea level rises, therefore, government (state) ownership of coastal lands will follow and move inland.

2. *Government-Authorized Protective Infrastructure that Floods or Damages Private Property*

When the sea level rises and protective infrastructure—particularly hard armoring—pushes it aside, diverted water must go elsewhere.[59] This results in accelerated erosion, accretion of sand or other material, or pushes water aside to flood adjacent properties.[60] Therefore, even if a government builds protective infrastructure on public or condemned private property, it might impact adjacent landowners and qualify as a compensable *indirect* taking.[61] Flooding and related property damage is old hat for federal constitutional takings doctrine; inverse condemnation actions prompted by government flood control infrastructure and dams have been on the books for over a century.[62] These mirror the

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be required); Mark Nevitt, *The Legal Crisis Within the Climate Crisis,* 76 Stan. L. Rev. 1051, 1075 (2024) ("If lawmakers emphasize the health, safety, and welfare basis driving climate armoring, it is possible that courts may take that emphasis into account as part of an equitable relief in the just compensation analysis."); Robin Kundis Craig, *Public Trust and Public Necessity Defenses to Takings Liability for Sea Level Rise Responses on the Gulf Coast,* 26 J. Land Use & Env't. L. 395, 424 (2011).

57 American Land Title Association (ALTA), *Water Rights and Related Issues* 9-1 (2001), *available at* https://www.alta.org/media/pdf/CH09.pdf [https://perma.cc/PY9V-GESR].

58 *Id.*

59 Nevitt, *supra* note 56, at 1072 (citation omitted).

60 *E.g.*, *id.*; Paty v. Town of Palm Beach, 29 So.2d 363, 363 (Fla. 1947) (coastal plaintiff landowners alleged injury when Palm Beach "buil[t] a groin from the shore of the Atlantic Ocean out into the waters of the ocean, and the groin change[d] the natural action and the currents of the ocean so as to cause them to whip around to the south of the groin and to beat against and to excessively wash away plaintiff's land[.]").

61 In *Paty*, however, no compensation was owed because of the relevant Florida statute. *Id.* at 363-64. *See also* Ark. Game & Fish Comm'n v. United States, 568 U.S. 23, 34 (2012) (the U.S. Army Corps of Engineers' periodic flooding of a private property was ruled to be a taking.).

62 *E.g.*, Pumpelly v. Green Bay Co., 80 U.S. 166, 181 (1872) ("[W]here real estate is actually invaded by superinduced additions of water, earth, sand and other material . . . so as to effectually destroy or impair its usefulness, it is a taking, within the meaning of the Constitution…").

consequences of infrastructure projects built to combat rising seas that damage other properties and, thus, provide somewhat clear expectations.

If an invasion or damage is *permanent,* it is a taking.[63] Storms growing in intensity, combined with sea level rise, however, tend to result in more frequent *temporary* flooding, or storm surge, with more severe effects.[64] This is not a taking per se.[65] If a government took affirmative actions that, considered together, proximately caused temporary flooding—like diverting stormwater, seawater, or material to somewhere it would not have otherwise reached or periodically releasing water that floods private property—courts will lean into a *Penn Central*-style analysis, asking what reasonable expectations the property owner had about their property and how this temporary occupation might have interfered with those expectations. [66]

Nevertheless, state constitutional variations, and how courts interpret them, can affect whether a physical invasion or damage to property is a compensable taking under state law. In California, for example, landowners can establish inverse condemnation liability when actual physical injury to property is "substantially caused" by a public improvement.[67] When a government project or decision damages one property and "creat[es] a risk which would not otherwise exist," California courts find governments strictly liable; when a public entity instead "tries to protect private property owners from a risk created by nature and in doing so alter[s] the risks created by nature," courts instead consider whether the entity's conduct was reasonable.[68] In *Pacific Shores Property Owners Assn. v. Department of Fish & Wildlife,* the agency chose to flood a development for environmental, not flood control, purposes.[69] The landowners had historically enjoyed a certain level of flood protection.[70] Strict liability applied and compensation was due because the Department's actions permanently damaged the property not to adapt to existing flood risk and protect public welfare at large, but rather for environmental protection at the expense of certain property owners.[71]

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63 *Id*.

64 Craig, *supra* note 31, at 101 (citation omitted). *Climate Change Indicators: Coastal Flooding*, U.S. Env't. Prot. Agency (updated Sept. 6, 2024), https://www.epa.gov/climate-indicators/climate-change-indicators-coastal-flooding [https://perma.cc/EPG5-8P7C].

65 *Tahoe-Sierra Pres. Council*, 535 U.S. at 321 (holding that whether temporary interference with private property requires compensation "depends upon the particular circumstances of the case").

66 *Ark. Game & Fish Comm'n*, 568 U.S at 36-38.

67 Cal. Const., art. I, § 19.

68 Pac. Shores Prop. Owners Ass'n. v. Dep't of Fish & Wildlife, 244 Cal.App.4th 12, 45 (3rd Dist. 2016).

69 *Id*. at 19-22.

70 *Id.*

71 *Id*. at 52.

B. I Want It That Way: Government Regulation to Accommodate Rising Seas

1. Tell Me Why (This Regulation's Not a Taking): From Revised Building Standards and Zoning Requirements to No-Build Provisions

A recent empirical study demonstrates that most takings litigation against the federal government between 2000 and 2014 involved physical takings, although the picture for takings litigation arising from state actions is less clear.[72] Nevertheless, regulatory takings claims are likely to remain a common response to government coastal adaptation measures because a wide spectrum of regulation targets sea level rise, ranging on the mild, end from building standards like elevation requirements, setbacks, and zoning, to more invasive actions such as prohibitions on building and coastal armoring.[73] There is no question that "property may be regulated to a certain extent"—the question is whether certain regulations go too far.[74]

As Part II discussed, when a regulation does not involve physical invasion of property, the *Penn Central* balancing test governs unless the regulation permanently deprives land of all value (the *Lucas* per se rule).[75] Under this test, more common—and less invasive—sea level mitigation regulations create less risk of takings liability. For example, courts give states and municipalities substantial discretion to develop and modify zoning and land use regulations; they must only show that the regulation substantially advances a legitimate state interest, like health, safety, or welfare.[76] Because governments enjoy so much discretion and because managing changing urban conditions resulting from climate impacts is almost certainly a legitimate state interest,[77] challenges to building standards and land use regulations intended to mitigate sea level rise are uncommon.[78] Instead, most litigation involves

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72 Dave Owen, *The Realities of Takings Litigation*, 47 BYU L. Rev. 577, 581-82 (2022).

73 *See*, *e.g.*, Jessica Grannis, Adaptation Tool Kit: Sea Level Rise and Coastal Land Use 22, 25, 60 (2011) (laying out planning tools, regulatory tools, spending tools, tax tools, and market-based tools).

74 *Pennsylvania Coal,* 260 U.S. at 415.

75 Lucas v. South Carolina Coastal Council, 505 U.S. 1003, 1014 (1992).

76 Village of Euclid v. Amber Realty, 272 U.S. 365, 387-88 (1926); Nevitt, *supra* note 56, at 1069.

77 *See* Massachusetts v. EPA, 549 U.S. 497, 518-23 (2007) (detailing the State of Massachusetts' injuries from sea level rise and its state interests in dealing with those harms).

78 Indeed, our extensive search of both state and federal takings litigation found no such cases.

governments denying permits to build sea walls, discussed in greater detail below.[79]

Governments can nevertheless strengthen their regulations' abilities to survive potential takings lawsuits. *Penn Central* is a factor-based balancing test. By (1) implementing proactive measures, such as notice requirements that temper reasonable investment-backed expectations; (2) clarifying the important, research-backed public safety and welfare purposes sea level rise adaptation strategies serve; and (3) emphasizing the uniform burdens that increased emergency response to flooding and storm events impose on the public at large, governments can substantially reduce their risk of takings liability.[80]

Moreover, even when coastal governments implement regulations that might have extreme, *Lucas*-style categorical taking effects, they may benefit from the *Lucas* Court's recognition that new knowledge and changed circumstances can alter the takings calculus.[81] According to the *Lucas* Court, "[t]he fact that a particular use has long been engaged in by similarly situated owners ordinarily imports a lack of any common-law prohibition," but "changed circumstances or new knowledge may make what was previously permissible no longer so."[82] Climate change and sea level rise, and especially the specific impacts of each in a particular location, constitute both new knowledge and changed (and changing) circumstances. Lawmakers can thus emphasize that their coastal regulations "actively engage with the latest climate science and ecological conditions," buttressing the regulation's relationship and importance to *contemporary* public health and welfare.[83]

2. Not so Neighborly: Coastal Armoring Prohibitions

In recent years, private landowners along vulnerable coastlines have sought to protect their own properties with armoring, often at the expense of other landowners or the greater coastline's integrity.[84] To prevent these individual projects, states and municipalities have implemented regulations restricting armoring, added permit conditions, or denied building permits that would have unwelcome effects.[85]

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79 *See infra* Subpart II.B.2.

80 Nevitt, *supra* note 56, at 1113–14; Keystone Bituminous Coal Ass'n. v. DeBenedictis, 480 U.S. 470, 491–92 (1987).

81 *Lucas*, 505 U.S. at 1031.

82 *Id*.

83 Nevitt, *supra* note 56, at 1092.

84 *Id*. at 1071-76.

85 The California Coastal Commission has been particularly aggressive in denying, removing, and preventing future building of seawalls. *See*, *e.g.*, Lindstrom v. Cal. Coastal Comm'n, 40 Cal. App. 5th 73, 101-02 (2019) (upholding the Commission in imposing as a condition on a coastal building permit that the property owners waived all right to ever build a seawall).

Like other regulations that likely do not eliminate all property value, armoring prohibitions would be subject to a *Penn Central* balancing test. Armoring prohibitions, however, have the additional effect of preventing damage to other property owners. The *Lucas* "background principles" exception includes specific language addressing this situation. The *Lucas* Court described how the owner of a lakebed would not be entitled to compensation if a government denied him a permit to "engage in a landfilling operation that would have the effect of flooding others' land."[86] This is equivalent to armoring that indirectly floods or damages neighboring property. When regulations are intended to reduce harm to other properties, they are better positioned to stand against takings challenges, because state law "background principles" of nuisance and trespass—don't damage my property or invade it—are often well recognized and defined.[87]

To date, armoring prohibitions have been upheld against takings challenges in North Carolina and Oregon.[88] In *Shell Island Homeowners Association v. Tomlinson*, the North Carolina Coastal Resources Commission prohibited permanent hard armoring structures.[89] The State Supreme Court held that the property owners could not state a claim: there was no property right to build a hard armoring structure, and coastal erosion was not caused by government action, but by natural phenomena.[90] The state government was not interfering with any property right by preventing the construction.[91] Similarly, in Oregon, owners' permit denial to build a seawall on a dry sand stretch of private property was upheld against a taking challenge.[92] In *Stevens v. City of Cannon Beach*, the common law doctrine of custom—a "background principle"—provided public beach access.[93] This principle, meant to protect future public use of the beach, already limited private property rights.[94] The government's regulation simply duplicated the effect of that principle and took nothing more from landowners.[95]

In other states, challenges to armoring prohibitions are pending. Coastal residents in Half Moon Bay, California are fighting the California Coastal Commission's rejection of a permit to build a sea

86 *Lucas*, 505 U.S. at 1029.

87 Nevitt, *supra* note 56, at 1089-90.

88 Holly Doremus, *Climate Change and the Evolution of Property Law*, 1 U.C. Irvine L. Rev. 1091, 1107 (2011).

89 Shell Island Homeowners Ass'n v. Tomlinson, 134 N.C. App. 217, 219-20 (1999).

90 *Id*. at 228.

91 *Id*. at 229-30.

92 Stevens v. City of Cannon Beach, 854 P.2d 449, 454-57 (Or. 1993) (en banc), *cert. denied*, 510 U.S. 1207, 1207 (1994).

93 *Id.*

94 *Id.*

95 *Id*. at 150.

wall.[96] A central question will be whether state law includes a right for private property owners to build infrastructure that protects existing structures. If it does, the regulation could be limiting a property right and potentially qualify as a taking.[97]

3. Trust Me, I'm Rolling with It: Rolling and Public Trust Easements

One tool to manage retreat from vulnerable coastlines as the sea levels rise is a rolling easement.[98] As referenced above, states have different standards to identify where the line between public and private areas along the coastline begins, including the mean high-water mark and vegetation line.[99] A rolling easement moves the property line or imposes different development restrictions and requirements on the land.[100] This happens as these benchmarks change or as the sea level encroaches further up the shoreline and the coast erodes.[101] In other words, rolling easements allow development but do not permit property owners to resist the rising sea, and "human activities are required to yield the right of way to naturally migrating shores."[102]

There are several ways to implement a rolling easement. Landowners can negotiate for rolling easements, like traditional conservation easements, in exchange for tax breaks or other incentives.[103] *Voluntary* easements pose no taking risk because a private property owner consented; the government took nothing against the owner's will. An easement might have conditions attached that prohibit hard armoring, encourage living shoreline armoring, or require that structures be removed as the water line changes. In Norfolk, Virginia, for example, a rolling conservation easement was recently signed by a private property owner, the Elizabeth River Project, anticipating that a new, $9 million building will eventually be torn down and the land transferred to the Coastal Virginia Conservancy as the sea reaches

96 Sharon Udasin, *How a Homeowners Association Lawsuit Could Shape the Future of the California Coast,* The Hill (Jan. 1 2024), https://thehill.com/homenews/state-watch/4411877-how-a-homeowners-association-lawsuit-could-shape-the-future-of-the-california-coast/ [https://perma.cc/A5CK-S7NK].

97 *Id*.

98 *See, e.g.,* James G. Titus, *Rising Seas, Coastal Erosion, and the Takings Clause: How to Save Wetlands and Beaches Without Hurting Property Owners,* 57 Md. L. Rev. 1279 (1998).

99 Robin Kundis Craig, *A Comparative Guide to the Eastern Public Trust Doctrines: Classifications of States, Property Rights, and State Summaries*, 16 Penn. St. Env't. L. Rev. 1, 15 (2007).

100 Doremus, *supra* note 88, at 1097.

101 *Id.*

102 Titus, *supra* note 98, at 1313.

103 James G. Titus, Rolling Easements: Climate Ready Estuaries EPA (2011).

an agreed-upon mean high-water average.[104] Governments might also exercise eminent domain to purchase an easement or option.[105] Though this would require just compensation, buying a limited property right rather than title to the whole parcel may be more cost effective. [106]

Another more litigious strategy is an "ambulatory public trust" approach, also known as a rolling public trust easement. Some lands are held in trust for the public, which means that public access to coastal areas cannot be impaired, and the state may regulate these areas to promote the "public trust."[107] Like other "background principles" of state law referenced in *Lucas*, private landowners' property rights are limited by the public trust. Coastal states have successfully applied this principle to defend against takings claims,[108] as states might defend statutes that clarify rolling easements and related regulations.[109] Moreover, states can provide notice about rolling easements—given climate modeling, the shift is foreseeable and predictable.[110] One would know when purchasing coastal property that the land is subject to the public trust and that property lines can change at the rate indicated. This notice is at least *relevant* to a property owner's reasonable investment-backed expectations, even if it might not completely immunize the state from its compensation requirement when the easement does move to their property.[111]

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104 Jim Morrison, *In Norfolk, An Environmental Headquarters Plans to Live with the Water, then Surrender to Reality*, Va. Mercury (Jan. 18, 2024, 12:02 AM), https://virginiamercury.com/2024/01/18/in-norfolk-an-environmental-headquarters-plans-to-live-with-the-water-then-surrender-to-reality/?emci=de6aebba-72b5-ee11-bea1-0022482237da&emdi=a4c2ef19-f9b5-ee11-bea1-0022482237da&ceid=357705 [https://perma.cc/VW2G-QAJB].

105 Titus, *supra* note 98, at 1313.

106 *See infra* Part IV.

107 Ill. Cent. R.R. v. Illinois, 146 U.S. 387, 452 (1892); Craig, *supra* note 56, at 403-04; Carolyn Ginno, *DO Mess With Texas. . .? Why Rolling Easements May Provide a Solution to the Loss of Public Beaches Due to Climate Change-Induced Landward Coastal Migration,* 8 San Diego J. Climate & Energy L. 225, 236-37 (2017).

108 Glass v. Goeckel, 703 N.W.2d 58, 54 (Mich. 2005) ("As trustee, the state has an obligation to protect the public trust. The state cannot take what it already owns . . . . [No] taking occurs when the state protects and retains that which it could not alienate: public rights held pursuant to the public trust doctrine."); McQueen v. S.C. Coastal Council, 580 S.E.2d 116, 120 (S.C. 2003) ("The tidelands included on McQueen's lots are public trust property subject to control of the State. McQueen's ownership rights do not include the right to backfill or place bulkheads on public trust land and the State need not compensate him for the denial of permits to do what he cannot otherwise do."); Esplanade Props., LLC v. City of Seattle, 307 F.3d 978, 985 (9th Cir. 2002) (relying on Washington state law) ("The 'restrictions that background principles' of Washington law place upon such ownership are found in the public trust doctrine . . . .").

109 Craig, *supra* note 56, at 403-04.

110 Ginno, *supra* note 107, at 239.

111 Severance v. Patterson, 370 S.W.3d 705, 726 (Tex. 2012); Nevitt, *supra* note 56, at 1086; *see also* Esplanade Props., LLC, 307 F.3d at 987 ("'Esplanade…took the risk,' when it purchased this large tract of tidelands in 1991…'that, despite extensive federal, state, and local regulations restricting shoreline development, it could nonetheless overcome those numerous hurdles to

Texas provides the best example of this doctrine in action. The State claims a public trust easement on the dry-sand beach of the Gulf Coast, or from the mean high-water mark to the vegetation line, based on the common law doctrine of custom and by statute (the Texas Open Beaches Act).[112] The Texas Supreme Court limited this doctrine in the 2012 decision, *Severance v. Patterson*, holding that the line between public and private does not change when sudden storm events move the coastline.[113] However, with gradual erosion, the line does change, and Texas could require that homes now located on dry-sand public trust lands be removed.[114]

Finally, governments might accomplish similar goals to a rolling easement by instead incorporating projected erosion rates into setback requirements.[115] Here, the public does not acquire any rights to formerly private land; a setback is just a new building requirement that dictates how much a building or structure should be "set back" from the property line or other boundary.[116] Under a *Penn Central* analysis—and assuming a setback will not eliminate any and all ability to build, as in *Lucas*[117]—this, like other building and land use requirements such as zoning, might stand up better to takings scrutiny. Two states have utilized this approach. The North Carolina Administrative Code for Ocean Hazard Areas determines setbacks using annual erosion rates,[118] and Hawaii has implemented a "50-year coastal setback" based on fifty times the annual erosion rate.[119]

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complete its project and realize a substantial return on its limited initial investment. Now, having failed…, it seeks indemnity from the City.' The takings doctrine does not supply plaintiff with such a right to indemnification.") (citation omitted).

112 Doremus, *supra* note 88, at 1108.

113 *Severance*, 370 S.W.3d at 732.

114 *Id.*

115 *See, e.g., Rolling Easement*, Wetlands Watch, https://wetlandswatch.org/rolling-easement [https://perma.cc/C6XS-YKDB]; *Hawaii Coastal Erosion Management Plan*, Dept. Land & Nat. Res., https://climateadaptation.hawaii.gov/wp-content/uploads/2015/07/COEMAP1.pdf [https://perma.cc/PA82-ZNL5].

116 *Setback,* Cornell L. Sch. Legal Info. Inst., https://www.law.cornell.edu/wex/setback [https://perma.cc/U2LW-HFNG].

117 *Lucas,* 505 U.S. at 1008-09

118 *What You Should Know About Erosion and Oceanfront Development*, N.C. Env't. Quality, https://www.deq.nc.gov/about/divisions/coastal-management/coastal-management-ocean-front-shorelines/what-you-should-know-about-erosion-oceanfront-development [https://perma.cc/2TYN-S72L].

119 *Hawaii Coastal Erosion Management Plan*, Dept. Land & Nat. Res., https://climateadaptation.hawaii.gov/wp-content/uploads/2015/07/COEMAP1.pdf [https://perma.cc/PA82-ZNL5].

4. Sea You Later! (But Probably Not): Disinvestment and Failure to Protect or Maintain Infrastructure

Governments generally have few legal duties to their citizens as they contend with the consequences of sea level rise. States and municipalities are not obligated to build or service any protective infrastructure,[120] provide emergency services,[121] or notify homeowners about the increased risk of climate impacts.[122] Rising seas lead to rising costs, and governments are already making difficult decisions about whether they should abandon or maintain infrastructure.[123] A classic example is roads that provide access to coastal properties. Maintenance costs can be untenable. In one case, repairing a single roadway cost more than the municipality's entire annual road repair budget.[124] In another, the city had to dramatically raise property taxes to fix a key coastal road, generating outcry.[125]

What happens when governments choose to build infrastructure that later becomes too difficult or expensive to maintain and decide to disinvest in communities? Does this change the obligations they have to maintain infrastructure and provide services—and can inaction prompt takings liability? To date, as the following paragraphs discuss, courts in four coastal states have addressed disinvestment and failure to repair and maintain infrastructure: Florida, Maryland, California, and Louisiana.[126] These guiding cases revolve around whether a government had an "affirmative legal duty" to act.[127]

In *Jordan v. St. John's County,* extreme weather events substantially damaged a Florida coastal road.[128] Property owners who used the road to access their homes filed an inverse condemnation action against the county.[129] The Fifth District Court of Appeals held that the county was obligated to service the road enough that it could provide meaningful property access for owners, and "implicit, 'back-door' abandonment of public roads violated the[ir] property rights."[130] However, the county

120 Ecological Dev., Inc. v. Walton Cnty., 558 So. 2d 1069, 1071 (Fla. 1st DCA 1990) (holding that the county is not required and cannot be made to build or upkeep anything unless it assumes to do so voluntarily).

121 Deshaney v. Winnebago Cnty. Dep't of Soc. Servs., 489 U.S. 189, 197-198 (1989).

122 Clark v. City of Kansas City, Mo., 99 F. Supp. 2d 1064, 1068 (W.D. Mo. 2000) ("[It] would be desirable for cities to warn their citizens of impending natural disasters . . . [but it] is not necessarily required.").

123 Nevitt, *supra* note 56, at 1100-01.

124 *Id.*

125 *Id*.

126 *Id.* at 1098.

127 *Id.*

128 63 So.3d 835, 836-37 (Fla. Dist. Ct. App. 2011).

129 *Id.*

130 *Id*.

only had a duty to reasonably maintain the road until it followed the proper abandonment procedures.[131]

In *Litz v. Maryland Department of the Environment,* the town of Goldsboro, Maryland, aware of maintenance issues with its septic system, signed a consent order with the Maryland Department of the Environment to clean up pollution from an overflow.[132] The government failed to follow through, resulting in damage to Litz's property.[133] Litz's taking claim survived a motion to dismiss.[134] The court held that it was "fair and equitable . . . to recognize an inverse condemnation claim based on 'inaction' when one or more of the defendants has an affirmative duty to act under the circumstances."[135] Typically, the government would not be required to fix the damage, and inaction would not give rise to liability. Here, however, the government had taken on an affirmative duty: it was required to implement the pre-existing judicial decree, or consent order, and failed to do so.[136] Essentially, if a government commits to fixing an issue, it takes on a duty to follow through. Resulting damage to private property may be compensable.

Similarly, in *Arreola v. County of Monterey*, Monterey County, California officials knew that a river levee was in danger of failing, but took no action to fix it. [137] The court held that "it is enough to show that the entity was aware of the risk posed by its public improvement and deliberately chose a course of action—or inaction—in face of that known risk" to support an inverse condemnation action.[138] Failure to address a known risk created a legal obligation, per the California Constitution,[139] to compensate the property owner for flood damage.[140]

Given that climate risks, including extreme weather events and sea level rise, are known, the *Arreola* "known risk" standard coupled with a disinvestment strategy can be dangerous for governments. Notice, however, may alleviate some governmental taking liability, as will be discussed. If these governments notify citizens in communities vulnerable to sea level rise of potential risks, it may place citizens "on notice"—the citizens would assume the risk of, for example, purchasing property in a vulnerable area that could later be subject to disinvestment.

Finally, in the fourth case, the federal government wrestled with its failure to repair and maintain a levee system when Louisiana property

131 *Id*.; *see also* Nevitt, *supra* note 56, at 1098-1101 (extensively discussing this case).

132 Litz v. Md. Dept. of Env't, 131 A.3d 923, 926 (Md. 2016).

133 *Id*. at 925

134 *Id*. at 931.

135 *Id.* at 931

136 *Id*.; *see also* Nevitt, *supra* note 56, at 1101-02 (discussing the case).

137 Arreola v. County of Monterey, 99 Cal. App. 4th 722, 733-36 (2002).

138 *Id.* at 744.

139 Cal. Const., art. I, § 19.

140 *Arreola*, 99 Cal. App. 4th at 761.

owners' homes were flooded after Hurricane Katrina.[141] In the 2018 case *St. Bernard Parish Government v. United States*, the Court of Federal Claims held that a "government cannot be liable on a takings theory for inaction," and the federal government did not owe any affirmative legal duty to its citizens.[142] A taking is triggered only "when the asserted invasion is the direct, natural, or probable result of authorized government action."[143]

From these four cases, a few principles become clear. If a relevant government knew about a risk, promised to act, and did not follow through, or did not follow proper procedures—like abandonment proceedings or requirements to notify residents—and damage to private property results, it might face inverse condemnation liability. Government actions that establish expectations residents rely on can trigger affirmative duties.[144] In federal courts, however, it seems clear that government *action* is required, and *inaction,* or failure to maintain or repair infrastructure, cannot serve as the basis for a taking claim.

IV. Shoring up Defenses: How Governments Can Mitigate or Reduce Takings Liability

Although some means of mitigating takings liability resulting from sea level rise adaptation measures are aspirational, there are several steps governments can take to limit their legal liability—albeit, sometimes by acknowledging up front that just compensation is (or might be) owed. Moreover, acknowledging that even unsuccessful takings litigation is expensive for governments, a key best practice is to involve community members in discussions about coastal adaptation early and meaningfully.

A. Just Pay for It: Taking Your Property Before Sea Level Rise Does

1. Voluntary Buyouts

If governments are willing and able to pay for coastal properties, a first, relatively uncontroversial tool that some coastal communities are considering is the voluntary buyouts of vulnerable areas, often funded by federal agencies such as the Federal Emergency Management

141 St. Bernard Par. Gov't v. United States, 887 F.3d 13541 (2018).

142 *Id.* at 690–91.

143 Plaintiffs would need to show that there was more flooding than there would have been if the levee system was not built at all; that is, that the government action that caused any additional flooding was building the levee, not failing to maintain it. Nevitt, *supra* note 56, at 1105.

144 *Id*. at 1107.

Agency (FEMA).[145] Purchased land can then act as buffer zones for sea level rise and storm-related flooding.

In many coastal areas currently, coastal properties are expensive, presenting a barrier to governments that might wish to start acquiring properties.[146] However, several state and local governments have already developed creative ways to mitigate this financial burden, including through tax policies and by phasing out infrastructure and service costs.[147] Moreover, voluntary acquisition of currently expensive coastal properties may become more feasible as coastal real estate prices increasingly drop to reflect the realities of sea level rise and worsening coastal storms.[148]

2. Coastline Eminent Domain

When voluntary buyout programs fail, the relevant government might turn to involuntary measures, or exercising "coastline eminent domain" to acquire coastal property. Coastline eminent domain remains constitutionally viable so long as the purchase serves a public use,[149] and adaptation to sea level rise certainly would meet the Supreme Court's generous "public purpose" standard.[150]

Notably, "public use" in eminent domain traditionally includes exercises of the police power or the government's ability to take necessary steps to protect public health, welfare, and safety.[151] In defending against challenges to coastal eminent domain, governments should emphasize how sea level rise adaptation measures are aligned with public safety and welfare objectives and constitute a necessary, rational response to a changing climate and shifting coastline.[152]

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145 For an analysis of over 40,000 floodplain voluntary purchases in the United States, *see generally* Katharine J. Mach et al., *Managed retreat through voluntary buyouts of flood-prone properties*, 5(10) Sci. Advances 1 (Oct. 9, 2019).

146 *Managed Retreat Toolkit: Introduction to Voluntary Buyouts*, Georgetown Climate Ctr., https://www.georgetownclimate.org/adaptation/toolkits/managed-retreat-toolkit/voluntary-buyouts.html [https://perma.cc/JK3K-ELUJ].

147 *Id*.

148 *See*, *e.g.*, John R. Nolon, *Land Use and Climate Change Bubbles: Resilience, Retreat, and Due Diligence*, 39 Wm & Mary Env't. L. & Pol'y Rev. 321, 337-50 (2015) (identifying six communities where climate change is or should be affecting land prices, including one coastal and several waterfront locations).

149 *Kelo*, 545 U.S. at 477-78.

150 *Id*. at 479-80 ("Accordingly, when the Court began applying the Fifth Amendment to the states at the close of the 19th century, it embraced the broader and more natural interpretation of public use as "public purpose."" (citing Fallbrook Irrigation Dist. v. Bradley, 164 U.S. 112, 158–164 (1896)). The Court will ordinarily not second-guess a city's use of eminent domain, and eminent domain of several private homes in pursuit of a redevelopment plan to improve the city's economic well-begin satisfied the "public purpose" standard. *Kelo*, 545 U.S. at 488-90.

151 Nevitt, *supra* note 56, at 1068; Craig, *supra* note 31, at 87.

152 *Kelo*, 545 U.S. at 480; Nevitt, *supra* note 56, at 1069-70.

While permissible, however, this strategy is unpopular[153] and expensive.[154] Governments are reluctant to reduce their property tax base,[155] especially when condemning expensive coastal real estate. Therefore, until coastal communities are actually experiencing physical damage and price reductions from sea level rise and worsening storm surge, eminent domain is a politically and financially challenging last resort strategy, best used for holdout or lynchpin properties that are critical to larger-scale adaptation or retreat plans.

B. Declare Coastal Nuisances and Emergencies

When sea level rise imminently threatens public health and safety, localities may have to remove or destroy coastal buildings and infrastructure. Paradoxically, however, at this stage, governments may no longer have to pay to remove that infrastructure because of two "background principles" of coastal property law: nuisance and public necessity.[156]

More commonly, municipalities will be able to rely on their traditional authorities to abate nuisances and to condemn and remove uninhabitable buildings, preventing residents from inhabiting areas of the coast that have become too dangerous.[157] In California, for example, "[d]emolition of a dangerous building already declared a nuisance is a valid abatement action where no lesser measure would eliminate the nuisance," and the building's destruction is insulated from takings liability.[158] Moreover, the California Coastal Act of 1976, which vests much coastal management authority in the California Coastal Commission, explicitly preserves the authority of coastal municipalities to abate public nuisances.[159]

To deal with imminent threats along the coast—probably more often to deal with worsening storms exacerbated by sea level rise than sea level rise itself—coastal governments can invoke the "public necessity" or emergency defense to a taking claim.[160] Public necessity is one of

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153 Notably, for example, in the wake of the U.S. Supreme Court's decision in *Kelo*, 47 states modified their state eminent domain laws to limit the use of eminent domain. *Kelo Eminent Domain*, Inst. for Just., https://ij.org/case/kelo/ [https://perma.cc/99M9-JBXE].

154 For example, beachfront homes in California generally cost at least $1 million, and homes in Malibu regularly exceed $15 million. *Beachfront-California Real Estate*, Zillow (as viewed Sept. 16, 2024), https://www.zillow.com/ca/beachfront_att/ [https://perma.cc/EM8B-S36M].

155 Linda Shi & Andrew M. Varuzzo, *Surging seas, rising fiscal stress: Exploring municipal fiscal vulnerability to climate change*, 100 Cities 1, 10 (2020) (describing the "vicious cycle" that climate change imposes on coastal cities, driving them to develop more waterfront property even in the face of clear understanding of sea level rise).

156 Craig, *supra* note 31, at 91.

157 *See, e.g.,* Lilley v. City of Sacramento, 2002 WL 31863321 (Cal. Ct. App. Dec. 23, 2002).

158 *Id.* at *3.

159 Cal. Pub. Res. Code § 30005.

160 Craig, *supra* note 56, at 419-20, 424.

the takings exceptions outlined in *Lucas*.[161] Courts have long recognized that when there is a true emergency or grave threat to the public, "private rights fall to public need."[162] Like other "background principles," this idea limits landowners' property rights: one never had the right to save one's own property at the expense of the public. Therefore, necessary measures taken to protect the public from impending danger are less likely to trigger a taking.

The paradigm of public necessity is destroying private property to prevent a wildfire from spreading to other homes.[163] Emerging litigation will clarify how "imminence" and "emergency" apply in the context of climate change and whether actions taken are a reasonable response in proportion to the threat, but whether the defense will prove effective remains an open, state-specific question. [164]

Courts in various states have begun to use public necessity as a defense to takings claims when coastal management actions destroy property or require removal of infrastructure. Florida has a strict, limited, and emergency-based public necessity doctrine, but recognizes "coastal public necessity." [165] This doctrine insulates a municipal government using armoring measures to protect against encroaching seas when the armoring results in flood damage to private property and continues to be cited in a takings context.[166] In California, the city of Del Mar removed patios and sea walls that were invading a beach, arguing that the action was taken for public necessity.[167] In *Scott v. City of Del Mar*, the California Court of Appeals distinguished between emergency and non-emergency situations.[168] The court found that, in this case, there

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161 *Lucas*, 505 U.S. at 1029-31.

162 Craig, *supra* note 56, at 419-20, 424.

163 Nevitt, *supra* note 56, at 1092-93 ("A state or private parties can be absolved of liability for the 'destruction of real or personal property in cases of actual necessity, to prevent the spreading of a fire or to forestall other grave threats to the lives and property of others.'") (quoting *Lucas*, 505 U.S. 1003). Governments have begun to prohibit development in known wildfire zones; this might be analogous to preventing development in flood zones, if climate science can demonstrate emergency and necessity. Nevitt, *supra* note 56, at 1094.

164 Craig, *supra* note 56, at 420.

165 In one 2009 case, for example, the Florida Court of Appeals held that emergency drainage measures that damaged private property were allowed "only during a hurricane, not after." Drake v. Walton Cnty., 6 So. 3d 717, 720-21 (Fla. Dist. Ct. App. 2009). *See also* Craig, *supra* note 56, at 424.

166 *See Paty*, 29 So. 2d 363; Certain Interested Underwriters at Lloyd's London v. City of St. Petersburg, 864 So. 2d 1145, 1148-49 (Fla. Dist. Ct. App. 2003) (citations omitted) ("In 1947, the Florida Supreme Court held that certain damage to private property simply has no remedy at law…In applying [the *Paty*] rationale to takings claims, Florida courts have held that when government actors cause damage to property as a result of their lawful actions performed without negligence, no compensable taking has occurred under the Florida Constitution."); Craig, *supra* note 56, at 424-25.

167 *Scott*, 58 Cal. App. 4th at 1299–1300.

168 *Id.*

was no emergency, but confirmed that "to avert impending peril," governments can destroy private property without compensating owners.[169]

Other relevant "background principles" may insulate governments engaged in coastal adaptation from takings liability. For example, background principles of state law might include public trust beach access (often through the "doctrine of custom," referenced above), limitations on reasonable investment-backed expectations, and trespass.[170] Although the outer bounds of this exception to takings liability are untested and in some ways will vary with state property law, *Lucas* suggests that local governments should aim to identify state law principles already limiting a landowners' intended use that might support a government's chosen regulation.[171]

C. Notice Me! (Says Your Reasonable Investment-Backed Expectation)

The most feasible best practice resonates throughout this paper: notice. Implementing requirements, via local regulations or state constitutional amendments, to provide notice and disclosure about climate impacts—using reliable, recent climate science—can impact a property owner's reasonable investment-backed expectations.[172] Governments can provide notice that future regulation is expected, that areas are in a flood zone subject to rising seas and storm surge, that property rights are limited by principles like the public trust, or that future maintenance services will be discontinued, reducing reliance and tempering expectations.[173] Giving meaningful notice about the risks themselves and the likelihood of different government actions to address them can shield governments from regulatory takings altogether[174] or factor into how much compensation may be due under a "just" compensation analysis. [175]

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169 *Id.;* Craig, *supra* note 56, at 421; Nevitt, *supra* note 56, at 1092–96.

170 Stevens v. City of Cannon Beach, 854 P.2d 449, 454–57 (Or. 1993) (en banc), *cert. denied*, 510 U.S. 1207, 1207 (1994); Nevitt, *supra* note 56, at 1089–90.

171 Nevitt, *supra* note 56, at 1089–90; Tim Mulvaney, *Foreground Principles,* 20 Geo. Mason L. Rev. 837, 840–850 (2013).

172 Nevitt, *supra* note 56, at 1091-92.

173 *Id*. at 1115 ("[E]x ante climate risk notices…may include hold harmless provisions that make clear that municipal services may be eliminated or roads may not be repaired.").

174 Columbia Venture, LLC v. Richland Cnty., 776 S.E.2d 900, 900 (S.C. 2015) ("[The developer's] lack of reasonable investment-backed expectations coupled with the legitimate and substantial health and safety-related bases for the County's floodplain development restrictions outweigh [the developer's] economic injury and under Penn Central, no regulatory taking occurred.").

175 Property owners are assumed to have "constructive notice" of land use regulations that affect their parcels. Metro. Dade Cnty. v. Fontainebleau Gas & Wash, Inc., 570 So. 2d 1006, 1006 (Fla. 3d DCA 1990).

D. Keep Procedure Ship-Shape

In addition to notice requirements, governments should be careful to follow established procedures, especially when they choose to disinvest in vulnerable communities, as *Jordan v. St John's County,* the Florida coastal highway case, demonstrates.[176] Complying with notice requirements that are in place and following property closure, condemnation, or abandonment proceedings will help formally close off any duties governments may owe because they voluntarily undertook construction, maintenance, or services.

E. Involve the Community in Coastal Adaptation Planning and Decision-Making

A large and growing subfield of coastal adaptation studies stresses that "[p]olitically feasible and socially acceptable coastal hazard adaptation strategies will not happen without broad public support, and ideally, exposed populations' active engagement."[177] While these studies often focus on risk communication and the public's risk perception,[178] researchers are also developing tools to assess a coastal community's level of engagement[179] and, more importantly, to increase that engagement. For example, the National Institute of Water and Atmospheric Research (NIWA) in New Zealand has developed a "serious [online] game" called "Adaptive Futures" to engage coastal communities in sea level rise adaptation planning.[180] Similarly, Marin County, California developed "Game of Floods" to put "Marin residents directly into the difficult planning decisions posed by a future of sea level rise and extreme storms […] foster[ing] collaboration and deepen[ng] understanding of the many issues surrounding future flood protection and climate change."[181]

What do serious games have to do with coastal takings litigation? Everything, potentially. Coastal takings litigation is a classic way for landowners to protest government action. However, human nature being what it is, takings litigation most often occurs when

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176 63 So.3d 835 (5th Dist. Ct. App. 2011).

177 Neide P. Areia et al., *Social engagement in coastal adaptation processes: Development and validation of the CoastADAPT scale*, 133 Env't Sci. & Pol'y 107, 107-08 (2022) (citation omitted).

178 Bethany Gordon & Heidi Klotz, *Community involvement in coastal infrastructure adaptation should balance necessary complexity and perceived effort*, 25(8) iScience 1, 1-2 (2022).

179 Areia et al., *supra* note 177, at 108-10.

180 NIWA, *Serious games as tools to engage people*, https://niwa.co.nz/climate-and-weather/serious-games-tool-engage-people [https://perma.cc/Y3AD-ZQDB]. Anyone can play "Adaptive Futures" at https://adaptivefutures.github.io/seriousgames/game.html [https://perma.cc/N4JT-7JF2].

181 *OPC Spotlight: The Game of Floods*, ResilientCA.org, https://resilientca.org/case-studies/the-game-of-floods/ [https://perma.cc/AR2B-UVZP].

landowners feel that they have been burdened against their will or without their prior consent. Robust public participation in coastal adaptation planning—particularly in formats like the serious games that promote consensus building regarding local priorities and a vision for the future, as well as increased understanding of difficult tradeoffs—may well help to build trust and understanding that will in turn diminish coastal landowners' impulses to sue their governments or assist in negotiations for voluntary adaptation measures.

Thus, in addition to being a coastal adaptation best practice in its own right, robust public engagement in coastal adaptation visioning and planning is also a takings mitigation strategy. This strategy, moreover, may help to prevent at least some takings litigation, saving coastal governments money for the adaptation measures themselves.

V. Conclusion

Our Constitution requires all levels of government to balance the rights of private property owners with the public good as we adapt to sea level rise. Caution is justified because takings liability (and litigation) is no small thing, especially for coastal municipalities. Moreover, legal uncertainties abound, because the contours of climate adaptation measures and their legal risks are still developing.

However, as climate science and prediction continue to develop, danger in areas vulnerable to sea level rise becomes imminent, and worsening coastal storms damage and destroy property further inland than ever, coastal governments must act to adapt and protect the public. Somewhat paradoxically, both the financial cost and takings liability risk of government action are likely to decrease as coastal conditions worsen—but by then the chance for a more orderly and productive adaptation path and managed retreat may well have passed.

Therefore, governments wanting to engage in proactive adaptation need both to be creative (as some local governments are already doing with respect to financing coastal buyout programs) and actively engage the members of their communities in adaptation planning. Consensus visions of the community's future and a shared understanding of the many tradeoffs involved in coastal adaptation may very effectively insulate coastal governments from takings litigation in addition to promoting adaptation itself.