
Forcing Adaptation through the Rivers and Harbors Act

Leah Rindner*

Congress enacted the Rivers and Harbors Act in 1899 to ensure free and open navigability across the nation's waterways. Administered by the Corps of Engineers, the Act has not received much attention from legal scholars. In particular, few scholars have analyzed the Act as a means of providing environmental protection.

The Ninth Circuit's decision in United States v. Milner, however, suggests that the Rivers and Harbors Act has significant potential to address environmental challenges created by sea level rise. In Milner, the Ninth Circuit ruled that six coastal property owners had violated the Act because they refused to remove structures intended to protect their homes from erosion by rising sea levels. The structures were originally erected lawfully on the homeowners' property, but once the sea rose to the point where it intersected with the structures, they obstructed navigability of open waters, in violation of the Act. This Note argues that Milner provides a means by which private property owners can be forced to adapt to the inevitable changes of sea level rise. The Rivers and Harbors Act, as implemented in Milner, allows the government to regulate private property in furtherance of environmental protection while withstanding challenges by property owners.

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INTRODUCTION

The sea is rising at an unprecedented rate.¹ Sea levels along most of the United States’ coasts rose approximately one foot over the last century.² The rate of sea level rise is increasing every year, with studies suggesting sea levels will rise between two and four feet by the year 2100.³ Within that time frame,

* J.D. Candidate, University of California, Berkeley, School of Law (Boalt Hall), 2012; B.A., English, Whitman College, 2005. I would like to thank Eric Biber for his guidance and insight throughout the writing process and Bob Infelise for co-teaching a wonderful writing seminar. I also owe many thanks to the editorial board of *ELQ*, particularly Danny Kramer.

1. See JAMES G. TITUS & VIJAY K. NARAYANAN, U.S. ENVTL. PROT. AGENCY, THE PROBABILITY OF SEA LEVEL RISE 145 tbls.9-1 & 9-2 (1995).

2. The average ocean shore along the Atlantic and Gulf Coasts is eroding two and four feet per year, respectively. See 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, 1299 (1998).

3. See *id.* at 1304.

significant portions of U.S. coastlines will become submerged under the rising waters.⁴

While the United States surrenders more of its shorelines to the ocean every year, people are migrating to the coasts in unprecedented numbers: 53 percent of United States citizens currently live in coastal communities.⁵ Well aware of the threat rising sea levels pose to their property, coastal property owners have taken various measures to protect their homes and land from the whims of the sea.⁶ These measures include but are not limited to armoring walls, shore defense structures, and bulkheads, all of which are designed to prevent the sea from advancing.⁷ These devices provide immediate solutions for property owners, but they also carry serious environmental ramifications, including an eventual increase in the erosion they are designed to prevent.⁸ Dense coastal populations and shoreline defense structures could threaten coastal ecosystems as much as sea level rise itself.

Environmental advocates contend that these detrimental effects are unacceptable. Conversely, coastal property owners argue that they have the right to protect their property by whatever means necessary. A compromise between coastal property rights and environmental protection is necessary, and while neither party has an immediate incentive to forge that compromise, their interests are bound to clash.

This clash may be minimized by adapting old law and ancient doctrine to the changing circumstances. The Rivers and Harbors Appropriation Act of 1899⁹ (RHA) is one such old law. The RHA prohibits structures that unreasonably obstruct navigable waters and requires a permit for any structure that alters or modifies these waters.¹⁰ The RHA was first enacted over a century ago, but as applied in *United States v. Milner*,¹¹ it provides a novel legal response to the collision between sea level rise, coastal development, and private property rights.

In *United States v. Milner*, the Ninth Circuit held that four private coastal property owners had violated the RHA.¹² The property owners' shore defense structures, which sought to protect their coastal homes from erosion and storm

4. See *id.* at 1297.

5. See KRISTIN M. CROSSETT ET AL., NAT'L OCEANIC & ATMOSPHERIC ADMIN., POPULATION TRENDS ALONG THE COASTAL UNITED STATES: 1980–2008, at 1 (2004).

6. See Titus, *supra* note 2, at 1281.

7. See *id.*

8. See *Puget Sound Shorelines: Building—Bulkheads and Effects*, WASH. DEP'T OF ECOLOGY, http://www.ecy.wa.gov/programs/sea/pugetsound/building/bulkhead_eff.html (last visited Feb. 23, 2011); see also *Ocean Harbor House Homeowners Ass'n v. Cal. Coastal Comm'n*, 77 Cal. Rptr. 3d 432 (Cal. Ct. App. 2008) (noting studies finding that seawalls can cause passive erosion which would eventually eliminate beach).

9. 33 U.S.C. § 403 (2006).

10. See *id.*

11. *United States v. Milner*, 583 F.3d 1174 (9th Cir. 2009).

12. See *id.* at 1191–94.

damage, violated the RHA because they obstructed and altered or modified navigable waters.¹³ The property owners initially built these structures lawfully on their own property.¹⁴ Over time, however, the sea rose to the point where it intersected with the structures.¹⁵ The Ninth Circuit, applying the RHA, held that the property owners could not maintain these structures without a permit and required their removal.¹⁶ The court disregarded the fact that the property owners had originally erected the structures lawfully, and found the property owners' right to protect their homes irrelevant to its analysis.¹⁷ Instead, the court focused on the structures' obstruction of navigability, and, on that basis alone, found the property owners liable.¹⁸

Under *Milner's* application of the RHA, coastal property owners will lose their property interest in the structures they build to protect their property from sea level rise without receiving any corresponding compensation from the government. When the sea intersects with defense structures on private coastal property, the government can demand the removal of these structures under the RHA.¹⁹ This use of the RHA is justified under an ancient doctrine known as navigational servitude. It provides that when the federal government exercises its commerce clause powers by regulating navigable waters, it need not compensate for any incidental damages caused by the regulation.²⁰ The government's navigational servitude is therefore "superior" to private property rights and does not implicate the Takings Clause of the Fifth Amendment.²¹ The navigational servitude is closely tied to another ancient doctrine, the public trust doctrine, which provides additional justification for the RHA.

This Note argues that *Milner's* interpretation of the RHA provides a necessary and appropriate governmental response to sea level rise. Responding to climate change will inevitably require a change in our conception of private property rights. The eventual harm to property rights results not from governmental action, but rather from the inevitable movement of the sea. The government can use the RHA to force property owners to respond to the larger consequences and implications of sea level rise rather than simply erecting barriers which provide ephemeral, short-sighted relief. If the government acts now and forces property owners to adapt to sea level rise before it becomes severe, it can mitigate damage to coastal ecosystems. Climate change requires

13. *See id.*

14. *See id.* at 1181.

15. *See id.*

16. *See id.* at 1191.

17. *See id.*

18. *See id.* at 1191–93.

19. *See generally Milner*, 583 F.3d 1174 (2009) (holding that homeowners violated RHA by refusing to remove shoreline defense structures sitting below MHW mark).

20. *See Union Bridge Co. v. United States*, 204 U.S. 364, 399–400 (1907).

21. *See id.* at 400.

adaptation and compromise, and *Milner's* approach to the RHA forces property owners to do just that.

Part I of this Note explains the *Milner* decision and the context in which the RHA claim arose in the case. Part II examines *Milner's* broader legal and environmental relevance. Part III explores the historical development of the RHA and its significance over the past century. Part IV discusses the lack of remedies available to property owners under the RHA and the justification the navigational servitude provides for this lack of redress. Part V analyzes the public trust doctrine as both the foundation for and a complement to the navigational servitude. Last, Part VI advocates that the RHA and the navigational servitude, while not without harsh consequences, force necessary adaptation in a changing world.

I. *UNITED STATES V. MILNER* AND THE TIDELANDS/UPLANDS BOUNDARY

Landowners have always enjoyed the right to protect their property from the forces of nature.²² This right is limited, however, by the duty not to interfere with another's property rights, or with the rights of the public.²³ The dispute in *Milner* hinged on determining where the right ends and the duty begins.

The defendants in *Milner* consisted of six coastal homeowners,²⁴ all of whom owned homes and parcels of land overlooking the Strait of Georgia in Washington State.²⁵ The parcels, collectively known as the "uplands," sat directly above and adjacent to the tidelands,²⁶ the "wet beach" area²⁷ between the mean high water (MHW) and mean low water tide lines of the coasts,²⁸ which the plaintiff United States held in trust for the Lummi Nation, an Indian tribe, for over a century.²⁹

22. See *Potts v. United States*, 114 F. 52 (9th Cir. 1902).

23. See 43 U.S.C. § 1061 (2006). See generally *Christy v. Hodel*, 857 F.2d 1324 (1988) (discussing extent to which government may regulate private property without effecting a taking); *Irwin v. Dixon*, 50 U.S. 10 (1850) (discussing public nuisance law).

24. *Milner* involves only four of the homeowners due to agreements reached with the other two parties. See *Milner*, 583 F.3d at 1181.

25. See *id.* at 1180.

26. See *id.* at 1181.

27. See *Titus*, *supra* note 2, at 1292.

28. The mean high water line (MHW line) is determined by projecting onto the shore the average of all high tides over a period of 18.6 years. See *Borax Consol. v. City of Los Angeles*, 296 U.S. 10, 26–27 (1935).

29. In 1873, President Grant issued an executive order that granted tidelands to the Lummi Nation. Exec. Order (Nov. 22, 1873), reprinted in CHARLES J. KAPPLER, INDIAN AFFAIRS: LAWS AND TREATIES 917 (1904). This expanded the Treaty of Point Elliott, which had relegated the Lummi Nation to specified land in western Washington. See *Milner*, 583 F.3d at 1180; see also Treaty Between the United States and the Dwamish, Suquamish, and Other Allied and Subordinate Tribes of Indians in Washington Territory, Jan. 22, 1855, 12 Stat. 927. These tidelands would normally be held by the states in trust for the public under the public trust doctrine. See discussion *infra* Part V.B.

The homeowners, in efforts to protect their coastal property from storm damage and erosion, individually erected “shore defense structures” in front of their homes.³⁰ These structures took various forms, from massive boulders (“rip raps”) to sea walls (bulkheads).³¹ The homeowners originally erected the structures lawfully on their own property. When first constructed, they sat upward of the MHW line and above the United States’ tidelands.³² Over time, however, the sea rose.³³ By 2002, the shoreline had eroded to the point where some of the structures sat seaward of the MHW line and within the tidelands.³⁴ An organization representing the homeowners had previously leased the tidelands from the Indian tribe, but this lease expired in 1988.³⁵ The homeowners were given a renewal option but declined.³⁶ Without a lease, the homeowners lacked permission to maintain their structures on the tidelands.³⁷ The homeowners also failed to respond to letters from the U.S. Army Corps of Engineers (Corps)³⁸ demanding they remove the structures.³⁹

The United States subsequently filed suit against the homeowners, claiming trespass, violation of the Clean Water Act, and violation of the RHA.⁴⁰ Judge Rothstein of the District Court for the Western District of Washington found the homeowners at fault⁴¹ and ordered them to pay a \$1500 fee and “remove rip rap below a certain point.”⁴² The homeowners appealed Judge Rothstein’s findings to the Ninth Circuit.⁴³

Rejecting the homeowners’ argument that they could not be found liable for trespassing on what was originally their property, the Ninth Circuit found them liable for doing exactly that.⁴⁴ While acknowledging that property disputes between tidelands’ and uplands’ owners presented “a recurring and difficult issue,” the court ruled that the boundary between these zones is ambulatory, changing when the ocean changes.⁴⁵ The court reasoned that under the federal common law doctrine of erosion, land is added to tidelands owners’

30. *See Milner*, 583 F.3d at 1181.

31. *See id.*

32. *See id.*

33. *See id.*

34. *Id.*

35. *See id.*

36. *See id.*

37. *See id.*

38. The United States Army Corps of Engineers is charged with enforcing the RHA and portions of the Clean Water Act (CWA). *See* 33 U.S.C. §§ 403, 1344 (2006).

39. *See Milner*, 583 F.3d at 1181.

40. *See id.*

41. *See id.* at 1182. Judge Rothstein ruled on summary judgment that the homeowners were liable for trespass and violation of the RHA and that one of the homeowners (the Nicholsons) was liable for violation of the CWA. *Id.* at 1181–82.

42. *Id.*

43. *See id.*

44. *See id.* at 1191.

45. *See id.* at 1186.

property when the sea moves landward, and is thereby removed from the uplands owners' property.⁴⁶ The opposite holds true under the doctrine of reliction: when the sea gradually recedes, it is the upland owner whose property expands.⁴⁷ The tidelands and uplands owners thus share a reciprocal relationship.⁴⁸ Sometimes the uplands owner gains property at the expense of the tidelands owner, and sometimes it is the tidelands owner whose property expands at the uplands owner's expense.⁴⁹ Unfortunately for the homeowners, the sea rose to the point where it intersected with their structures.⁵⁰ Their structures therefore fell below the MHW line, rendering them liable for trespass.⁵¹

The court further held that the boundary line must be defined by the movement of the sea and cannot be unnaturally fixed in place.⁵² The homeowners argued that, even if the boundary line was ambulatory, it became fixed when it intersected with their structures and could not move landward until it overtook these structures or eventually receded.⁵³ While acknowledging the homeowners' right to protect their property from erosion or storm damage, the court declined to extend this to the power to fix the property line.⁵⁴ A fixed boundary line, reasoned the court, would be contrary to the erosion and reliction doctrines and would ultimately deny the Indian tribe their right to the tidelands.⁵⁵ A property owner "must accept that the property boundary is ambulatory, subject to gradual loss or gain depending on the whims of the sea."⁵⁶ Rather than accept this loss, the homeowners maintained their structures on what no longer constituted their property and were therefore liable.⁵⁷

46. *See id.* at 1187.

47. Reliction occurs when previously submerged land is exposed, thus gradually adding land to uplands. *See* JOHN M. GOULD, A TREATISE ON THE LAW OF WATERS 306–08 (3d ed. 1900) ("[L]and gained by *reliction*, or the gradual and imperceptible recession of the water, belong to the owner of the contiguous land to which the addition is made."); *see also* *Bonelli Cattle Co. v. Arizona*, 414 U.S. 313, 325 (1973) (applying the federal common law doctrines, holding that "[w]hen there is a gradual and imperceptible accumulation of land on a navigable riverbank, by way of alluvion or reliction, the riparian owner is the beneficiary of title to the surfaced land").

48. *See Milner*, 583 F.3d at 1188.

49. *See id.*

50. *See id.* at 1187.

51. *See id.*

52. *See id.*

53. *See id.* at 1188. They justified this position in part by relying on the common enemy doctrine, which provides that "[a] man may raise an embankment on his own property to prevent the encroachments of the sea." *Id.* at 1188–89 (quoting *Revell v. People*, 177 Ill. 468, 490 (1898)). According to the homeowners, then, they still own the property up to the point where their structures lie and cannot be found liable for trespass. *See id.*

54. *See id.* at 1187.

55. *See id.*

56. *Id.* at 1186.

57. *See id.* at 1191.

The United States' other successful claim,⁵⁸ the RHA claim, also relied on the ambulatory nature of the boundary line.⁵⁹ It differed from the trespass claim, however, in that it referenced navigability rather than property rights.⁶⁰ Rather than asserting the unlawfulness of maintaining defense structures on another's land, the RHA claim contested the presence of the structures within the navigable waters of the United States.⁶¹ The first clause of section 10 of the RHA prohibits the imposition of "any obstruction not affirmatively authorized by Congress [as enforced by the Corps] to the navigable capacity of any of the waters of the United States."⁶² The second and third clauses respectively forbid the creation of specific structures in U.S. waters and make it unlawful to modify navigable waters without the permission of the Corps.⁶³ As it did with the trespass claim, the court first determined the boundary line of the navigable waters (in the trespass analysis, the boundary of the tidelands) in order to determine the homeowners' RHA liability.⁶⁴ RHA navigable waters include "all places covered by the ebb and flow of the tide to the [MHW line] in its unobstructed, natural state."⁶⁵ Under this definition, the structures sat in navigable waters, just as they fell on the tidelands in the trespass claim.

58. The Ninth Circuit reversed the district court's finding as to the CWA claim. *See id.* at 1195–96. The district court found one of the homeowners, the Nicholsons, liable for violating the CWA's prohibition against discharge of fill materials. *See id.* at 1180; *see also* 33 U.S.C. §§ 1311, 1344 (2006). The Nicholsons discharged construction debris near their defense structures without obtaining a permit. *See Milner*, 583 F.3d at 1194–95. The Ninth Circuit held, however, that Corps' jurisdiction under the CWA only extends to actual navigable waters, not where navigable waters would lie in their unobstructed state. *See id.* at 1194–95; *see also* *Sierra Club v. Leslie Salt Co.*, 412 F. Supp. 1096, 1103 (N.D. Cal. 1976). The Nicholsons did not violate the CWA if they only discharged onto dry land. *See Milner*, 583 F.3d at 1195. The Ninth Circuit therefore remanded to determine whether the Nicholsons discharged directly into water or whether they discharged material on dry land. *See id.* at 1196.

59. *Milner*, 583 F.3d at 1191–92.

60. *See id.*

61. *See id.* at 1191.

62. 33 U.S.C. § 403 (2006).

63. 33 U.S.C. section 403, in its entirety, provides:

The creation of any obstruction not affirmatively authorized by Congress, to the navigable capacity of any of the waters of the United States is prohibited; and it shall not be lawful to build or commence the building of any wharf, pier, dolphin, boom, weir, breakwater, bulkhead, jetty, or other structures in any port, roadstead, haven, harbor, canal, navigable river, or other water of the United States, outside established harbor lines, or where no harbor lines have been established, except on plans recommended by the Chief of Engineers and authorized by the Secretary of the Army; and it shall not be lawful to excavate or fill, or in any manner to alter or modify the course, location, condition, or capacity of, any port, roadstead, haven, harbor, canal, lake, harbor or refuge, or inclosure within the limits of any breakwater, or of the channel of any navigable water of the United States, unless the work has been recommended by the Chief of Engineers and authorized by the Secretary of the Army prior to beginning the same.

64. *See Milner*, 583 F.3d at 1191.

65. *Leslie Salt Co. v. Froehlke*, 578 F.2d 742, 753 (9th Cir. 1978); *see also* 33 C.F.R. §§ 322.2(a), 329.4, 329.12(a)(2) (2010).

The homeowners again contended that they should not be found liable for violating the RHA because they had erected their structures legally.⁶⁶ According to the homeowners, they never created obstructions to the navigable capacity of the United States, since the structures sat above the MHW line when first erected, and because the homeowners did nothing more than maintain the structures after the water line ambulated.⁶⁷ The court rejected this argument, though this time it did not rely on the erosion/accretion doctrine to justify its holding.⁶⁸ The RHA flatly prohibits “the failure to remove structures prohibited by section 10, even if they were previously legal.”⁶⁹ The Corps generally requires a permit for structures in navigable waters, and the homeowners failed to obtain a permit once their structures intersected with the MHW line.⁷⁰ The homeowners’ structures may have only come within navigable waters as result of sea level rise, but they nevertheless presented an obstruction to navigable waters, regardless of any prior legality.⁷¹

The RHA provided another basis for liability that withstood the homeowners’ prior legality argument.⁷² Under the third clause of section 10 of the RHA, any structure found to “alter or modify” the course or condition of navigable waters requires a permit.⁷³ The defense structures modified the course of navigable waters by preventing the sea from advancing naturally.⁷⁴ Under this alternative basis, then, the homeowners violated the RHA regardless of whether they erected the structures legally or whether the Corps even deemed the structures “obstructions.”⁷⁵

The court avoided passing judgment as to whether the structures at issue presented actual obstructions or actually modified the navigable capacity of U.S. waters. Instead, it deferred to the Corps and emphasized the permit requirements to which the homeowners failed to adhere.⁷⁶ The court also stressed the homeowners’ refusal to heed the Corps’ removal demands.⁷⁷

The court concluded its decision by lamenting, “[t]his action was avoidable.”⁷⁸ The court noted that the homeowners could have simply leased the tidelands from the Lummi Nation as they had done in the past, particularly

66. *See Milner*, 583 F.3d at 1191.

67. *See id.*; *see also* 33 U.S.C. § 403 (2006).

68. *See Milner*, 583 F.3d at 1191–92.

69. *Id.* at 1191 (citing *United States v. Alameda Gateway Ltd.*, 213 F.3d 1161, 1167 (9th Cir. 2000)).

70. *See Milner*, 583 F.3d at 1192; 33 C.F.R. § 322.3(a) (2010).

71. *See Milner*, 583 F.3d at 1191–92.

72. *See id.* at 1193.

73. *See id.*; 33 C.F.R. § 322.3(a) (2010).

74. *See Milner*, 583 F.3d at 1193.

75. 33 U.S.C. § 403 (2010).

76. *See Milner*, 583 F.3d. at 1193.

77. *See id.*

78. *Id.* at 1197.

since the tribe expressed willingness to renegotiate a lease.⁷⁹ A renewed lease would have allowed the uplands owners to maintain their shore defense structures on the tidelands.⁸⁰ This suggests that the Corps would not have pursued RHA claims against the homeowners if they had obtained permission from the Lummi Nation.⁸¹ At the conclusion of the litigation, however, the homeowners remained on the hook for trespass, and for multiple violations of the RHA.⁸² The United States Supreme Court denied a petition for writ of certiorari, leaving the Ninth Circuit's decision intact.⁸³

II. MILNER'S RELEVANCE TO FUTURE CLASHES BETWEEN ENVIRONMENTAL PROTECTION AND UPLAND LANDOWNERS

Milner deserves attention because its issues will soon be common problems.⁸⁴ The Intergovernmental Panel on Climate Change (IPCC), an international body tasked with assessing the current state of climate change and its future impacts,⁸⁵ predicts that global and national sea level rise will continue beyond the year 2100 and for many centuries to come.⁸⁶ Sea level rise in the United States is already exceeding twentieth century rates.⁸⁷ Sea level has risen about one foot in the last century alone along most of the United States coast.⁸⁸

As global sea level continues to rise, coastal communities are growing at unprecedented rates.⁸⁹ Studies indicate that 23 percent of the world's population lives both within 100 kilometers of the coast and less than 100 meters above sea level.⁹⁰ Coastal communities within the United States constitute only 17 percent of the total land area of the United States (not including Alaska), but account for 53 percent of the total population.⁹¹ In 2003, approximately 153 million people lived in the 673 coastal U.S. counties, an increase of 33 million people since 1980.⁹²

79. *See id.*

80. *See id.*

81. *See id.* at 1191.

82. *See id.* at 1191, 1196.

83. *See Sharp v. United States*, 130 S. Ct. 3273, 3273–74 (2010).

84. *See IPCC FOURTH ASSESSMENT REPORT: CLIMATE CHANGE 2007: WORKING GROUP II: IMPACTS, ADAPTION AND VULNERABILITY* (2007), available at http://www.ipcc.ch/publications_and_data/ar4/wg2/en/ch1s1-3-3-1.html.

85. *See Organization*, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, <http://www.ipcc.ch/organization/organization.shtml> (last visited Mar. 2, 2011).

86. *See id.*

87. *See id.*

88. *See Titus*, *supra* note 2, at 1299.

89. *See CROSSETT ET AL.*, *supra* note 5, at 1.

90. *See IPCC FOURTH ASSESSMENT REPORT: CLIMATE CHANGE 2007: WORKING GROUP II: IMPACTS, ADAPTION AND VULNERABILITY* (2007), available at http://www.ipcc.ch/publications_and_data/ar4/wg2/en/ch1s1-3-3-1.html.

91. *See CROSSETT ET AL.*, *supra* note 5, at 1.

92. *See id.*

Given the ever-increasing number and density of coastal inhabitants, a rise in the types of claims made in *Milner* seems as inevitable as sea level rise itself. *Milner* thus presents issues courts will be adjudicating with greater frequency. Under *Milner*, the United States can bring RHA claims against any unpermitted structures that fall within navigable waters.

Claims similar to the trespass claim in *Milner* will also likely be analyzed under the public trust doctrine. The federal government will not have cause to pursue trespass claims in most contexts, but states can use the public trust doctrine for a similar purpose. The public trust doctrine maintains that states hold certain resources, including the nation's tidelands, in trust for the public.⁹³ States may not alienate these tidelands by selling them to private parties, and they are obligated to assert the public's rights to them.⁹⁴ The states are therefore required to bring suits against property owners who trespass on tidelands.⁹⁵ Property owners whose structures interfere with navigable waters and the tidelands will thus be subject to claims by both federal and state governments.

Sea level rise and coastal community growth make *Milner* relevant to the issue of environmental protection as well. The presence of a dense, ever-increasing group of people obviously affects coastal ecosystems, but the abatement measures taken by the homeowners in *Milner* also negatively impact coastlines. Bulkheads reflect waves, thus creating the very type of erosion that necessitated their erection.⁹⁶ They also contribute to a loss of sand and beach, of plants, of shade, and of shoreline habitats for vegetation and spawning fish.⁹⁷ Like the homeowners, the majority of the Americans who live near rising tidal shorelines have responded to sea level rise by building a defense structure.⁹⁸ In

93. See DONALD C. BAUR ET AL., OCEAN AND COASTAL LAW AND POLICY 42 (2007).

94. See *id.*; see Ill. Cent. R.R. Co. v. Illinois, 146 U.S. 387, 443 (1892).

95. See *id.*

96. When waves reflect off shoreline armoring structures, "they can scour away sediments and increase erosion." Over time, bulkheads can "scour" sandy beaches down to gravel, bedrock, or hard clay. See *Puget Sound Shorelines: Building—Bulkheads and Effects*, WASH. DEP'T OF ECOLOGY, http://www.ecy.wa.gov/programs/sea/pugetsound/building/bulkhead_eff.html (last visited Feb. 23, 2011); see also S.C. CODE ANN. § 48-39-250(5) (2010) (describing legislative findings regarding the coastal beach/dune system: "The use of armoring in the form of hard erosion control devices such as seawalls, bulkheads, and rip-rap to protect erosion-threatened structures adjacent to the beach has not proven effective [T]hese hard structures, in many instances, have . . . contribut[ed] to the deterioration and loss of the dry sand beach.").

97. See *Puget Sound Shorelines: Building—Bulkheads and Effects*, WASH. DEP'T OF ECOLOGY, http://www.ecy.wa.gov/programs/sea/pugetsound/building/bulkhead_eff.html (last visited Feb. 23, 2011); see also H. Galbraith et al., *Global Climate Change and Sea Level Rise: Potential Losses of Intertidal Habitat for Shorebirds*, 25 WATERBIRDS 173 (2002) (concluding that sea level would destroy seabird habitat and that these effects would be exacerbated by seawalls).

98. See *Puget Sound Shorelines: Building—Bulkheads and Effects*, WASH. DEP'T OF ECOLOGY, http://www.ecy.wa.gov/programs/sea/pugetsound/building/bulkhead_eff.html (last visited Feb. 23, 2011).

Maryland, for example, more than 300 miles of tidal shoreline have been “armored” in the last twenty years.⁹⁹

From an environmental perspective, then, *Milner* is very relevant, particularly in its treatment of the RHA. The public trust doctrine has frequently been analyzed as a tool for addressing climate change, with mixed conclusions,¹⁰⁰ but courts and legal scholars have largely overlooked the RHA’s potential to mitigate human impact on coastal shorelines and ecosystems in the face of climate change.

III. AN OVERVIEW OF THE RIVER AND HARBORS ACT

The RHA originated as an early means of promoting economic development through the regulation of navigable waters.¹⁰¹ The Act therefore emphasizes open navigability of U.S. waters as its primary objective.¹⁰² This Note argues, however, that this purpose can and should be adapted to mitigate the effects of sea level rise.

A. *The Historical Development of the RHA*

The RHA was one of Congress’s earliest assertions of its interstate commerce power.¹⁰³ The Supreme Court recognized early in U.S. history that the Constitution provides Congress with the power to regulate interstate commerce, a power which necessarily applies to the navigable waters of the United States.¹⁰⁴ Congress initially failed to exercise this power, however.¹⁰⁵ As a result, private construction significantly hampered the federal government’s ability to regulate waterways during the early to mid-nineteenth century.¹⁰⁶ The Court finally prompted Congress to act in 1888 by asserting that, although Congress has the power to regulate the navigation of public rivers and to prevent obstructions therein, the power was not self-effectuating.¹⁰⁷ The Court stressed that “no common law of the United States . . . prohibits obstructions and nuisances in public waters,” rendering Congress’s power useless until it chose to legislate.¹⁰⁸ Congress did exactly that just one year later by passing the Rivers and Harbors Act of 1890.¹⁰⁹ The Act forbade “the creation of any

99. See Titus, *supra* note 2, 1281–82.

100. See discussion *infra* Part V.B.

101. See David L. Hankey, *Section 9 and 10 of the Rivers and Harbors Act of 1890: The Erosion of Administrative Control by Environmental Suits*, 1980 DUKE L. J. 170, 172 (1980).

102. See 33 U.S.C. §§ 401, 403, 407 (2006).

103. See Hankey, *supra* note 101, at 172.

104. See generally *The Daniel Ball*, 77 U.S. 557 (1871); *Gibbons v. Ogden*, 22 U.S. 1 (1824).

105. See Hankey, *supra* note 101, at 174–75.

106. See *id.*

107. See *Williamette Iron Bridge Co. v. Hatch*, 125 U.S. 1, 8 (1888).

108. *Id.*

109. Rivers and Harbors Act of 1890, § 10, 26 Stat. 426, 454 (1890).

obstruction, not affirmatively authorized by law, to the navigable capacity”¹¹⁰ of any waters of the United States and asserted Congress’s power “to determine what shall or shall not be deemed, in the judgment of law, an obstruction of navigation.”¹¹¹ At the direction of Congress, the Secretary of War compiled and revised the Act and related laws, resulting in the Rivers and Harbors Appropriations Act of 1899 (the RHA).¹¹² Thus, the RHA originally sought to protect the federal government’s interest in open and unobstructed commerce over waterways by regulating all potential interferences with navigability.¹¹³ Congress delegated the authority to carry out this objective to the Corps.¹¹⁴

B. *The RHA a Century after Enactment*

1. *Content of the RHA*

The activities covered by the RHA are predictably varied. The RHA regulates, among other activities, the discharge of refuse into navigable waters,¹¹⁵ the excavation or filling of navigable waters,¹¹⁶ and the building of structures in navigable waters.¹¹⁷ These activities are prohibited unless the acting party first obtains a permit from the Corps.¹¹⁸ The Act also provides for criminal and civil penalties for failure to adhere to its mandated procedures.¹¹⁹

Congress amended the RHA several times in the twentieth century to clarify the scope of the Corps’ authority, to empower the Corps to issue additional penalties, and to compensate landowners in specified contexts.¹²⁰ But the regulatory provisions of sections 9, 10, and 13 remain unchanged since enactment.¹²¹ Coastal activities today may be more varied and more abundant, but most require the same type of permit as was required in 1899.

Section 10, the section at issue in *Milner*, remains the “cornerstone” of the RHA.¹²² It prohibits the obstruction of navigable waters through three distinct clauses.¹²³ The first clause of section 10 flatly prohibits the creation of “any obstruction not affirmatively authorized by Congress, to the navigable capacity of any water of the United States,” though it does not define what constitutes an

110. *Id.*

111. *Gibson v. United States*, 166 U.S. 269, 272 (1897).

112. *See* 33 U.S.C. § 403 (2006); *United States v. Republic Steel Corp.*, 362 U.S. 482, 486 (1960).

113. *See* *United States v. Pa. Indus. Chem. Corp.*, 411 U.S. 655, 663 (1973).

114. *See* 33 U.S.C. §§ 401–426 (2006).

115. *See id.* § 407.

116. *Id.* § 403.

117. *See id.*

118. *See id.*

119. *See id.* §§ 406, 410–412.

120. *See* BAUR ET AL., *supra* note 93, at 90 (referencing §§ 403, 406, 407).

121. *Id.*

122. *See* *United States v. Lambert*, 915 F. Supp. 797, 803 (S.D. W. Va. 1996) (discussing § 403).

123. *See* 33 U.S.C. § 403 (2010).

“obstruction.”¹²⁴ The second clause prohibits the building of any structure in navigable waters without the Corps’ permission, while the third clause makes it unlawful to alter or modify “the course, location, condition, or capacity” of any navigable water of the United States without authorization from the Corps.¹²⁵

2. *Judicial Interpretation of the RHA’s Terms*

The RHA defines neither “navigable waters” nor “obstruction.” With no illuminating legislative history on point to provide guidance, the courts and the Corps have developed their own interpretations of the Act’s clauses.¹²⁶ Courts have sometimes, though not always, deferred to the Corps’ definitions.

Courts have sometimes rejected the Corps’ interpretations of “navigable waters” as more expansive than Congress intended.¹²⁷ The Corps’ current definition of navigable waters, however, has been both upheld and expanded by the courts.¹²⁸ That definition provides:

The terms navigable waters of the United States means those waters of the United States that are subject to the ebb and flow of the tide shoreward to the mean high water mark and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce.¹²⁹

Courts have expanded this definition, as the Ninth Circuit did in *Milner*, to include location of the MHW line in its natural, unobstructed state as part of the “navigable waters” of the United States.¹³⁰

Courts have exercised significant judicial restraint in allowing the Corps to determine what constitutes an “obstruction” under the RHA.¹³¹ The Supreme Court “has had only a few occasions to decide whether to construe [section 10] broadly or narrowly,”¹³² and has consistently interpreted the entire RHA

124. *Id.*

125. *Id.*

126. *See* Hankey, *supra* note 101, at 173–74 (examining the ambiguities of section 9 and section 10 of the RHA and advocating for a revision of the RHA “to remove the interpretative difficulties plaguing the [Corps]”).

127. *See generally* Leslie Salt v. Froehlke, 578 F.2d 742 (9th Cir. 1978). There, the court rejected the Corps’ proposed regulations which would have extended their jurisdiction to the mean higher high water line on the Pacific coast rather than the MHW line for both coasts. *See id.* The mean high water line is the average of both of the daily high tides over a period of 18.6 years, whereas the mean higher high water line is the average of only the higher of the two tides for the same period of time. *Id.* at 746. Thus, had the Corps’ jurisdiction extended to the mean higher high water line, it potentially would have covered more land. *See id.* The court emphasized “[t]he high probability that Congress in the [RHA] intended that the shoreward limit of tidal water and navigable water be the same.” *Id.* at 749.

128. *See* United States v. Milner, 583 F.3d 1174, 1191 (9th Cir. 2009); United States v. Alameda Gateway Ltd., 213 F.3d 1161 (9th Cir. 2000).

129. 33 C.F.R. § 321.2(a) (2010).

130. *See Milner*, 583 F.3d at 1191.

131. *See Alameda Gateway Ltd.*, 213 F.3d at 1165.

132. United States v. Alaska, 503 U.S. 569, 577 (1992).

broadly.¹³³ Lower courts have followed their lead, acknowledging that the “threshold for a finding of obstruction is quite low.”¹³⁴

The Corps’ authority to grant or deny a permit, and to categorize a structure as an obstruction, have thus proven difficult to challenge in court. The types of structures deemed obstructions by the Corps include docks,¹³⁵ houseboats,¹³⁶ sunken vessels,¹³⁷ and, in *Milner*, rip raps.¹³⁸ All of these obstruction findings have been upheld in court. Courts have generally avoided requiring the Corps to relate an obstruction finding or permit denial to the RHA’s purpose of promoting navigability.¹³⁹ Instead, courts have recognized that the Corps’ authority “is not confined solely to considerations of navigation in deciding whether to issue a permit” under the RHA.¹⁴⁰ In *Milner*, for example, there was no need for the Corps or the courts to determine that the homeowners’ structures actually interfered with navigable capacity.¹⁴¹ The Corps’ authority under the RHA seemingly will not be challenged as long as it exercises this authority within navigable waters.

C. *The RHA has Broad Application to Climate Change Adaptation*

The RHA has quite sweeping coverage, but does have limitations. Most importantly, unlike the Clean Water Act, it contains no citizen-suit provision.¹⁴² Only the Corps may enforce the RHA,¹⁴³ although the Corps has not been shy about exercising this responsibility by requiring permits for most structures that fall below the MHW line.¹⁴⁴

The RHA has yet to be utilized as a direct response to climate change. No court, including the Ninth Circuit in *Milner*, has explicitly referred to sea level

133. See generally *Alaska*, 503 U.S. 576–77; BAUR ET AL., *supra* note 93, at 90.

134. *United States v. Oak Beach Inn. Corp.*, 744 F. Supp. 439, 445 (S.D.N.Y. 1990).

135. See *United States v. Lambert*, 915 F. Supp. 797, 803–04 (S.D. W. Va. 1996) (holding a landowner’s construction of a dock without permit violated the RHA).

136. See *United States v. Hernandez*, 979 F. Supp. 70, 76–77 (D.P.R. 1997) (upholding Corps’ decision not to grant permit to houseboat as well as Corps’ determination that houseboat presented obstruction).

137. See *United States v. Rafael*, 349 F. Supp. 2d 84, 95 (D. Mass. 2004) (holding Corps’ determination that sunken vessel presented obstruction in violation of the RHA was not arbitrary and capricious).

138. See *United States v. Milner*, 583 F.3d 1174, 1192 (9th Cir. 2009).

139. See *United States v. United States Steel Corp.*, 482 F.2d 439, 444 (1973) (discussing Corps’ authority to regulate discharge into navigable waters under section 13 of the RHA).

140. *United States v. Alaska*, 503 U.S. 569, 579–80 (1992). The Supreme Court also did not emphasize the navigational purpose in its reading of section 13, the section which prohibits the deposit of refuse into navigable waters. The Court concluded that the statute should be read “as imposing a flat ban” on unauthorized dumping, “regardless of the effect on navigation.” *United States v. Pa. Indus. Chem. Corp.*, 411 U.S. 655, 671 (1973).

141. See *Milner*, 583 F.3d at 1192–93.

142. See 33 U.S.C. § 1365 (2006).

143. See *id.* §§ 403–426.

144. See, e.g., *United States v. Alameda Gateway Ltd.*, 213 F.3d 1161, 1164 (2000).

rise resulting from global warming in analyzing RHA claims. That said, the RHA could support a governmental response to sea level rise in coastal areas. Given the sweeping coverage of the RHA and the Corps' authority, the statute can be used to force coastal property owners to adapt to climate change. The RHA can require property owners to remove seawalls and armoring devices, which may in turn slow irresponsible coastal development altogether.¹⁴⁵ If coastal property owners cannot permanently protect their homes with shoreline defense structures, they will be forced to adapt to climate change by looking to other, potentially less environmentally destructive means of protection. They likewise may be forced to adapt to climate change by avoiding coastal development altogether. If a property owner knows he cannot protect his home from the whims of the sea, he may have no choice but to forgo development. The RHA thus has tremendous implications for the methods which humans will use to respond and adapt to climate change.

IV. USE OF THE RHA TO REGULATE HUMAN METHODS OF RESPONDING TO CLIMATE CHANGE MAY LEAVE PROPERTY OWNERS WITH NO LEGAL RECOURSE

Milner's holding predictably resulted in negative public reaction.¹⁴⁶ While the majority of the public outcry targeted *Milner's* treatment of the trespass claim,¹⁴⁷ much of it addressed *Milner's* overarching treatment of private property.¹⁴⁸ One follower of the case, writing on behalf of the aptly named *Eminent Domain Report*, urged coastal property owners to recognize the ramifications of sea level rise "before it is upon them."¹⁴⁹ Several authors suggest that *Milner's* holding could ultimately redefine private property rights to the detriment of coastal property owners.¹⁵⁰

145. See *Puget Sound Shorelines: Building—Bulkheads and Effects*, DEP'T OF ECOLOGY, available at http://www.ecy.wa.gov/programs/sea/pugetsound/building/bulkhead_eff.html (last visited Mar. 12, 2011); see also *Ocean Harbor House Homeowners Ass'n v. Cal. Coastal Comm'n*, 77 Cal. Rptr. 3d 432 (Cal. Ct. App. 2008) (noting studies finding that seawalls can cause passive erosion which would eventually eliminate beach).

146. See, e.g., Brent Carson & Jeff Parsons, *Do You Know Where Your Bulkhead Is?*, BAINBRIDGE SHORELINE OWNERS (Jan. 24, 2010), <http://bainbridgeshorelinehomeowners.wordpress.com/2010/01/24/do-you-know-where-your-bulkhead-is/>; Rick E. Rayl, *A California-Specific Commentary on Recent Property Rights Cases*, CAL. EMINENT DOMAIN REP. (Dec. 18, 2009), <http://www.californiaeminentdomainreport.com/2009/12/articles/inverse-condemnationregulatory/a-california-specific-commentary-on-recent-property-rights-cases/>.

147. See Carson & Parsons, *supra* note 146.

148. See, e.g., John Briscoe, *The Mean-High Water Line Is Not Where It Is, But Where It Would Be—If Seawalls and Levees Had Never Been Built, the Ninth Circuit Rules*, INDUS. NEWS (Nov. 2009), http://www.clta.org/e-news/2009_2010/nov2009/industryNews_WaterBounderies-Article.html.

149. See Rayl, *supra* note 146.

150. See, e.g., Carson & Parsons, *supra* note 146; Rayl, *supra* note 146.

A. *Property Owners May Not Be
Entitled to Compensation for Actions under the RHA*

Property owners like the *Milner* homeowners will most likely be left without recourse when denied permits and required to remove their bulkheads. The homeowners could attempt to argue that they should be compensated under the mistaken improver doctrine.¹⁵¹ This doctrine holds that if a person “improves” or builds upon property he mistakenly believes to be his, courts can force the true owners to compensate the “improver” for their loss.¹⁵² The homeowners would have a hard time characterizing themselves as “mistaken improvers,” however, because they actually owned the property at issue when they “improved” it; they only *maintained* their structures after the water line moved.¹⁵³ The homeowners would have difficulty proving they made any changes to the property once the boundary line shifted.

The homeowners would also likely fail in arguing that they deserve compensation under the Takings Clause of the Fifth Amendment. The Takings Clause provides that private property shall not “be taken for public use, without just compensation.”¹⁵⁴ The government may not take private property from one party for the sole purpose of transferring it to another.¹⁵⁵ It may, however, interfere with private property rights in certain contexts, so long as it compensates the property owner for the taking and the action furthers a public purpose.¹⁵⁶

The Takings Clause thus exists, according to the Supreme Court, to prevent the government from “forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole.”¹⁵⁷ As a general rule, Congress cannot use its interstate commerce powers to take private property without compensating the affected property owner.¹⁵⁸ The “classic” taking occurs when the government uses its eminent domain power to force a transfer of private property to the government or another private party.¹⁵⁹ While this is the “paradigmatic” taking,¹⁶⁰ a

151. See JESSE DUKEMINIER ET AL., PROPERTY 135 (6th ed. 2006).

152. See *id.*

153. The purpose of the mistaken improver doctrine is “to ease the plight of innocent improvers” by compensating them for accidental investments. See *id.* One of the remedies a court can provide is to allow the true owner to buy the improvement at fair market value from the mistaken improver. *Id.* This doctrine would not apply, then, to a party who only maintains rather than improves upon property.

154. U.S. CONST., amend. V

155. See *Kelo v. City of New London*, 545 U.S. 469, 477 (2005).

156. See *id.* at 477, 489–90 (holding that a city could exercise its eminent domain power to further economic development, so long as it compensated private property owners).

157. *Armstrong v. United States*, 364 U.S. 40, 49 (1960).

158. See *Kaiser Aetna v. United States*, 444 U.S. 164, 174 (1979).

159. See *Stop the Beach Renourishment, Inc. v. Fla. Dep’t of Env’tl. Prot.*, 130 S. Ct. 2592, 2600 (2010). See generally *Kelo*, 545 U.S. 469.

160. *Lingle v. Chevron U.S.A. Inc.*, 544 U.S. 528, 537 (2005).

government regulation may also constitute a taking under certain circumstances.¹⁶¹ A government regulation is a per se taking if it requires any permanent physical occupation of private property,¹⁶² or if it “goes too far” and amounts to the “functional[] equivalent to the classic taking.”¹⁶³ A per se taking categorically occurs if the regulation deprives a property owner of all economically beneficial use of his property,¹⁶⁴ but a regulation may also go “too far” if it impacts a private property owner to a lesser extent, as measured by the totality of the circumstances.¹⁶⁵ The facts of *Milner* appear to indicate a regulatory taking. The government used its commerce clause powers under the RHA to force the homeowners to remove their bulkheads.¹⁶⁶ These bulkheads were originally erected lawfully *on the homeowners’ property*.¹⁶⁷ Ultimately, however, for reasons discussed below, the government need not compensate the homeowners for their loss.

B. The “Superior” Solution to the Takings Clause Conundrum: The Navigational Servitude

Courts have consistently recognized an exception to the Takings Clause under what is known as the navigational servitude doctrine.¹⁶⁸ This common law doctrine provides that Congress has the power to regulate specific uses of waterways and to prohibit structures from interfering with commercial navigation.¹⁶⁹

The Court first recognized Congress’s power to do this in 1855.¹⁷⁰ The Court then expanded its interpretation of the navigational servitude doctrine in 1907, when it held that any lawful development within navigable waters was made “subject to the possibility that Congress might, at some future time, when

161. See *Lucas v. S.C. Coastal Council*, 505 U.S. 1003 (1992) (holding act banning construction on private property deprived property owner of all economically viable use and therefore effected a taking); *Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg’l Planning Agency*, 535 U.S. 302 (2002) (holding temporary moratoria on development did not constitute a categorical taking).

162. See generally *Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419 (1982) (holding that a state law allowing cable companies to permanently install cables on an apartment building was a taking, regardless of the size of physical installation or the public purposes served by the law).

163. *Pa. Coal Co. v. Mahon*, 260 U.S. 393, 416 (1922); see also *Chevron*, 544 U.S. at 539.

164. *Lucas*, 505 U.S. at 1015. *But see id.* at 1025 (explaining background defense principles).

165. If a regulation does not constitute a per se taking, the court will perform a balancing test that considers factors such as the character of the government action, the economic impact of the regulation on the property owner, and the property owner’s investment backed expectations. See *Penn Cent. Transp. Co. v. New York City*, 438 U.S. 104, 124 (1978).

166. See *United States v. Milner*, 583 F.3d 1174, 1191–93 (9th Cir. 2009).

167. See *id.* at 1181.

168. See *Scranton v. Wheeler*, 179 U.S. 141, 163 (1900).

169. See Michael C. Blumm & Lucas Richie, *Lucas’s Unlikely Legacy: The Rise of Background Principles as Categorical Takings Defenses*, 29 HARV. ENVTL. L. REV. 321, 347 (2007).

170. See *Pennsylvania v. Wheeling & Belmont Bridge Co.*, 59 U.S. 421 (1855). In this landmark decision, the Court held that a company could not construct a bridge that would obstruct navigation. See *id.*

the public interest demanded, exert its power by appropriate legislation to protect navigation against unreasonable obstructions.”¹⁷¹ The Court has referred to this power as a “superior navigation easement” and a “dominant servitude.”¹⁷² In exercising the navigational servitude, the government does not intrude upon existing property rights.¹⁷³ Instead, it asserts “a power to which the interests of riparian owners have always been subject.”¹⁷⁴ In other words, the navigational servitude has always been an inherent limitation to the property right. Even if a private property owner holds title to the shore or submerged land underneath navigable waters, this title is always subordinate to the federal government’s constitutionally-created servitude.¹⁷⁵ The underlying principle is that navigable waters remain “the public property of the nation, and subject to all the requisite legislation by Congress.”¹⁷⁶ Under this rationale, then, the government need not compensate a private owner when he is forced to relinquish private property because no “taking” has actually occurred.¹⁷⁷

The power the RHA confers on the Corps is one example of this “dominant servitude” power.¹⁷⁸ When the Corps refuses to grant a permit or demands the removal of an obstruction, it is simply asserting the public’s dominant right to maintain navigable waters.

1. The Navigational Servitude is a Background Principle Defense to Takings Claims against the Federal Government

The RHA’s implementation of navigational servitude doctrine squares particularly well with Justice Scalia’s articulation of exceptions to the Takings Clause in *Lucas v. South Carolina Coastal Council*.¹⁷⁹ In *Lucas*, a state law protecting beaches barred a coastal property owner from developing his beachfront lots.¹⁸⁰ The property owner filed suit against the agency charged with implementing the law, contending the statute’s complete prohibition of

171. *Union Bridge Co. v. United States*, 204 U.S. 364, 400 (1907).

172. *Kaiser Aetna v. United States*, 444 U.S. 164, 184 (1979); *Fed. Power Comm’n v. Niagara Mohawk Power Corp.*, 347 U.S. 239, 249 (1954).

173. *See* *United States v. Rands*, 389 U.S. 121, 122–23 (1967).

174. *Id.*

175. *See* *Gibson v. United States*, 166 U.S. 269, 271–72 (1897) (“All navigable waters are under the control of the United States for the purpose of regulating and improving navigation, and although the title to the shore and submerged soil is in the various States and individual owners under them, it is always subject to the servitude in respect of navigation created in favor of the Federal government by the Constitution.”).

176. *Id.*

177. *See* *Leslie Salt Co. v. Froehlke*, 578 F.2d 742, 748 (9th Cir. 1978) (“The [federal navigational] servitude, which reaches to the limits of ‘navigable water,’ permits the removal of an obstruction to navigable capacity without compensation.”).

178. *See* *Leslie Salt Co.*, 578 F.2d at 752–53.

179. 505 U.S. 1003 (1992).

180. *See id.* at 1008–09.

development amounted to a constitutional taking requiring compensation.¹⁸¹ Scalia, writing for the majority, announced, “regulations that compel the property owner to suffer a physical ‘invasion’ of his property,” or that deny “all economically beneficial or productive use of land” demand compensation under the Fifth Amendment.¹⁸² A private property owner must be compensated regardless of the public purpose served by the regulation.¹⁸³ Scalia noted, however, one important defense to takings claims: if a regulation forbids a use that would be prohibited by “background principles of the state’s law of property and nuisance,” the takings claim cannot stand.¹⁸⁴ Thus, if background principles restrict the use of a claimant’s property at the time of the purchase, a regulatory prohibition of that land cannot amount to a constitutional taking.¹⁸⁵

The navigational servitude doctrine, codified through the RHA, provides a perfect “background principles defense” to takings liability.¹⁸⁶ A coastal property owner’s title is always subject to “the whims of the sea.”¹⁸⁷ Once the sea intersects with the property, the property owner is subject to the “superior” navigational servitude. The navigational servitude is undoubtedly a “pre-existing limitation” on the coastal property owner’s title because the property owner’s ability to develop his property was always subject to Congress’s commerce power, as expressed in the RHA.¹⁸⁸

2. *Exceptions to the Navigational Servitude as a Background Principle Defense against Takings Claims for the Federal Government*

The navigational servitude does not give Congress “a blanket exception to the Takings Clause whenever [it] exercises its Commerce Clause authority to promote navigation.”¹⁸⁹ Justice Scalia noted this in *Lucas* when he cited *Kaiser Aetna v. United States* as an example of a situation in which the navigational servitude did not place a pre-existing limitation on a property interest.¹⁹⁰ In that case, private property owners developed a pond and connected it to a navigable bay.¹⁹¹ The pond became a navigable water of the United States as a result of

181. *See id.* at 1009.

182. *Id.* at 1019.

183. *See id.*

184. *Id.* at 1029.

185. *See id.*

186. *See* Blumm & Richie, *supra* note 169, at 325–26.

187. *United States v. Milner*, 583 F.3d 1174, 1186 (9th Cir. 2009).

188. Justice Scalia noted as much when he cited *Scranton v. Wheeler* for the proposition that the interests of a riparian owner in the submerged lands bordering on a public navigable water are held subject to the government’s navigational servitude. *Lucas*, 505 U.S. at 1028; *see* *Scranton v. Wheeler*, 179 U.S. 141, 163 (1900).

189. *Kaiser Aetna v. United States*, 444 U.S. 164, 172 (1979).

190. *See Lucas*, 505 U.S. at 1029.

191. *See Kaiser Aetna*, 444 U.S. at 167–68, 180, 181 (Blackmun, J., dissenting) (arguing that a pond in its original state passed navigable servitude’s navigability test).

the private party's improvement efforts.¹⁹² Congress could therefore regulate the pond under its Commerce Clause authority, but the government could not require the pond owners to provide public access unless it paid just compensation as required by the Fifth Amendment.¹⁹³ Under Justice Scalia's background principles defense, this outcome is justified.¹⁹⁴ *Kaiser Aetna's* holding depended entirely on the pond's manmade improvements; the pond had not been capable of navigation until after the property owners manually attached it to navigable waters.¹⁹⁵ The Court therefore concluded that no background principle of property existed in relation to the pond when the property owners first purchased the property.¹⁹⁶

The RHA's utilization of the navigational servitude at the coastline does not implicate the Takings Clause, however, because it depends on inevitable sea level rise rather than manmade improvements. The very existence of an armoring wall or rip rap on coastal property suggests that the property owner is well aware that his property may be subject to erosion. A property owner could hardly claim that the limitation imposed by the navigational servitude did not exist when he purchased his property, since he was well aware that the movement of the sea could alter the boundaries of his property. The property was clearly part of and accessible via navigable waters. The rare situations in which government enforcement of the navigational servitude doctrine still requires compensation, therefore, do not affect the RHA's potential to prevent property owners from relying solely on shoreline defense structures as a means of combating climate change.

V. CRITICISM OF THE USE OF THE NAVIGATIONAL SERVITUDE DOCTRINE TO AVOID COMPENSATION

A number of authors have criticized both congressional and judicial treatment of the navigational servitude's no-compensation rule.¹⁹⁷ This argument seems particularly relevant given *Milner's* harsh treatment of property owners.¹⁹⁸ Several authors suggest that the government has failed to articulate a proper explanation for why Congress's power over navigable

192. See *Kaiser Aetna*, 444 U.S. at 167–68.

193. See *id.* at 178–79.

194. See *Lucas*, 505 U.S. at 1028.

195. See *Kaiser Aetna*, 444 U.S. at 167–68.

196. See *id.*

197. See generally RICHARD A. EPSTEIN, TAKINGS: PRIVATE PROPERTY AND THE POWER OF EMINENT DOMAIN (1985); Alan T. Ackerman & Noah Eliezer Yanich, *Just and Unjust Compensation: The Future of the Navigational Servitude in Condemnation Cases*, 34 U. MICH. J.L. REFORM 573, 615 (2001); Eva H. Morreale, *Federal Power in Western Waters: The Navigation Power and the Rule of No Compensation*, 3 NAT. RESOURCES J. 1 (1963); Scott Andrew Sheppard, *The Unbearable Cost of Skipping the Check: Property Rights, Takings Compensation & Ecological Protection in the Western Law Context*, 17 N.Y.U. ENVTL. L.J. 1063 (2009).

198. See *United States v. Milner*, 583 F.3d 1174, 1197 (9th Cir. 2009).

waters should be any more “dominant” or “superior” than their general Commerce Clause powers.¹⁹⁹ Indeed, it is difficult to understand why certain coastal property rights may be compromised without compensation under the navigational servitude, yet those same rights would require compensation if implicated by a different federal regulation equally related to the Commerce Clause. Perhaps this disparate treatment of two similar exercises of the same Commerce Clause was justified in the early nineteenth century, when navigable waterways played an intrinsic role in the development of the country.²⁰⁰ In today’s United States, however, the navigational servitude is one of many tools by which Congress regulates commerce.²⁰¹

A. *The Public Right to Navigation and the Ancient Public Trust Doctrine*

The special treatment of the navigational servitude is justified by the unique status of navigation. Navigation has historically been treated as a public right.²⁰² When Congress exercises its navigational servitude powers, it is simply asserting a public right that has always been “superior” to private rights.

The ancient public trust doctrine provides additional justification for the dominance of the navigational servitude. The public trust doctrine dates back to ancient Roman law.²⁰³ The Romans conceptualized certain lands, water, and air as owned equally by all members of the public.²⁰⁴ Under English common law, moreover, the Crown held navigable waters, tidelands, and submerged lands, but he also had a duty to protect and maintain them for the public.²⁰⁵ The Crown’s title remained subject to the public right to use the waters and lands for fishing, navigation, and commerce.²⁰⁶

Under the ancient public trust doctrine, then, the government was obligated to protect and maintain certain resources in its role as trustee for the

199. See Morreale, *supra* note 197, at 12.

200. See Jennifer L. Chapman, *Navigable Purpose? Prove It. Rethinking the Role of the Navigational Servitude in Regulatory Takings Claims After Lucas v. S.C. Coastal Council*, 35 GA. L. REV. 1195, 1201–03 (2001); see, e.g., *Gibbons v. Ogden*, 22 U.S. 1, 22 (1824) (“The United States possess the general power over navigation, and, of course, ought to control, in general, the use of navigable waters.”).

201. For a discussion of Congress’s interstate commerce powers, see generally *United States v. Morrison*, 529 U.S. 598 (2000), and *Gonzales v. Raich*, 545 U.S. 1 (2005).

202. See, e.g., *Gibson v. United States*, 166 U.S. 269, 271–72 (1897) (holding that “all navigable waters are under the control of the United States for the purpose of regulating and improving navigation”).

203. See Note, *The Public Trust in Tidal Areas: A Sometimes Submerged Traditional Doctrine*, 79 YALE L.J. 762, 763–64 (1969–70).

204. See BAUR ET AL., *supra* note 93, at 40.

205. See Tim Eichenberg et al., *Climate Change and the Public Trust Doctrine: Using an Ancient Doctrine to Adapt to Rising Sea Levels in San Francisco Bay*, 3 GOLDEN GATE U. ENVTL. L.J. 243, 247–48 (2010).

206. See Jack H. Archer & Terrance W. Stone, *The Interaction of the Public Trust and the “Takings” Doctrines: Protecting Wetlands and Critical Coastal Areas*, 20 V. L. REV. 81, 83–84 (1995).

public.²⁰⁷ When the federal government exercises the navigational servitude, it acts similarly to protect “the public property of the nation,” and to further the public’s interest in free navigability.²⁰⁸ It would be illogical to require Congress to compensate a property owner who interferes with its ability to protect the public interest.²⁰⁹ The Commerce Clause provides Congress with the authority to exercise this servitude, and the ancient public trust doctrine and the historical public right of navigation justify the servitude’s superior status.²¹⁰

B. The Modern Public Trust Doctrine: A Complementary Tool to the RHA and the Navigational Servitude Doctrine

The modern public trust doctrine provides states with the same power and duty to assert the public’s right to navigation.²¹¹ Following the American Revolution, each of the thirteen former colonies inherited the Crown’s title to waters, tidelands and submerged lands, as well as the duty to maintain and improve these lands on behalf of the public.²¹² New states entering the Union received the same rights and duties as the original colonies.²¹³ The Court developed what eventually became the modern public trust doctrine in *Illinois Central Railroad Co. v. Illinois*, where it explained that each state maintains “a title held in trust for the people . . . that they may enjoy the navigation of the waters, carry on commerce over them, and have liberty of fishing therein, freed from the obstruction or interference of private parties.”²¹⁴

207. See Eichenberg et al., *supra* note 205, at 247.

208. See *Gilman v. City of Philadelphia*, 70 U.S. 713, 725 (1865); see also *Kaiser Aetna v. United States*, 444 U.S. 164, 172 (1979).

209. Professor Joseph Sax explains that “the notion that private property interests should be subject to some public claim or servitude, both limiting full privatization and demanding that any private benefits be compatible with public goals, is not uncommon.” See Joseph Sax, *Property Rights and the Economy of Nature: Understanding Lucas v. S.C. Coastal Council*, 45 STAN. L. REV. 1433, 1453 (1993).

210. Professor Carol Rose argues that certain types of property (including waterways) should be exempt from exclusive ownership and control, thus justifying a lack of compensation. See Carol Rose, *The Comedy of the Commons: Custom, Commerce, and Inherently Public Property*, 53 U. CHI. L. REV. 711, 713 (1986). She describes this property as “inherently public property” and presents

two different definitions of the public: the public as governmental authority, whose ability to manage and dispose of trust property is plenary, and the public at large, which despite its unorganized state has property-like rights in the lands held in trust for it—rights that may be asserted even against its own representatives.

Id. at 739. Professor Rose further asserts that waterway doctrine was particularly “antipath[etic] to the possibility of private monopolization of public passage” because commerce has historically been so dependent on open navigability. *Id.* at 753.

211. See, e.g., *Ill. Cent. R.R. Co. v. Illinois*, 146 U.S. 387, 443 (1892).

212. See *id.* at 466.

213. Under the equal footing doctrine, newly admitted states assume the same rights and duties as the thirteen colonies. See *Borax Consol. Ltd. v. Los Angeles*, 296 U.S. 10, 15 (1935).

214. 146 U.S. 387, 435 (1892).

The modern doctrine still requires each state to preserve tidelands and submerged lands on behalf of the public and to assure the public's ability to use these lands.²¹⁵ States take different approaches to the public trust doctrine.²¹⁶ Some states have written it into their constitutions,²¹⁷ while others have implemented it through legislation²¹⁸ or through the common law.

Much has been written about the public trust doctrine as a tool for addressing climate change.²¹⁹ A number of scholars have suggested that the public trust doctrine be used to protect coastlines from the perils of sea level rise and coastal development.²²⁰ Indeed, far more scholars have concentrated their studies on the public trust doctrine than on the navigational servitude.²²¹ The public trust doctrine, as many scholars have argued, could enable states to protect coastlines, and could also be used as a defense to any takings claims that might arise.²²²

The public trust doctrine's primary weakness, at least in a climate change context, may be its complete lack of a constitutional basis.²²³ Like the navigational servitude doctrine, the public trust doctrine developed through common law as an assertion of the historic public right to navigation.²²⁴ Unlike the navigational servitude, however, its constitutional basis is questionable,

215. BAURET AL., *supra* note 93, at 41.

216. See Hope M. Babcock, *Has the U.S. Supreme Court Finally Drained the Swamp of Takings Jurisprudence?: The Impact of Lucas v. South Carolina Coastal Council on Wetlands and Coastal Barrier Beaches*, 19 HARV. ENVTL. L. REV. 1, 45 (1995).

217. See, e.g., CAL. CONST. art. X, § 3 (restricting sale of tidelands); *id.* § 4 (protecting public access to tidelands and navigable waters); *id.* art. I, § 25 (reserving fishing rights for the people and restricting sale of state lands).

218. See, e.g., S.C. CODE ANN. § 48-39-10 (2010).

219. See, e.g., 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, 551-55 (2007); Titus, *supra* note 2, at 1362-71; Babcock, *supra* note 216.

220. See, e.g., Caldwell & Segall, *supra* note 219, at 551-55; Kate Shelby, *Taking Public Interests in Private Property Seriously: How the Supreme Court Short-Changes Public Property Rights in Regulatory Takings Cases*, 24 J. LAND USE & ENVTL. L. 45, 54-57 (2008).

221. For a discussion of the rolling easement's potential, see generally Titus, *supra* note 2.

222. For a broader discussion of the public trust doctrine's potential to withstand takings claims along the Gulf Coast, see generally Robin Kundis Craig, *Public Trust and Public Necessity Defenses to Taking Liability for Sea-Level Rise Responses on the Gulf Coast*, J. LAND USE & ENVTL. L. (forthcoming), available at <http://ssrn.com/abstract=1715122> (last visited Mar. 14, 2011).

223. The North Carolina Supreme Court, for example, has held that, because the public trust doctrine lacks a constitutional basis, it "cannot be used to invalidate acts of the legislature" which are not proscribed by the state constitution. See *Gwathmey v. State*, 464 S.E.2d 674, 682-84 (N.C. 1995). Rhode Island has concluded similarly. See *Providence Chamber of Commerce v. State*, 657 A.2d 1038, 1041-43 (R.I. 1995). Some scholars, however, argue that there is a constitutional basis for the public trust doctrine. See, e.g., George P. Smith II & Michael W. Sweeney, *The Public Trust Doctrine and Natural Law: Emanations Within A Penumbra*, 33 B.C. ENVTL. AFF. L. REV. 307, 314 (2006) (exploring "the basic constitutional values underlying the public trust doctrine").

224. See, e.g., *Martin v. Waddell's Lessee*, 41 U.S. 367, 414 (1842); see also *Ill. Cent. R.R. Co. v. Illinois*, 146 U.S. 387, 452 (1892) (holding that the public trust provides "a title held in trust for the people of the state, that they may enjoy the navigation of the waters, carry on commerce over them, and have liberty of fishing therein, freed from the obstruction or interference of private parties").

potentially rendering it more susceptible to takings claims. Courts may have more difficulty recognizing the public trust doctrine as a background principle to which private rights have always been subject, particularly since the doctrine varies from state to state.²²⁵ The extent to which the modern public trust doctrine qualifies as a background principle of property law may vary depending on how the state implements it. If, for example, a state has never used the public trust doctrine to prevent the development of tidelands, the state may find it more difficult to argue that the public trust qualifies as a background principle to which the owner's rights have always been subject.

Limitations aside, the public trust doctrine could ameliorate some of the weaknesses of the RHA and the navigational servitude doctrine. The RHA is not self-enforcing and relies on the Corps for implementation, whereas each state has the affirmative duty to protect public trust resources.²²⁶ Furthermore, states, not the federal government, are typically responsible for regulating land use and developing property law.²²⁷ The collision between water law and property law may decrease through combined state and federal participation. The effort to force private property owners to adapt to climate change may benefit most from an emphasis on both the public trust doctrine and the navigational servitude.²²⁸

225. Courts have had few opportunities to address the strength of the public trust doctrine in withstanding takings claims. The Ninth Circuit and the South Carolina Supreme Court have, however, relied upon public trust doctrine as a background principle to defeat takings claims. *See Esplanade Props. v. City of Seattle*, 307 F.3d 978, 985 (9th Cir. 2002) (applying Washington state law); *McQueen v. S.C. Coastal Council*, 580 S.E.2d 116 (S.C. 2003).

226. *See, e.g., Save Ourselves, Inc. v. La. Envtl. Control Comm'n*, 452 So. 2d 1152, 1156 (La. 1984) (holding that the Louisiana Constitution imposes an affirmative duty on the state to implement the public trust).

227. *See Rapanos v. United States*, 547 U.S. 715, 738 (2006) ("Regulation of land use . . . is a quintessential state and local power.").

228. Another tool deserving of attention is the rolling easement. The term refers to "a broad collection of arrangements under which human activities are required to yield the right of way to naturally migrating shores." Titus, *supra* note 2, at 1313. Like the water itself, the rolling easement "shifts with the natural movement of the beach." *Matcha v. Mattox*, 711 S.W.2d 95, 100 (Tex. Ct. App. 1986). A state can implement the rolling easement by prohibiting shoreline defense structures that interfere with the movement of the shoreline. *See Titus, supra* note 2, at 1313. A rolling easement thus allows development near the shoreline but requires the property owner to yield to sea level rise. *See id.* at 1316. The extent to which the rolling easement can withstand takings claims is unclear. For a broader analysis of the rolling easement's potential to respond to climate change, see generally Titus, *supra* note 2.

VI. APPLYING AN OLD DOCTRINE: *MILNER'S*
IMPLICATIONS FOR CLIMATE CHANGE

A. *The Harsh Reality of the Milner Approach*

Milner's implications should not be minimized. The Ninth Circuit's holding has drastic consequences for the homeowners and leaves them with few options.²²⁹ If the homeowners do not renew their lease with the Indian tribe, they will have to remove the only barriers between their homes and the sea.²³⁰ They could rebuild the structures further up on their land, but the boundary dispute will repeatedly recur so long as the sea continues to rise. The homeowners are thus left with no way to protect their coastal homes, and without compensation for their losses.²³¹

The homeowners are not alone in this predicament. As discussed, coastal populations are growing every year, resulting in increased development of shorelines.²³² The seas are simultaneously rising at increasing rates.²³³ *Milner* does not mention climate change in its erosion analysis, but climate change will undoubtedly replicate the *Milner* situation. The states will hold title to the tidelands in most potential disputes²³⁴ and uplands' owners will likely lack a lease option. An increased number of coastal property owners may be faced with the same no-win situation as the homeowners.²³⁵

This no-win situation is an inevitable result of climate change and the courts, Congress, and individual property owners must accept it. Property law and property owners have no choice but to adapt to the changes created by global warming. Regardless of how property owners adapt to sea level rise, the sea will eventually interfere with what we currently understand as property rights. If society responds to this inevitable change now, we can mitigate property loss while simultaneously protecting coastal ecosystems. Society as a whole must amend its objectives to include not just preservation or restoration, but also "improvement of resilience and adaptive capacity."²³⁶ The sooner

229. See *United States v. Milner*, 583 F.3d 1174, 1197 (9th Cir. 2009).

230. See *id.* at 1197.

231. See *id.*

232. See IPCC FOURTH ASSESSMENT REPORT: CLIMATE CHANGE 2007: WORKING GROUP II: IMPACTS, ADAPTION AND VULNERABILITY (2007), available at http://www.ipcc.ch/publications_and_data/ar4/wg2/en/ch1s1-3-3-1.html.

233. See *id.*

234. See discussion *supra* Part V.B.

235. See *Milner*, 583 F.3d at 1197.

236. Robin Kundis Craig, "Stationarity is Dead"—*Long Life Transformation: Five Principles for Climate Change Adaptation Law*, 34 HARV. ENVTL. L. REV. 9, 18 (2010).

society adapts laws to the changing physical landscape, the less vulnerable property rights holders will be as climate change becomes more severe.²³⁷

B. Forced Adaptation

The government must initiate this response through forced adaptation. Property owners will inevitably erect structures to combat the immediate effects of erosion without accounting for the larger damage caused. This mentality reflects a general prioritization of private rights over public welfare,²³⁸ as well as ignorance of the long-term effects of sea level rise.²³⁹ Congress and the courts can force private property owners to compromise through “a decision to encourage adaptive behavior by rewarding individuals who most adroitly adjust to the challenge.”²⁴⁰ The navigational servitude and the RHA do just that by rewarding property owners who anticipate and avoid the effects of sea level rise.

Old property laws and ancient doctrine may be more capable of forcing adaptation than new legislation. *Lucas*'s compensation rule and its defenses²⁴¹ suggest that existing law may provide the only possible solution to the clash between property law and environmental law, at least from an environmental perspective. As Professor Joseph Sax notes, the *Lucas* majority's adaptation of a standard based upon historically bounded property law “reflects a sentiment that a state should compensate landowners who, through no fault of their own, lose property rights because of scientific or social transformations.”²⁴² Sax criticizes the Court's “outdated view of property,”²⁴³ but the consequences of this “outdated view” may be lessened by enabling ancient law to respond to climate change. The RHA dates back to 1899 and has remained relatively unchanged over the past century, while the navigational servitude and the ancient public trust have mostly avoided compensation. The RHA and the navigational servitude were used to advance industrial growth in the early 1900s. There is no reason to think they could not be used to accommodate environmental change over a century later.

237. See *id.* at 30 (“Climate change adaption law will often require both a new way of thinking about what regulation is supposed to accomplish and different kinds of legal frameworks for accomplishing those new goals.”).

238. The decimating effect bulkheads can have on beaches and ecosystems may ultimately impact the public welfare. See *Puget Sound Shorelines: Building—Bulkheads and Effects*, WASH. DEP'T OF ECOLOGY, http://www.ecy.wa.gov/programs/sea/pugetsound/building/bulkhead_eff.html (last visited Feb. 23, 2011); see also H. Galbraith et al., *Global Climate Change and Sea Level Rise: Potential Losses of Intertidal Habitat for Shorebirds*, 25 WATERBIRDS 173 (2002).

239. Modern society has never faced these types of problems and therefore does not know what level of compromise is necessary.

240. Joseph Sax, *supra* note 209, at 1499.

241. See *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1019–20 (1992).

242. Sax, *supra* note 240, at 1499.

243. *Id.* at 1455.

Universal and consistent application of the RHA and the navigational servitude could also prevent the clash between property and environmental interests from intensifying. As two authors lament, “[t]he [no compensation] rule deters waterfront development because the threat of condemnation without compensation increases the risks for investors and real property lenders.”²⁴⁴ This need not be viewed as a negative impact. If people are on notice that they can no longer armor coastal property or protect it from the whims of the sea, perhaps they will think twice before developing the coast or decide to move altogether. Coastal homes look a lot less appealing if they cannot be protected. Once coastal property loses its economic allure, more emphasis could be placed on coastal protection rather than coastal development. The RHA and the federal government’s navigational servitude could therefore force us to reevaluate the desirability of coastal development and allow for stronger ecosystem protection.

CONCLUSION

There is no way to predict if courts, Congress, and the Corps will take full advantage of the RHA and the navigational servitude in adapting to climate change. The RHA and the navigational servitude may provide useful tools, but they require government enforcement. Private property owners will likely resist any compromise of their current rights, and political pressure will likely affect whatever approach or approaches the government eventually takes. That said, the sea is rising. Regardless of whether other courts follow *Milner*’s unsympathetic approach to coastal property owners, a change in coastal property and its owners’ methods of adapting to climate change is inevitable and necessary. The intersection between property rights and sea level rise ultimately does not hinge on government action; the sea will eventually force adaptation if the government does not act. If government does act before the change intensifies, it can mitigate losses to both property and the environment. The RHA and the navigational servitude provide tools by which government can compel that mitigation.

244. Alan T. Ackerman & Noah Eliezer Yanich, *Just and Unjust Compensation: The Future of the Navigational Servitude in Condemnation Cases*, 34 U. MICH. J.L. REFORM 573, 584 (2001).

