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## Water You Waiting For? Balancing Private Rights and Public Necessity in the South Atlantic Wetlands

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# Water You Waiting For? Balancing Private Rights and Public Necessity in the South Atlantic Wetlands

Alison Leary\*

## *Abstract*

A healthy and robust network of wetlands protects coastal communities from storm damage caused by hurricanes. Unfortunately, development pressures threaten wetlands along the South Atlantic coast, the region most susceptible to an increased risk of climate change induced hurricanes. If these wetlands are not protected from destruction, coastal communities will be left without a buffer against flooding, storm damage, and sea level rise. In addition to putting the public at large in physical danger, significant environmental justice concerns accompany the failure to protect coastal wetlands. In order to protect these ever-diminishing resources, federal and state law makers have enacted regulatory regimes that combat wetland degradation. However, these regimes are severely flawed, as they: (1) are difficult for private property owners to navigate; (2) lack inter-governmental coordination; and (3) give rise to litigable conflicts between private property owners and state and federal regulators. The 2013 Supreme Court decision *Koontz v. St. John's River Water Mgmt. Dist.*, which extends the essential nexus and rough proportionality requirements of *Nollan v. California Coastal Commission* and *Dolan v. City of Tigard* to monetary exactions, threatens to further undermine the efficacy of these regulatory regimes by inducing a regulatory chilling effect. Thus, this note argues that courts should extend the application of the public necessity defense to regulatory takings cases, thereby

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absolving the government of takings liability, where the state can show that the destruction of coastal wetlands will expose vulnerable communities to harm from hurricanes and sea level rise.

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### *I. Introduction*

A big wave came like a tsunami and broke through the back wall. The house started filling with water, pushing shut the front door . . . . I tried to open the door, but now the water was up to my waist and rising. I went to the side of the house to try to pry off the wood from the windows, but a wave knocked me down. The water was now over my head. I was treading water . . . . It was completely dark and the water was raging around me. I swam out into the middle of my road, trying to get to higher ground, but the current and the waves took me in another direction. All kinds of debris were hitting me in the face and I could see refrigerators float by, as well as boats and stoves. I later found out my lip was split

open practically up to my nose and I had a black eye, but right then, I was numb and just trying to stay alive.<sup>1</sup>

This excerpt from Kim Joyce's harrowing survival story demonstrates the disturbing reality that Superstorm Sandy imposed on countless individuals on October 29, 2012.<sup>2</sup> The hurricane turned "Superstorm" killed 132 people, destroyed nearly 380,000 housing units, and caused \$80 billion in damages.<sup>3</sup>

Seven years earlier, another shocking storm made landfall in the United States.<sup>4</sup> Hurricane Katrina, the devastating Category-3 hurricane that hit New Orleans on August 29, 2005, brought with it a twenty-four to twenty-eight-foot tidal surge that tumbled houses and shattered lives.<sup>5</sup> "Coming in last night, it was like going through a war zone," said Chris Moore, a native of New Orleans' Seventh Ward and a Hurricane Katrina survivor.<sup>6</sup> Moore explained, "The streets are blocked off, there's a lot of damage to buildings. Nothing but darkness in the depth of the

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1. Jennifer Wolff, *I Survived Hurricane Sandy*, WOMEN'S HEALTH, June 18, 2013, <http://www.womenshealthmag.com/life/hurricane-sandy-survivor> (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

2. *See id.* (relaying Kim Joyce's survival story).

3. *See* Andy Newman, *Hurricane Sandy vs. Hurricane Katrina*, CITY ROOM (Nov. 27, 2012, 4:17 PM), <http://cityroom.blogs.nytimes.com/2012/11/27/hurricane-sandy-vs-hurricane-katrina/> (comparing damage statistics for Hurricanes Katrina and Sandy) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

4. *See* Adrienne Appel, *Still Struggling, Katrina's Victims Tell Stories of Survival*, NATIONAL GEOGRAPHIC 1, Sept. 27, 2005, [http://news.nationalgeographic.com/news/2005/09/0927\\_050927\\_katrina\\_victims.html](http://news.nationalgeographic.com/news/2005/09/0927_050927_katrina_victims.html) (reporting the effects of Hurricane Katrina on New Orleans residents) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

5. *See* RICHARD D. KNABB ET AL., TROPICAL CYCLONE REPORT: HURRICANE KATRINA, NATIONAL HURRICANE CENTER 8-9 (Dec. 20, 2005), *available at* [http://www.nhc.noaa.gov/pdf/TCR-AL122005\\_Katrina.pdf](http://www.nhc.noaa.gov/pdf/TCR-AL122005_Katrina.pdf) (describing the intensity of Hurricane Katrina) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

6. *See* Appel, *supra* note 4, at 2 (describing the general devastation left by Hurricane Katrina).

city where there should be lights.”<sup>7</sup> The costliest hurricane in American history, Hurricane Katrina killed over 1,800 people, damaged 1.2 million homes, displaced over 1 million people, and caused \$148 billion in damage.<sup>8</sup> Days after the storm, Jeffrey Treadway of Myrtle Grove, a rural town twenty-miles southeast of Baton Rouge, explained, “[t]here’s nothing left . . . no one has a home.”<sup>9</sup>

Unfortunately, recent research suggests that these extreme weather events will become more frequent and severe as climate change affects global weather patterns.<sup>10</sup> Scientists anticipate that the South Atlantic Coast (North Carolina, South Carolina, Georgia, and Florida) will be one of the most harshly affected regions.<sup>11</sup> In an effort to identify how states can protect their citizens from impending storm damage, this Note describes the utility of wetlands, which protect inland communities against storm surge and flooding caused by hurricanes.<sup>12</sup>

Part II of this Note describes the current status of the South Atlantic wetlands and the problems associated with wetland loss.<sup>13</sup> Despite widespread recognition of the protective function of wetlands, coastal wetland destruction occurs at an alarming rate along the South Atlantic Coast.<sup>14</sup> Residential and commercial developments contribute significantly to this destruction.<sup>15</sup> These developments are becoming more widespread

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7. *Id.*

8. *See* Newman *supra* note 3 (outlining the impact of Hurricane Katrina).

9. *See* Appel, *supra* note 4, at 1 (depicting the effects of Hurricane Katrina’s tidal surge).

10. *See Hurricanes and Wetlands*, NAT’L WILDLIFE FOUND., <http://www.nwf.org/Wildlife/Threats-to-Wildlife/Global-Warming/Global-Warming-is-Causing-Extreme-Weather/Hurricanes/Hurricanes-and-Wetlands.aspx> (last visited Nov. 26, 2014) (explaining that coastal communities may face more intense storms as oceans continue to warm and to rise in decades ahead) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

11. *See infra* note 56 and accompanying text.

12. *See infra* Part II (detailing the functions of wetlands).

13. *See infra* Part II (describing the south Atlantic wetlands and coastal erosion).

14. *See infra* Part II (explaining the wetland losses in each south Atlantic state).

15. *See infra* Part II (defining the causes of wetland erosion).

as people flock to coastal communities.<sup>16</sup> Therefore, the region must address both an increase in population size and a decrease in its coastal defense mechanism.<sup>17</sup>

Part III of this Note shifts focus to the environmental justice implications of this wetland destruction.<sup>18</sup> In reviewing the aftermaths of Hurricanes Katrina and Sandy, Part III illustrates that the most vulnerable communities in our society suffer the most significant impacts of coastal storms.<sup>19</sup> Because the citizens of these communities lack bureaucratic representation, they rely upon the government for protection against environmental harms.<sup>20</sup> By preserving wetlands that reduce inland storm damage the government can ensure that the most marginalized citizens in our society are protected from the dangers of coastal storms.<sup>21</sup>

Parts IV and V of this Note review the current regulatory regimes for wetland protection.<sup>22</sup> Part IV examines the Clean Water Act, the principal federal legislation addressing wetland development.<sup>23</sup> Part V examines the state regulatory programs that supplement the Clean Water Act.<sup>24</sup> The complex procedures established under these regulatory regimes for development permitting highlight the direct conflict between private property rights and public welfare.<sup>25</sup>

Part VI addresses the conflict between private property rights and public welfare by reviewing the development permitting cases that have given rise to regulatory takings claims

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16. See *infra* Part II (depicting the influx in coastal residences along the South Atlantic Coast).

17. See *infra* Part II (describing the impact of increases in population along the South Atlantic Coast).

18. See *infra* Part III (explaining the environmental justice movement).

19. See *infra* Part III (detailing the unique ways in which poor, minority communities are affected by coastal storm damage).

20. See *infra* Part III (describing the lack of bureaucratic knowledge among poor, minority communities).

21. See *infra* Part II (explaining that poor, minority communities are dependent upon governmental assistance for the protection of their rights).

22. See *infra* Parts IV–V (outlining the federal and state regulatory programs).

23. See *infra* Part IV (describing the federal regulatory regime).

24. See *infra* Part V (describing state regulatory programs).

25. See *infra* notes 113–124 and accompanying text.

under the Fifth and Fourteenth Amendments.<sup>26</sup> Recently, in *Koontz v. St. Johns River Water Mgmt. Dist.*,<sup>27</sup> the U.S. Supreme Court extended the essential nexus and rough proportionality requirements established in *Nollan v. California Coastal Commission*<sup>28</sup> and *Dolan v. City of Tigard*<sup>29</sup> to monetary exactions.<sup>30</sup> This development in regulatory takings law may have a significant regulatory chilling effect on governments wary of civil liability.<sup>31</sup>

In order to combat this regulatory chilling effect, which threatens to undermine the current wetlands protection regime, courts should expand the public necessity defense to absolve the state of liability in situations where it can show that destruction of coastal wetlands will expose vulnerable communities to harm from hurricanes and sea level rise.<sup>32</sup> Although the doctrine of public necessity is typically conceived of as a tort defense, the Court in *Lucas v. South Carolina Coastal Council*<sup>33</sup> endorsed the use of the doctrine as a defense to constitutional takings claims.<sup>34</sup> Part VI of this note outlines the traditional application of the public necessity defense and explores the utility of the defense in the context of wetlands regulations.<sup>35</sup>

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26. See *infra* Part VI (reviewing regulatory takings law).

27. 133 S. Ct. 2586 (2013).

28. 483 U.S. 825 (1987).

29. 512 U.S. 374 (1994).

30. See *Koontz*, 133 S. Ct. at 2599 (“[W]e . . . hold that monetary exactions must satisfy the nexus and rough proportionality of *Nollan* and *Dolan*.”).

31. See Anthony S. Guardino, *U.S. Supreme Court Divides Sharply in Koontz Ruling*, N.Y. L.J. (July 24, 2013), available at <http://www.farrellfritz.com/wp-content/uploads/article-620.pdf> (describing the potential for litigation against local municipalities when they impose conditions on their willingness to grant or approve permits relinquishing property) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

32. See *infra* Part VII (arguing for the expansion of the public necessity defense).

33. 505 U.S. 1003 (1992).

34. See *id.* at 1028–29 (outlining the parameters of utilizing a public necessity defense to a constitutional taking).

35. See *infra* Part VII (arguing for the expansion of the Public necessity defense).

## II. Overview of the South Atlantic Wetlands

Historically, many viewed wetlands<sup>36</sup> as more of a nuisance than a public benefit.<sup>37</sup> Today scholars recognize that wetlands play a crucial role in maintaining healthy coastal ecosystems.<sup>38</sup> The Environmental Protection Agency (“EPA”) explained that the South Atlantic Region’s coastal wetlands<sup>39</sup> hold particular ecological significance, because the region “has the highest wetland density of the entire East Coast and hosts a variety of coastal wetlands not found in other parts of the United States.”<sup>40</sup> North Carolina’s Albemarle-Pamlico sound, the second largest lagoonal estuary in the United States, critically supports

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36. See 33 C.F.R. § 328.3(b) (2014) and 40 C.F.R. § 230.3(t) (2014) (defining wetlands as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions”).

37. See *Leovy v. United States*, 177 U.S. 621, 636 (1900) (“If there is any fact which may be supposed to be known by everybody, and therefore by courts, it is that swamps and stagnant waters are the cause of malarial and malignant fevers, and that the police power is never more legitimately exercised than in removing such nuisances.”); JON KUSLER, *OUR NATIONAL WETLAND HERITAGE* 1 (1983) (explaining that wetlands were long thought of as “wastelands, sources of mosquitos and impediments to development and travel”).

38. See SUSAN-MARIE STEDMAN & THOMAS E. DAHL, *NAT’L OCEANIC AND ATMOSPHERIC ADMIN., NAT’L MARINE FISHERIES SERV. & U.S. DEP’T OF THE INTERIOR, FISH AND WILDLIFE SERV., STATUS AND TRENDS OF WETLANDS IN THE COASTAL WATERSHEDS OF THE EASTERN UNITED STATES 1998 TO 2004* 7 (2008), [hereinafter *STATUS AND TRENDS*], available at <http://www.fws.gov/wetlands/Documents/Status-and-Trends-of-Wetlands-in-the-Coastal-Watersheds-of-the-Eastern-United-States-1998-to-2004.pdf> (describing the functions and importance of coastal wetlands) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

39. See ENVTL. PROT. AGENCY, *COASTAL WETLANDS INITIATIVE: SOUTH ATLANTIC REVIEW* 2 (2013), [hereinafter *SOUTH ATLANTIC REVIEW*], available at <http://water.epa.gov/type/wetlands/upload/south-atlantic-review.pdf> (defining coastal wetlands as “saltwater and freshwater wetlands within HUC-8 watersheds that drain to the Atlantic, Pacific or Gulf of Mexico”) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

40. See *id.* at 5 (listing the types of wetlands unique to the region, including pocosins, cypress swamps, and mangrove forests).

North Carolina's fishing industry.<sup>41</sup> South Carolina's wetlands provide habitats for many commercially important species.<sup>42</sup> Even Georgia, the state with the shortest coastline in the region, contains one-third of the Atlantic Coast's remaining coastal marshland.<sup>43</sup> Florida contains over 11 million acres of wetlands.<sup>44</sup> These wetlands play a significant role in the culture, economy, and physical well-being of these states.<sup>45</sup>

Coastal wetlands serve several critical functions.<sup>46</sup> They maintain water quality by filtering, storing, and detoxifying waste runoff.<sup>47</sup> They serve as spawning grounds, nurseries, and shelter for marine life.<sup>48</sup> They also provide direct value to humans by decreasing inland erosion, stabilizing shorelines, creating vast tourism industries, and supporting commercial and recreational fishing industries.<sup>49</sup> Because of these vital functions, the economic value of coastal habitats has been estimated to be in the hundreds of billions of dollars.<sup>50</sup>

Recently, evidence of coastal erosion has highlighted the interplay between wetlands protection and climate change.<sup>51</sup> Importantly, wetlands serve as buffers that protect coastal areas

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41. See *id.* (explaining that over ninety percent of the commercial fisheries landings in North Carolina depend on the Albemarle-Pamlico sound).

42. See *id.* (describing the unique features of South Carolina's wetlands as a breeding ground for commercially important species such as shrimp and blue crab).

43. See *id.* (reporting the unique features of Georgia's wetlands which are home to over one third of the Atlantic coast's remaining coastal marsh lands).

44. See *id.* (detailing the unique features of Florida's wetlands).

45. See *id.* at 1 (explaining the significant and diverse impacts that wetlands have on communities).

46. See SOUTH ATLANTIC REVIEW, *supra* note 39, at 1 (emphasizing the importance of coastal wetlands).

47. See *id.* (describing one of the important functions of wetlands

48. See *id.* (clarifying how wetlands maintain a healthy coastal ecosystem).

49. See *id.* (“[C]oastal wetlands provide direct value to people in other ways, such as minimizing erosion of upland, protecting infrastructure and supporting the tourism, hunting, and fishing sectors of the economy.”).

50. See STATUS AND TRENDS, *supra* note 38, at 7 (estimating the economic value of coastal habitats).

51. See SOUTH ATLANTIC REVIEW, *supra* note 39, at 12 (“Some of the issues likely to be exacerbated by climate change and sea level rise include erosion, salt water intrusion, changes in salinity regimes, and changes in species composition and distribution.”).

from flooding, storm damage, and sea level rise.<sup>52</sup> These functions were put to the test numerous times during the past decade, as several hurricanes ravaged communities along the South Atlantic Coast, including: Isabel (2003), Frances (2004), Jeanne (2004), Irene (2011), and Sandy (2012).<sup>53</sup>

Alarming, climate change will increase the occurrence of these phenomena and will aggravate hurricane frequency and intensity.<sup>54</sup> A recent study identified at least a forty-five percent increase in category 3–5 hurricanes along the South Atlantic Coast, an increase higher than any other region in the United States.<sup>55</sup> Additionally, the U.S. Geological Survey predicts that “[t]he beaches, coastal infrastructure, and habitat of the southeast Atlantic coast are vulnerable to extreme coastal changes during the landfall of even category 1 hurricanes.”<sup>56</sup>

The South Atlantic wetlands have long been under threat and despite the well-recognized importance of protecting them from destruction, they continue to suffer severe losses.<sup>57</sup>

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52. See *id.* at 1 (explaining how wetlands protect against coastal storms).

53. HILARY F. STOCKDON ET AL., U.S. GEOLOGIC SURVEY, NATIONAL ASSESSMENT OF HURRICANE-INDUCED COASTAL EROSION HAZARDS: SOUTHEAST ATLANTIC COAST 4 (2013), available at <http://pubs.usgs.gov/of/2013/1130/pdf/ofr2013-1130.pdf> (calling for a study to identify the areas of coastline subject to extreme erosion, and the vulnerability of structures built in these areas) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

54. See STATUS AND TRENDS, *supra* note 38, at 12 (“One potential result of more frequent and intense storms is worsening of sand overwash after hurricanes, which leads to smothering of mangrove wetlands. Storms also put low-salinity wetlands at risk, causing salt burn from salt water intrusion, and eroding organic marsh substrates.”).

55. See RISK MGMT. SOLUTIONS, THE 2006 RMS EXPERT ELICITATION AND ATLANTIC ACTIVITY HURRICANE RATES UPDATE 5 (2006), available at [https://support.rms.com/publications/60HUActivityRates\\_whitepaper.pdf](https://support.rms.com/publications/60HUActivityRates_whitepaper.pdf) (illustrating projected regional increases in hurricane landfall relative to the 1900-2005 long-term historical baseline) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

56. STOCKDON ET AL., *supra* note 53, at 24 (describing that a direct landfall category 1 hurricane would subject eighty-nine percent of the dune-backed beaches on the South East Atlantic Coast to erosion).

57. See SOUTH ATLANTIC REVIEW, *supra* note 39, at 6 (explaining that significant wetland loss has been documented in Florida and South Carolina since the 1980s, with an average of 5,000 acres and 3,000 acres lost per year, respectively).

Historically, forestry, agriculture, and hydrologic modifications (such as damming) caused most wetland losses along the South Atlantic Coast.<sup>58</sup> Today, residential and commercial development pressures destroy, erode, and degrade coastal wetland acreage to a greater degree.<sup>59</sup> Between 1996 and 2006, urban and rural development caused forty-percent of all wetland loss in the region.<sup>60</sup> From 1995 to 2000, Georgia, Florida, and South Carolina experienced the highest levels of in-migration in the United States with coastal population density increasing by seventy-percent between 1980 and 2003.<sup>61</sup> Thus, the region most susceptible to extreme weather events caused by climate change is witnessing severe destruction of its defense mechanism, while more people move into these higher risk areas.<sup>62</sup> Therefore, preserving coastal wetlands as protective barriers against these threats continually increases in importance.<sup>63</sup>

### III. *Environmental Justice Concerns*

In addition to putting the public at large in danger, significant environmental justice concerns accompany the failure to protect coastal wetlands as protective barriers against sea level rise and coastal storms, as evidenced by Hurricanes Katrina and Sandy.<sup>64</sup>

The environmental justice movement began in the 1980s to protect poor and minority communities from being harmed by lax environmental regulations in the context of hazardous waste disposal and water pollution control.<sup>65</sup> The movement catalyzed

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58. See *id.* at 5–6 (outlining the historical South Atlantic Coastal wetlands stressors).

59. See *id.* at 6 (reviewing the present-day South Atlantic Coastal wetlands stressors).

60. See *id.* at 6. (analyzing NOAA data showing the different causes of losses to estuaries and wetlands).

61. See *id.* at 7 (describing the movement of retirees and job seekers into coastal communities)

62. See *supra* notes 54–61 and accompanying text.

63. See *supra* notes 47–52 and accompanying text.

64. See *infra* text accompanying notes 74–94 (detailing the environmental justice concerns related to coastal storm damage).

65. See Raina Wagner, *Adapting Environmental Justice: In the Age of Climate Change, Environmental Justice Demands A Combined*

after the U.S. General Accounting Office released a report demonstrating that three-fourths of the large commercial waste facilities in the Southeastern EPA Region IV were placed in minority communities.<sup>66</sup> A follow-up study, conducted by the United Church of Christ, further demonstrated that there was a consistent statistical correlation between percentage of minority members in the community and the presence of a hazardous waste site.<sup>67</sup> Furthermore, a National Law Journal study found disparate enforcement of federal environmental laws in minority communities, whereby environmental laws and regulations were not as strictly enforced in areas with large minority populations.<sup>68</sup> In response to growing concerns about the inequitable burdens being placed on minority communities, President Clinton issued an Executive Order in 1994 directing each federal agency to “make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low-income populations.”<sup>69</sup>

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*Adaptation-Mitigation Response*, 2 ARIZ. J. ENVTL. L. & POL’Y 153, 156–59 (2011) (describing the history of the Environmental Justice Movement).

66. See U.S. GEN. ACCOUNTING OFFICE, PUB. NO. B-211461, SITING OF HAZARDOUS WASTE LANDFILLS AND THEIR CORRELATION WITH RACIAL AND ECONOMIC STATUS OF SURROUNDING COMMUNITIES 3, *available at* <http://archive.gao.gov/d48t13/121648.pdf> (finding that three-quarters of the hazardous waste landfill sites in Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee were located in primarily poor, African American and Latino communities) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

67. See BENJAMIN F. CHAVIS ET AL., UNITED CHURCH OF CHRIST COMM’N FOR RACIAL JUSTICE, TOXIC WASTES AND RACE IN THE UNITED STATES: A NATIONAL REPORT ON THE RACIAL AND SOCIO-ECONOMIC CHARACTERISTICS OF COMMUNITIES WITH HAZARDOUS WASTE SITES 13 (1987), *available at* [http://d3n8a8pro7vhmx.cloudfront.net/unitedchurchofchrist/legacy\\_url/13567/toxrace87.pdf?1418439935](http://d3n8a8pro7vhmx.cloudfront.net/unitedchurchofchrist/legacy_url/13567/toxrace87.pdf?1418439935) (“The first study found that the group of residential zip code areas with the highest number of commercial hazardous waste facilities also had the highest mean percentage of residents who belong to a racial and ethnic group.”) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

68. See ROBERT V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION: LAW, SCIENCE AND POLICY (Vicki Been et. al. eds., 6th ed. 2009) (describing the disproportionate environmental burdens placed on minorities).

69. Exec. Order No. 12,898, 59 Fed. Reg. 7629 (Feb. 11, 1994).

The EPA defines environmental justice as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.”<sup>70</sup> The EPA recognizes that the goals of environmental justice “will be achieved when everyone enjoys the same degree of protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment in which to live, learn, and work.”<sup>71</sup> Despite widespread recognition of the environmental justice movement and the EPA’s inclusion of environmental justice concerns in its mission, the EPA has been criticized widely for its failure to adequately take environmental justice concerns into consideration.<sup>72</sup>

The failure to implement environmental justice measures is disconcerting given the impending threat of extreme weather events caused by climate change.<sup>73</sup> These severe weather systems will likely have a disproportionately negative impact on low-income communities that lack the resources to adapt to changing conditions.<sup>74</sup> This is particularly true in the South,<sup>75</sup> where remnants of racial discrimination and Jim Crow laws have placed poor, minority communities in less desirable and higher risk

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70. *Environmental Justice*, ENVTL. PROT. AGENCY (Sept. 12, 2013), <http://www.epa.gov/compliance/ej/> (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

71. *See id.* (describing the EPA’s mission to support the environmental justice movement).

72. *See* CHAVIS, *supra* note 67, at 6 (describing criticism of the EPA’s implementation of regulations such as CERCLA, commonly known as Superfund).

73. *See* Maxine Burkett, *Just Solutions to Climate Change: A Climate Justice Proposal for A Domestic Clean Development Mechanism*, 56 BUFF. L. REV. 169, 170 (2008) (“The federal response to the climate crisis—which has been both belated and insubstantial—has failed to take seriously the potentially devastating impacts of climate change and climate change policies on poor and of-color communities.”).

74. *See id.* at 179 (“The environmental risks these communities disproportionately suffer . . . acquire a more dangerous hue when income is taken into account.”).

75. *See id.* at 184–88 (discussing the historical vulnerability of southern minority communities, and accordingly how “distribution of climate change impacts is likely to be increasingly unjust”).

geographic locations.<sup>76</sup> For example, the “bottoms” is a term used to describe low-lying, and frequently flooded residential areas, which are usually occupied by African Americans in the South.<sup>77</sup> This was the case in New Orleans at the onset of Hurricane Katrina, where “[t]he area most vulnerable to floods, the Lower Ninth Ward, was ninety-eight percent black. By contrast, whites by and large lived on the land above sea level.”<sup>78</sup> Consequent death and displacement left New Orleans more affluent and white.<sup>79</sup>

Coincident to inhabiting areas most vulnerable to storm surge and flooding, poor, minority communities suffer the greatest during storm relief efforts<sup>80</sup> and have greater difficulties recovering from disasters.<sup>81</sup> Several reasons lead to this reality, including: “less insurance, lower incomes, fewer savings, more unemployment, less access to communication channels and information, and the intensification of existing poverty.”<sup>82</sup> Additionally, many poor individuals lack the education and skills

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76. See *id.* at 184–86 (“As a function of these policies and practices, particularly after slavery, black communities were forced to live in the least desirable parts of town.”).

77. See *id.* at 185 (describing the role that discrimination plays in community placement).

78. See *id.* (noting the disparate locations of New Orleans white and black populations).

79. See Bill Quigley, *Ten Months After Katrina: Gutting New Orleans*, COMMON DREAMS (June 29, 2006), <https://www.organicconsumers.org/news/ten-months-after-katrina-gutting-new-orleans> (“African-Americans, children, and the poor have not made it back - primarily because of severe shortages of affordable housing.”) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT); MANUEL PASTOR ET AL., IN THE WAKE OF THE STORM: ENVIRONMENT, DISASTER, AND RACE AFTER KATRINA 9 (2006), available at <http://www.racialequitytools.org/resourcefiles/pastor2.pdf> (“Before Katrina, the city had 475,000 people with about 67 percent African American. Current estimates indicate that soon the population will be only 350,000 with only 35 to 40 percent black.”) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

80. See PASTOR ET AL., *supra* note 79, at 24 (noting that minority and poor storm victims were less likely to know how to access relief or navigate the relief system).

81. See *id.* (“The inequities before and during a disaster are often played out further in the period after a disaster.”).

82. See *id.* (listing several causes of increased suffering and difficulty for disaster-stricken minority populations).

necessary to navigate the relief system, fill out aid forms, and avail themselves of the bureaucratic process.<sup>83</sup>

Following Hurricane Katrina, the House Subcommittee on Environment and Hazardous Materials held a hearing intended to assess the impacts of the Hurricane.<sup>84</sup> In her statement before the Subcommittee, Dr. Beverly Wright explained, “communities of color receive less priority in response time than do their white counterparts where emergency response is required.”<sup>85</sup> In the year after Hurricane Katrina, local and federal governments failed to pursue effective policies to protect residents’ health and failed to clean up toxic debris.<sup>86</sup> These administrative failings drove local community groups to spearhead cleanup efforts even though they lacked sufficient resources to address the large-scale problems.<sup>87</sup>

Poor, minority victims of Hurricane Sandy also suffered disproportionate hardship following the storm, particularly in the receipt of housing assistance.<sup>88</sup> Governor Chris Christie’s administration came under severe criticism for failing to adequately provide for these communities during post-storm relief efforts:

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83. See *id.* (“Upper middle-class victims in several disasters have been more likely to receive assistance than minorities and the poor because they knew how to navigate the relief system . . .”).

84. See *Hurricane Katrina: Assessing the Present Environmental Status: Hearing Before the Subcomm. on Env’t & Hazardous Materials of the H. Comm. on Energy & Commerce*, 109th Cong. 99 (2005) (statement of Dr. Beverly Wright, Director, Deep South Center for Environmental Justice) (describing the aftermath of Hurricane Katrina).

85. See *id.* at 98 (noting conclusions from historical analysis).

86. See Janell Smith & Rachel Spector, *Environmental Justice, Community Empowerment and the Role of Lawyers in Post-Katrina New Orleans*, 10 N.Y. CITY L. REV. 277, 283 (2006) (“State and federal authorities have largely failed to clean up toxic sediments or pursue sustainable strategies for dealing with the debris left behind by the storms. Local community groups have had to step in to protect themselves and hold the government accountable.”).

87. See *id.* at 288 (“Residents and volunteers removed several inches of topsoil and sediment from neighborhood yards and deposited them in an empty lot for FEMA removal; they then replaced the soil with fresh sod and river sand.”).

88. See Pastor, *supra* note 79, at 24 (“Past research has found that housing assistance favors middle-class victims, particularly homeowners.”).

Only 24 percent of over 16,000 eligible low and moderate income households have received the \$10,000 checks [they were entitled to]; according to the State's data, only 4,051 checks have been distributed to low and moderate income households. Yet 6,914 higher income households received the checks, which [constitute] 36% of eligible higher income homeowners. A person who is in the higher income level in New Jersey is significantly more likely to get this \$10,000 grant, despite Christie's promise to the contrary in requesting federal funding.<sup>89</sup>

Following a disaster, the issue of housing assistance is critical for minority communities.<sup>90</sup> In general, minorities tend to have lower homeownership rates.<sup>91</sup> Furthermore, minorities who do own homes often have more of their net worth invested in

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89. Laura Denker, *Christie Fails to Keep Promise to Help Lower Income Families with Sandy Relief According to Document*, FAIR SHARE HOUSING CENTER (Oct. 23, 2013), <http://fairsharehousing.org/blog/entry/christie-fails-to-keep-promise-to-help-lower-income-families-with-sandy-rel/> (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT); see also Chris Frates, *Feds Investigate Christie's Use of Sandy Relief Funds*, CNN, (Jan. 13, 2014, 7:40 PM), <http://www.cnn.com/2014/01/13/politics/christie-feds-investigating-sandy-ads/index.html> (explaining that Christie's administration is currently under investigation for diverting \$25 million in Sandy relief funds for a marketing campaign promoting tourism in New Jersey) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

90. See PASTOR ET AL., *supra* note 79, at 23 ("Housing continues to be a significant issue for low-income and minority disaster victims in the recovery period.").

91. See *id.* at 24 (referring to minority homeownership rates as "much lower . . . than their white counterparts"); see also CHRISTOPHER E. HERBERT, ET AL., U.S. DEP'T OF HOUS. AND URBAN DEV., HOMEOWNERSHIP GAPS AMONG LOW-INCOME AND MINORITY BORROWERS AND NEIGHBORHOODS 140-41 (2005), available at <http://www.huduser.org/Publications/pdf/HomeownershipGapsAmongLow-IncomeAndMinority.pdf> ("As of 2003, the homeownership rate among whites was 26.6 percentage points higher than the black rate, 28.7 percentage points higher than the Hispanic rate, and 19.1 percentage points higher than the Asian rate. In comparison, in 1980 these gaps were 23.2, 25.1, and 16.5 percentage points, respectively.") (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

home equity than do white homeowners.<sup>92</sup> Since the Federal Emergency Management Agency's ("FEMA") housing assistance programs were designed to assist traditional, nuclear families with one head of household, non-nuclear family units, in which many minority families live, pose an additional obstacle for relief efforts.<sup>93</sup> These problems inevitably lead to increased homelessness and intensification of poverty.<sup>94</sup>

Given the failure of reactionary storm relief efforts to protect environmental justice communities from marginalization,<sup>95</sup> it is evident that a preventative approach to storm protection would be beneficial.<sup>96</sup> By emphasizing the protection and supplementation of coastal wetlands as a means of diminishing storm damage preemptively, we may be better able to achieve the goal of realizing equal protection from environmental hazards.<sup>97</sup>

#### IV. *Federal Wetlands Protection and Regulation*

Despite clear evidence of wetland losses<sup>98</sup> and recognition of the important role that wetlands play in protecting inland communities from storm damage,<sup>99</sup> Congress has not yet enacted

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92. See PASTOR ET AL., *supra* note 79, at 24 (describing how minority housing differs from non-minority housing); see also RAKESH KOCHHAR, ET AL., PEW RESEARCH CTR., TWENTY-TO-ONE: WEALTH GAPS RISE TO RECORD HIGHS BETWEEN WHITES, BLACKS, HISPANICS 5–6 (2011), available at [http://www.pewsocialtrends.org/files/2011/07/SDT-Wealth-Report\\_7-26-11\\_FINAL.pdf](http://www.pewsocialtrends.org/files/2011/07/SDT-Wealth-Report_7-26-11_FINAL.pdf) (finding for 2005 the rate of home equity contributing to net worth for whites, blacks, and Hispanics to be 44%, 59%, and 66% respectively).

93. See PASTOR ET AL., *supra* note 79, at 25 ("Following Hurricane Andrew, FEMA was not prepared for some of south Florida's family structures, particularly Haitian families, who often had several families in one household . . .").

94. See Burkett, *supra* note 73, at 186–87 (describing the "second disaster" phenomenon that impacts the poor and minority communities following severe storms).

95. See *supra* notes 6472–94 and accompanying text.

96. See *supra* notes 5169–71 and accompanying text.

97. See *Environmental Justice*, *supra* note 71 (describing the goals of the environmental justice movement).

98. See *supra* notes 36–63 and accompanying text.

99. See *supra* notes 46–63 and accompanying text.

a comprehensive wetland protection statute.<sup>100</sup> Instead, regulators rely on existing water pollution regulations to address wetland destruction.<sup>101</sup>

The Federal Water Pollution Control Act,<sup>102</sup> also known as the Clean Water Act (“CWA” or “Act”), is the main federal legislative vehicle for preventing and prohibiting wetland destruction.<sup>103</sup> The purpose of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”<sup>104</sup> Section 401 of the Act makes any discharge of a pollutant<sup>105</sup> into the waters of the United States unlawful, unless made in compliance with a permit issued in accordance with the provisions of the Act.<sup>106</sup> Notwithstanding continued uncertainty over the scope of federal authority to regulate the nation’s waters,<sup>107</sup> it is clear that the Act includes navigable

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100. See NANCIE G. MARZULLA & ROGER J. MARZULLA, PROPERTY RIGHTS: UNDERSTANDING GOVERNMENT TAKINGS AND ENVIRONMENTAL REGULATION 43 (1997) (describing the wetlands regulation system).

101. See *id.* (“[I]nventive (and often well-intentioned) bureaucrats and political leaders try to force the square peg of wetlands protection into the round hole of pollution control, specifically, the point source discharge permitting scheme of the Clean Water Act.”).

102. 33 U.S.C. §§ 1251–1387 (2006).

103. See *id.* §§ 1281(a), 1294–97 (2006) (prohibiting the discharge of dredge and fill material into wetlands without a permit).

104. See *id.* § 1251(a) (outlining the general and derivative objectives of the CWA).

105. See *id.* § 1362 (defining “pollutant” broadly to include, among other materials, dredged spoil, rock, sand, cellar dirt, and industrial waste).

106. See *id.* § 1344 (prohibiting the discharge of dredge and fill material into the waters of the United States).

107. A comprehensive review of the scope of Federal authority under the CWA is beyond the scope of this note. See *generally* *United States v. Riverside Bayview Homes, Inc.*, 474 U.S. 121 (1985) (holding that federal jurisdiction exists over wetlands adjacent to navigable waters); *Solid Waste Agency of N. Cook Cnty. v. U.S. Army Corps of Engineers*, 531 U.S. 159 (2001) (holding that 33 C.F.R. § 328.3(a)(3)(1999), which extended Federal jurisdiction to waters that were used as a habitat by birds protected by the Migratory Bird Treaty exceeded the authority of the Clean Water Act); *Rapanos v. United States*, 547 U.S. 715 (2006) (holding that only wetlands with a with a continuous surface connection to navigable waters fell within the jurisdiction of the Clean Water Act); *United States v. Freedman Farms, Inc.*, 786 F. Supp. 2d 1016 (2011) (discussing the circuit split that has emerged in the circuit courts since the *Rapanos* decision).

waterways<sup>108</sup> and at least those nonnavigable bodies of water, such as wetlands, that have a continuous surface connection to navigable waterways.<sup>109</sup> Section 404 of the Act specifically addresses the discharge of dredged<sup>110</sup> and fill material<sup>111</sup> into wetlands by authorizing the Army Corps of Engineers (“Army Corps”) to issue permits allowing for such discharges.<sup>112</sup>

In order to obtain a permit for development, applicants must demonstrate four conditions:<sup>113</sup> (1) there is no “practicable alternative<sup>114</sup> to the proposed discharge” that would be less damaging to the waterway;<sup>115</sup> (2) the proposed activity will not cause or contribute to “significant degradation<sup>116</sup> of the waters of the United States”;<sup>117</sup> (3) “appropriate and practicable steps have

108. See *Freedman Farms, Inc.*, 786 F. Supp. 2d at 1017 (“The regulations define ‘waters of the United States’ to include . . . traditionally navigable waters . . .”).

109. See *Rapanos*, 547 U.S. at 742 (delineating a two part test under which waters adjacent to navigable waters are covered by the CWA).

110. See 33 C.F.R. § 323.2(c) (2014) (“The term dredged material means material that is excavated or dredged from waters of the United States.”).

111. See *id.* § 323.2(e)(1) (“[T]he term fill material means material placed in waters of the United States where the material has the effect of: (i) replacing any portion of a water of the United States with dry land; or (ii) changing the bottom elevation of any portion of a water of the United States.”).

112. See 33 U.S.C. § 1344 (2014) (“The Secretary may issue permits, after notice and opportunity for public hearings for the discharge of dredged or fill material into the navigable waters at specified disposal sites.”).

113. See 40 C.F.R. § 230.10 (2014) (outlining the permitting requirements).

114. See *id.* § 230.10(a)(1) (defining “practicable alternatives” to “include . . . [a]ctivities which do not involve a discharge of dredged or fill material into the waters of the United States or ocean waters” and “[d]ischarges of dredged or fill material at other locations in waters of the United States or ocean waters”).

115. See *id.* § 230.10(a) (prohibiting “discharge of dredged or fill material[,]” unless otherwise “provided [for] under section 404(b)(2)[.]” where a “practicable alternative to the proposed discharge . . . [that] does not have other significant adverse environmental consequences” exists).

116. See *id.* § 230.10(c) (identifying “significant degradation” by evidence of “significantly adverse effects” on: “human health or welfare”; “life stages of aquatic life and other wildlife”; “aquatic ecosystem diversity, productivity, and stability”; or “recreational, aesthetic, and economic values”).

117. See *id.* (proscribing “[e]xcept as provided under section 404(b)(2),” any “discharge of dredged or fill material . . . which will cause or contribute to significant degradation of the waters of the United States”).

been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem”;<sup>118</sup> and (4) the proposed discharge will not violate state water quality standards, effluent standards, the Endangered Species Act or the Marine Mammal Protection Act.<sup>119</sup>

Failure to comply with § 404 permitting requirements<sup>120</sup> can result in an enforcement action brought by either the EPA or the Army Corps.<sup>121</sup> Under the Act, both agencies have the authority to impose: (1) administrative orders (“cease and desist” orders) requiring property owners to immediately suspend operations; (2) civil enforcement proceedings; or (3) criminal penalties.<sup>122</sup>

The burden of determining whether a particular piece of property falls within the Act’s jurisdiction rests with the property owner.<sup>123</sup> However, as Senator Max Baucus (D-Montana) explained, “[i]t is difficult for the public to understand the program’s requirements and, therefore, how to comply with them. . . . It is often financially or technically difficult for small landowners to take the steps, such as identification and delineations of wetlands, necessary to even apply for a § 404 permit . . . .”<sup>124</sup>

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118. *See id.* § 230.10(d) (allowing otherwise only “as provided under section 404(b)(2)”).

119. *See id.* § 230.10(b) (listing external statutory and regulatory constraints).

120. *See supra* notes 110–119 and accompanying text.

121. *See* 33 U.S.C. § 1319 (2014) (delineating state, federal, civil, and criminal enforcement of the CWA); 33 U.S.C. § 1342 (2014) (granting authority to the EPA); 33 U.S.C. § 1344 (2014) (granting authority to the Secretary of the Army acting through the Army Corps); *see also* Rapanos v. United States, 547 U.S. 715, 723 (2006) (discussing CWA grants of authority to the EPA and Army Corps); United States v. Riverside Bayview Homes, Inc., 474 U.S. 121, 135–39 (1985) (discussing the authority of the Army Corps).

122. *See* 33 U.S.C. § 1344(s) (2014) (setting forth penalties for the violation of permits); *see also supra* note 121 and accompanying text.

123. *See* 40 C.F.R. § 230.5 (2014) (establishing permitting procedures applicable to property owners who discharge otherwise prohibited substances into waters regulated by the CWA).

124. 139 CONG. REC. S9,721 (daily ed. July 28, 1993) (statement of Sen. Baucus).

To complicate matters further, the Act also assigns States concurrent authority to develop wetlands regulations.<sup>125</sup> The EPA established seven core elements that each state is encouraged to adopt in order to create a comprehensive state regulatory program: (1) state laws, regulations, and programs;<sup>126</sup> (2) monitoring and assessment;<sup>127</sup> (3) restoration programs and activities;<sup>128</sup> (4) water quality standards;<sup>129</sup> (5) public-private partnerships; (6) coordination among state and federal agencies; and (7) education and outreach activities.<sup>130</sup> Despite these

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125. See 33 U.S.C. § 1251(g) (“Federal agencies shall co-operate with state and local agencies to develop comprehensive solutions to prevent, reduce and eliminate pollution in concert with programs for managing water resources.”).

126. See *Regulation*, ENVTL. PROT. AGENCY (Sept. 12, 2013), [http://water.epa.gov/grants\\_funding/wetlands/regulation.cfm](http://water.epa.gov/grants_funding/wetlands/regulation.cfm) (“Wetlands regulatory and permit programs in general consist of a few basic elements: a jurisdictional scope, a method to authorize impacts to aquatic resources and assess proposed authorizations, and a method of assuring compliance.”) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

127. See *Monitoring and Assessment*, ENVTL. PROT. AGENCY (Sept. 10, 2013), [http://water.epa.gov/grants\\_funding/wetlands/monitoring.cfm](http://water.epa.gov/grants_funding/wetlands/monitoring.cfm) (outlining a “three-tier framework” including: (1) “landscape assessments” using “GIS data” and “landscape disturbance indices to assess wetland condition;” (2) “rapid assessments . . . [of] relatively simple metrics to assess wetland condition;” and (3) “intensive site assessments . . . of biological taxa and/or hydrogeomorphic functions”) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY CLIMATE AND THE ENVIRONMENT).

128. See *Voluntary Restoration and Protection*, ENVTL. PROT. AGENCY (Sept. 12, 2013), [http://water.epa.gov/grants\\_funding/wetlands/restoration.cfm](http://water.epa.gov/grants_funding/wetlands/restoration.cfm) (illustrating regulatory and voluntary restoration programs) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

129. See *Water Quality Standards for Wetlands*, ENVTL. PROT. AGENCY (May 1, 2013), [http://water.epa.gov/grants\\_funding/wetlands/quality.cfm](http://water.epa.gov/grants_funding/wetlands/quality.cfm) (defining water quality standards and noting “regulations at 40 CFR Parts 131 and 132 provide specific requirements for development of state and tribal standards including specifying appropriate water uses to be achieved and protected, providing appropriate criteria to support those uses, and applying anti-degradation policy . . .”) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

130. See *Wetlands: State, Tribal and Local Initiatives*, ENVTL. PROT. AGENCY (May 20, 2013), [http://water.epa.gov/type/wetlands/initiative\\_index.cfm](http://water.epa.gov/type/wetlands/initiative_index.cfm) (describing state, tribal, and local wetlands initiatives) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

guidelines, state regulatory programs vary widely.<sup>131</sup> Some states take a water-quality based approach,<sup>132</sup> some states take a habitat-focused permitting regime,<sup>133</sup> and others take a non-regulatory approach that focuses on education and outreach.<sup>134</sup>

## V. South Atlantic State Wetland Protection Programs

### A. North Carolina

North Carolina contains approximately five million acres of wetlands; two and one-half million acres fewer than it contained before the arrival of western civilization.<sup>135</sup> In order to protect remaining wetlands from further destruction,<sup>136</sup> North Carolina has adopted the Coastal Area Management Act<sup>137</sup> (“CAMA”) “to provide a management system capable of preserving and managing the natural ecological conditions of the estuarine system, the barrier dune system, and the beaches, so as to safeguard and perpetuate their natural productivity and their

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131. See ENVTL. LAW INST., STATE WETLAND PROGRAM EVALUATION: PHASE IV, 8–9 (2007), available at [http://www.eli.org/sites/default/files/eli-pubs/d17\\_17.pdf](http://www.eli.org/sites/default/files/eli-pubs/d17_17.pdf) (commenting on scope of state law program variances) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

132. See *id.* at 1 (noting that this approach results from “relying on CWA §401, which authorizes states to determine whether activities permitted by the federal government are in accordance with state water quality laws and regulations”).

133. See *id.* (noting that some states enact resource or habitat-focused regimes in addition to § 401 water quality certification).

134. See *id.* (“A multitude of reasons explain the differences we see among state wetland programs—history, geography, economics, politics, general attitudes toward aquatic resources, as well as state agency funding, resources, and enforcement activity.”).

135. See ENVTL. LAW INST., STATE WETLAND PROTECTION: STATUS, TRENDS, & MODEL APPROACHES NORTH CAROLINA 2 (2008) [hereinafter ELI: NORTH CAROLINA], available at [http://www.eli.org/sites/default/files/docs/core\\_states/North\\_Carolina.pdf](http://www.eli.org/sites/default/files/docs/core_states/North_Carolina.pdf) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

136. See *id.* (“About 34 percent of the state’s wetland areas have been impacted over the past century by rapid urban and agricultural development, with the most extensive losses occurring in the last 30 years.”).

137. N.C. GEN. STAT §§ 113A-100 to -134.3 (2014).

biological, economic and esthetic values.”<sup>138</sup> CAMA requires developers in “Areas of Environmental Concern”<sup>139</sup> to obtain a special permit from the North Carolina Department of Environment and Natural Resources’ Division of Coastal Management.<sup>140</sup> CAMA specifies that Areas of Environmental Concern include coastal wetlands<sup>141</sup> and contiguous areas necessary to protect those wetlands.<sup>142</sup>

In addition to the permitting requirements outlined under the Clean Water Act and CAMA,<sup>143</sup> North Carolina adopted the Riparian Area Buffer Rule<sup>144</sup> in 1997, which is designed to protect and maintain a 50-foot buffer around intermittent or perennial streams, lakes, ponds, or estuaries.<sup>145</sup> Under the rule, “Zone One, the inner 30 feet, is to remain undisturbed (with the exception of certain activities); and Zone Two, the outer 20 feet, must remain vegetated (with the exception of certain activities).”<sup>146</sup>

In deploying the above described programs, North Carolina relies heavily on a comprehensive mitigation program for unavoidable wetland losses.<sup>147</sup> Under this program, citizens pursuing development projects that are prohibited in the absence of mitigation activities can satisfy permitting requirements by: (1) contributing to the in-lieu fee program (the preferred method

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138. *Id.* § 113A-102.

139. *See id.* at § 113A-113(b) (defining “Areas of Environmental Concern”).

140. *See* ELI: NORTH CAROLINA, *supra* note 135, at 4 (describing the Coastal Area Management Act processes).

141. *See* N.C. GEN. STAT § 113-229(n)(3) (2014) (defining coastal wetland as “any salt marsh or other marsh subject to regular or occasional flooding by tides, including wind tides (whether or not the tidewaters reach the marshland areas through natural or artificial watercourses), provided this shall not include hurricane or tropical storm tides”).

142. *See id.* § 113A-113(b)(1) (expanding the scope of areas of environmental concern to include contiguous areas necessary to protect coastal wetlands).

143. *See supra* notes 110–119, 140–142 and accompanying text (reviewing CWA and CAMA permitting requirements respectively).

144. *See* 15A N.C. ADMIN. CODE 2B.0233 (2014) (creating a 50-foot wide riparian buffer).

145. *See* ELI: NORTH CAROLINA, *supra* note 135, at 4–5 (describing the riparian area buffer rule).

146. *Id.* at 5.

147. *See id.* at 8–10 (describing the North Carolina mitigation and restoration projects).

of program participation); (2) participating in project-specific restoration, creation, enhancement, or preservation projects; or (3) contributing to private mitigation banking<sup>148</sup> systems that comply with state standards.<sup>149</sup>

An in-lieu fee program is a compensatory mitigation system in which debits are made against a person or entity that causes natural resources to be destroyed or impaired, and credits are given where a natural resource has been deemed to be improved or preserved.<sup>150</sup> North Carolina offers four in-lieu fee (“ILF”) programs: the North Carolina Department of Transportation (“NCDOT”) Stream & Wetland ILF Program; the Statewide Stream & Wetland ILF Program; the Riparian Buffer Mitigation Program; and the Nutrient Offset Program.<sup>151</sup> The NCDOT Stream & Wetland ILF Program provides off-site compensatory wetland and stream mitigation for permitted projects undertaken by the NCDOT.<sup>152</sup> The Statewide Stream & Wetland ILF Program and the Riparian Buffer Mitigation Program entitle the Ecosystem Enhancement Program (“EEP”) to accept payments from applicants based on a set fee schedule to satisfy the mitigation requirements outlined in their permit.<sup>153</sup> Finally, the Nutrient Offset Program allows developers to “buy-

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148. See Royal C. Gardner, *Banking on Entrepreneurs: Wetlands, Mitigation Banking, and Takings*, 81 Iowa L. Rev. 527, 531 (1996) (“Mitigation banking occurs when one restores, enhances, creates, or preserves wetlands, thereby generating mitigation credits. A regulatory agency determines the amount and value of the mitigation credits, which the credit generator then may use to offset the adverse wetland impacts of its own development projects.”).

149. See ELI: NORTH CAROLINA, *supra* note 135, at 8 (describing the North Carolina mitigation and restoration projects).

150. See *EEP In-Lieu Fee Programs*, NORTH CAROLINA ECOSYSTEM ENHANCEMENT PROGRAM, <http://portal.ncdenr.org/web/eep/in-lieu-fee-programs> (last visited Jan. 21, 2014) (describing North Carolina’s in-lieu fee system) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

151. See *id.* (“EEP offers four voluntary In-Lieu Fee (ILF) mitigation programs . . . [which] offset unavoidable environmental damage from transportation-infrastructure improvements and other economic development, and help to prevent harmful pollutants from endangering water quality in sensitive river basins.”).

152. See *id.* (describing the mitigation program).

153. See *id.* (“The permit’s mitigation requirement is then transferred to EEP, which implements stream and wetland mitigation projects to satisfy the requirements.”).

down” their nutrient loading requirements by paying the EEP to take responsibility for “mitigation site construction and monitoring of buffer-restoration sites or other types of nutrient-offset projects.”<sup>154</sup>

For individuals who choose to participate in project-specific mitigation, the State notes that the mitigation efforts “should take place within the same river basin and physiographic province of the impacted wetlands, and within the same water supply watershed for some classes of waters.”<sup>155</sup> The State also encourages in-kind mitigation where practicable, unless another form of mitigation would provide greater environmental benefit.<sup>156</sup> In-kind mitigation refers to mitigation projects that create or restore the same type of wetland destroyed by the development project; for example, if a project destroys nontidal wetlands the mitigation project must work to create or restore nontidal wetlands.<sup>157</sup>

### B. South Carolina

Although estimates indicate that rates of wetland loss in South Carolina are lower than in other states, twenty-seven percent of the state’s wetlands have disappeared since the mid-1700s.<sup>158</sup> The South Carolina Department of Health and Environmental Control<sup>159</sup> (“SCDHEC”) administers South Carolina’s wetlands regulations and the Clean Water Act §§ 401

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154. *Id.*

155. ELI: NORTH CAROLINA, *supra* note 135, at 8.

156. *See id.* at 9 (explaining the regulations allowance of creation and preservation projects).

157. *See* Royal C. Gardner, *Banking on Entrepreneurs: Wetlands, Mitigation Banking, and Takings*, 81 IOWA L. REV. 527, 537 (1996) (outlining the utility of in-kind mitigation projects).

158. ENVTL. LAW INST., STATE WETLAND PROTECTION: STATUS, TRENDS, & MODEL APPROACHES SOUTH CAROLINA 1 (2008) [hereinafter ELI: SOUTH CAROLINA], *available at* [http://www.eli.org/sites/default/files/docs/core\\_states/South\\_Carolina.pdf](http://www.eli.org/sites/default/files/docs/core_states/South_Carolina.pdf) (describing wetland losses in South Carolina) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

159. *See* S.C. CODE ANN. § 44-1-20 (2013) (controlling the existence and structure of the South Carolina Department of Health and Environmental Control).

and 404 permits.<sup>160</sup> In reviewing a permit application, the issuing administrator must consider: whether the proposed activity is water-dependent; the purpose of the activity; the feasibility of alternatives to the activity; and all potential water quality impacts of the project.<sup>161</sup> Water quality impacts include the “(1) impact on existing and classified water uses; (2) physical, chemical, and biological impacts, including cumulative impacts; (3) the effect on circulation patterns and water movement; (4) the cumulative impacts of the proposed activity and reasonably foreseeable similar activities of the applicant and others.”<sup>162</sup>

The primary state legislation regulating wetlands is the Coastal Zone Management Act (“CZMA”).<sup>163</sup> The purpose of the CZMA is to “protect the quality of the coastal environment and to promote the economic and social improvement of the coastal zone and of all the people of the State.”<sup>164</sup> CZMA requires property owners to obtain a permit before utilizing or developing critical areas.<sup>165</sup> The act defines “critical areas” to include coastal waters,<sup>166</sup> tidelands,<sup>167</sup> beaches,<sup>168</sup> and the beach/dune system.<sup>169</sup>

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160. See ELI: SOUTH CAROLINA, *supra* note 158, at 4 (“Any actions that require a federal permit, license, or approval that results in a discharge into waters of the state, including § 404 individual dredge and fill permits and nationwide permits outside the coastal zone, require state water quality certification.”).

161. See S.C. CODE ANN. REGS. 61-101(F)(3)(a)–(c) (2013) (establishing the permitting process).

162. S.C. CODE ANN. REGS. 61-101(F)(3)(c) (2013).

163. S.C. CODE ANN. §§ 48-39-10 to -360 (2011).

164. See *id.* § 48-39-30(A) (noting the basic state policy in implementation of the CZMA is protection of the coastal environment and promotion of the economic and social improvement of the coastal zone).

165. See *id.* § 48-39-130 (outlining the permitting requirements of the CZMA).

166. See *id.* § 48-39-10(F) (“Coastal waters’ means the navigable waters of the United States subject to the ebb and flood of the tide and which are saline waters, shoreward to their mean high-water mark.”).

167. See *id.* § 48-39-10(G) (“Tidelands’ means all areas which are at or below mean high tide and coastal wetlands, mudflats, and similar areas that are contiguous or adjacent to coastal waters and are an integral part of the estuarine systems involved.”).

168. See *id.* § 48-39-10(H) (“Beaches’ means those lands subject to periodic inundation by tidal and wave action so that no nonlittoral vegetation is established.”).

169. See *id.* § 48-39-10(J)(4) (“[T]he area from the mean high-water mark to the setback line as determined in Section 48-39-280.”).

The Ocean and Coastal Resource Management (“OCRM”) division of the SCDHEC receives approximately 1,000 permit applications each year, only three to five percent of which are denied.<sup>170</sup> However, the OCRM frequently attaches special conditions to permits to ensure the project’s compliance with the Coastal Management Program developed by the OCRM.<sup>171</sup>

With regard to mitigation, South Carolina has failed to adopt a traditional rule-based system.<sup>172</sup> Instead, it relies on “Wetlands Mitigation Guidelines” to aid permit applicants in developing an individualized mitigation plan that must be approved by the OCRM.<sup>173</sup> Under the guidelines, applicants are permitted to choose among the three distinct mitigation options.<sup>174</sup> First, applicants can work to protect and enhance the wetland system through the creation of either inland buffers or open water buffers that serve as a bulwark against degradation of the wetland.<sup>175</sup> “[Inland] buffers are non-jurisdiction areas adjacent to wetland systems which will be left undisturbed. . . . [Open water buffers are] systems constructed adjacent to wetlands [that] can be used as buffers provided that the hydrologic regime of the wetland is not altered.”<sup>176</sup> Second, applicants may create a new wetland system by converting inland

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170. See ELI: SOUTH CAROLINA, *supra* note 158, at 3 (describing the permit approval process under the CZMA).

171. See *id.* (describing OCRM’s role in the permitting process).

172. See *id.* at 5 (“[T]he Bureau of Water follows a non-rule standard operating procedure developed by South Carolina’s Mitigation Banking Review Team (MBRT) that directs the Bureau to consider the qualities of the impact site, as well as the proposed mitigation site, to determine the proper ratio of mitigation.”).

173. See SOUTH CAROLINA DEP’T OF HEALTH AND ENVTL. CONTROL, WETLANDS MITIGATION GUIDELINES 1, *available at* [http://www.dhec.sc.gov/HomeAndEnvironment/Docs/Mitigation\\_Guidelines.pdf](http://www.dhec.sc.gov/HomeAndEnvironment/Docs/Mitigation_Guidelines.pdf) (“A mitigation plan must be submitted by the applicant and approved by DHEC OCRM for all projects which: (1) require a State CZC, and (2) impact federally defined jurisdictional freshwater wetlands in the coastal zone, unless DHEC OCRM determines that the impacts are so minimal as not to warrant mitigation.”) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

174. See *id.* at 2–5 (describing the mitigation options that applicants may choose from).

175. See *id.* at 2–3 (describing the requirements for a proposal to enhance a wetland system with buffers).

176. *Id.* at 2.

areas into new wetlands.<sup>177</sup> However, a qualified professional wetland scientist, who can assure reasonable success in the wetland's creation, must design the wetland creation plan and must take place on a suitable site (prior converted wetlands, cut-overs, agricultural lands, or very young forest stands).<sup>178</sup> Third, applicants can elect to restore a degraded wetland system on lands that were previously modified by "man-made changes in vegetation, hydrology, or soils."<sup>179</sup> Beyond these general guidelines for mitigation projects, South Carolina has not developed any formal restoration projects.<sup>180</sup>

### C. Georgia

Georgia's extensive wetland management system has left the State's 7.7 million acres of wetlands in excellent condition.<sup>181</sup> Georgia's great success in implementing a comprehensive wetland protection program is, in large part, due to the fact that the state owns the majority of coastal marshlands.<sup>182</sup>

In Georgia, the Environmental Protection Division ("EPD") of the Georgia Department of Natural Resources ("GA DNR") issues CWA permits.<sup>183</sup> The EPD reviews and approves approximately seventy to eighty applications each year,<sup>184</sup> although it often attaches specific conditions to approved

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177. See *id.* at 3–4 (describing the requirements for a proposal to create new wetlands).

178. See *id.* at 3 (outlining suitable wetland creation projects).

179. See *id.* at 4–5 (describing the requirements for a proposal to restore previously degraded wetlands).

180. See ELI: SOUTH CAROLINA, *supra* note 158, at 8 (explaining the lack of state action in wetland restoration).

181. See ENVTL. L. INST., ST. WETLAND PROTECTION: STATUS, TRENDS, & MODEL APPROACHES GEORGIA 2 (2008) [hereinafter ELI: GEORGIA], available at [http://www.eli.org/sites/default/files/docs/core\\_states/Georgia.pdf](http://www.eli.org/sites/default/files/docs/core_states/Georgia.pdf) (describing the regulatory regimes designed to protect Georgia's coastal wetlands) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

182. See *id.* (explaining that Georgia's coastal wetlands are largely publicly owned and managed).

183. See *id.* at 3 (describing the wetland development permitting process in Georgia).

184. See *id.* (stating the number of certifications issued by the EPD annually).

permits.<sup>185</sup> Past conditions have included: “the requirement of a pre-construction notification for several [nationwide permits (NWP)]; compensatory mitigation specifications; prohibition of NWPs for non-linear projects resulting in bank to bank filling, relocating, and/or culverting of more than 300 feet of stream; and the requirement that all projects must comply with Georgia’s Erosion and Sediment Control Act.”<sup>186</sup>

In deciding whether to issue a permit, the EPD must use a combination of professional judgment and thorough analysis of state law.<sup>187</sup> Additionally, under Georgia’s Federal Consistency Certification program, all federal licenses and permits issued for activities taking place in Georgia’s eleven coastal counties must be accompanied by “a statement certifying that the federally permitted or federally funded project has been designed to meet all State and local laws and that all necessary State permits have been obtained.”<sup>188</sup>

In 1970, Georgia enacted the Coastal Marshland Protection Act (“CMPA”), which established additional permitting requirements for coastal properties.<sup>189</sup> When requesting a permit, the applicant must prove to the state Coastal Marshland Protection Committee that the proposed project is not contrary to the public interest.<sup>190</sup> In considering the public interest, the committee must look to:

- (1) Whether or not unreasonably harmful obstruction to or alteration of the natural flow of navigational water within the affected area will

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185. *See id.* (“All of the project applications received by [the Environmental Protection Division] are approved for certification, although the division may apply conditions or work with permit applicants to modify projects to meet state requirements.”).

186. *Id.* at 7.

187. *See id.* at 3 (describing the EPD permitting process).

188. *See Federal Consistency*, COASTAL RES DIV. GA DEPT. OF NATURAL RES., <http://www.coastalgadnr.org/msp/fedneed> (last visited Nov. 26, 2014) (describing the purpose of a Federal Consistency Certificate) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

189. *See* GA. CODE ANN. §§ 12-5-280 to -297 (2013) (outlining permitting processes for coastal properties).

190. *See id.* § 12-5-286(h) (“It is the responsibility of the applicant to demonstrate to the committee that the proposed alteration is not contrary to the public interest and that no feasible alternative sites exist.”).

arise as a result of the proposal; (2) Whether or not unreasonably harmful or increased erosion, shoaling of channels, or stagnant areas of water will be created; and (3) Whether or not the granting of a permit and the completion of the applicant's proposal will unreasonably interfere with the conservation of fish, shrimp, oysters, crabs, clams, or other marine life, wildlife, or other resources, including but not limited to water and oxygen supply.<sup>191</sup>

Under this section of the Act, the amount of coastal wetlands to be filled must be minimal.<sup>192</sup> Furthermore, the statute identifies the following activities as presumptively against the public interest: the filling of marshlands for residential, commercial, and industrial uses; the filling of marshlands for private parking lots and private roadways; construction of dump sites and depositing of any waste materials or dredge spoil; construction of structures which constitute an obstruction of view to adjoining riparian landowners, including signs and enclosures.<sup>193</sup> Because of these statutory constraints, less than fifty permits are granted each year and usually relate only to minor construction projects.<sup>194</sup>

In addition to these statutory restrictions, Georgia maintains strict regulations for inland components of developments.<sup>195</sup> These regulations require that permit applicants clearly delineate a boundary for their development project so that the Coastal Marshlands Protection Committee can

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191. *Id.* § 12-5-286(g).

192. *See id.* § 12-5-288(b) (“The amount of marshlands to be altered must be minimum in size.”).

193. *See id.* § 12-5-288(b) (listing activities and structures that are considered contrary to the public interest of Georgia when located in coastal marshlands).

194. *See* ELI: GEORGIA, *supra* note 181, at 4 (noting that the only permits that are approved are related to the building of docks or minor construction activities).

195. *See* GA. COMP. R. & REGS. 391-2-3.02 (2013) (“This Chapter establishes procedures and criteria to be applied by the Coastal Marshlands Protection Committee when reviewing applications for a permit to remove, fill, dredge, drain, or otherwise alter any marshlands or construct or locate any structure on or over marshlands within the estuarine area of the state.”).

verify the extent of the impact that the project will have.<sup>196</sup> The regulations also establish a fifty-foot horizontal buffer from the “coastal marshland-upland interface . . . so as to ensure the project does not result in the filling or other alteration of the coastal marshlands.”<sup>197</sup> Additionally, applicants must certify that they will comply with all soil and erosion responsibilities, which include storm water management measures, impervious surface coverage standards, and marshlands buffer design and maintenance measures.<sup>198</sup>

Finally, although the State has not adopted formal legislation or regulations regarding wetlands mitigation, the Georgia Department of Natural Resources has established guidelines for mitigation requirements and the Army Corps has partnered with the Georgia Land Trust Service Center to create an in-lieu-fee program for § 404 permit applicants.<sup>199</sup>

#### *D. Florida*

By the mid-1970s, nearly half of Florida’s wetlands were destroyed.<sup>200</sup> In order to combat this erosion, the state enacted a comprehensive wetland protection program, which includes the Environmental Resource Permit (“ERP”) program established under the Florida Environmental Reorganization Act of 1993,<sup>201</sup> the Dennis L. Jones Beach and Shore Preservation Act,<sup>202</sup>

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196. See *id.* at 391-2-3.02(3) (describing the procedure for determining project boundaries).

197. *Id.* at 391-2-3.02(4)(a).

198. See *id.* at 391-2-3-.02(4)(b) (delineating the soil and erosion control responsibilities of applicants).

199. See ELI: GEORGIA, *supra* note 181, at 8 (“The Georgia Wetlands Trust Fund will be funded by payments from permit applicants for the costs associated with purchasing, managing, and preserving wetlands required for mitigation under the §404 permit application process.”).

200. ENVTL. LAW INST., ST.STATE WETLAND PROTECTION: STATUS, TRENDS, & MODEL APPROACHES FLORIDA 2 (2008) [hereinafter ELI: FLORIDA], available at [http://www.eli.org/sites/default/files/docs/core\\_states/Florida.pdf](http://www.eli.org/sites/default/files/docs/core_states/Florida.pdf) (“Historically, the State of Florida contained an estimated 20 million acres of diverse wetland types. However, by the mid-1970s, Florida’s wetlands had decreased to approximately 11 million acres, about 31 percent of the state’s surface area.”) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

201. See FLA. STAT. §§ 403.801–.8163 (2014).

202. See FLA. STAT. §§ 161.011–.242, .25–.45 (2014).

Florida's Coastal Zone Protection Act,<sup>203</sup> and a comprehensive land acquisition program.<sup>204</sup>

The Environmental Reorganization Act operates to increase efficiency and effectiveness of governmental regulation by delegating permitting functions related to water quality to the water management districts.<sup>205</sup> The statute delegates the administration of the ERP program to the Florida Department of Environmental Protection ("FLDEP"), the water management districts, and local governments, who divide implementation responsibilities according to Operating Agreements.<sup>206</sup> When reviewing permit applications, the FLDEP and water management districts consider the following criteria: "avoidance and minimization of any potential adverse impacts; verification of compliance with surface and groundwater quality standards; consideration of direct, secondary, and cumulative impacts to water resources, and, for activities located in wetlands and other surface waters, confirmation that the project is not contrary to the public interest."<sup>207</sup>

The Beach and Shore Preservation Act requires a coordinated review of coastal construction projects by the Bureau of Beaches and Coastal Systems.<sup>208</sup> In reviewing permit applications, the bureau must consider the engineering data concerning shoreline topography and stability; the design features of the proposed structures; and the potential effects of the location of such structures.<sup>209</sup>

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203. See FLA. STAT. § 161.52–58 (2014).

204. See ELI: FLORIDA, *supra* note 200, at 3 ("Florida has established a comprehensive regulatory program designed to achieve the programmatic and project-permitting goal of no net loss in wetland or other surface water functions.").

205. See FLA. STAT. § 403.802 (2014) (delegating permitting responsibility to the water management district).

206. See FLA. ADMIN. CODE ANN. r. 62-330, 62-341, 62-343, 40B-4, 40B-400, 40C-4, 40C-41, 40D-4, 40D-40, 40D-400, 40E-4, 40E-41 (establishing operating agreements that govern implementation responsibilities).

207. See ELI: FLORIDA, *supra* note 200, at 4 (describing the FLDEP and WMD step-by-step methodology in reviewing ERPs and wetland resource permit applications).

208. See *id.* at 6 (reviewing the Beach and Shore Preservation Act requirements); see also FLA. STAT. §§ 161.011–161.242 (2014).

209. See FLA. STAT. §§ 161.041(2)(a)–(c) (2014) (describing "[a]dequate engineering data concerning inlet and shoreline stability and storm tides related to shoreline topography").

Florida's Coastal Zone Protection Act addresses "the most sensitive portion of the coastal area" by implementing "strict construction standards in order to minimize damage to the natural environment, private property, and life."<sup>210</sup> The act states that minor structures and non-habitable major structures built within the coastal building zone<sup>211</sup> must "be designed to produce the minimum adverse impact on the beach and the dune system."<sup>212</sup> Furthermore, these structures must "be located a sufficient distance landward of the beach to permit natural shoreline fluctuations and to preserve dune stability."<sup>213</sup>

Finally, in the Florida Coastal Management Act, the Florida State Legislature recognized land acquisition as an important part of wetland preservation efforts.<sup>214</sup> Notably, they explained that "[r]emoving coastal properties from the pool of developable acreage reduces the adverse land use and environmental impacts the state coastal zone management program is attempting to eliminate or diminish, while at the same time minimizing public expenditures and reducing risk to life and property in storm-prone coastal areas."<sup>215</sup> The primary vehicle for accomplishing the goal of land acquisition and management in the state is the Florida Forever program, which dedicates \$300 million each year to land acquisition and restoration.<sup>216</sup>

## VI. Regulatory Takings

Because the right to improve property is a fundamental property right, the above described development regulations give rise to claims of taking by regulation when they direct the states to deny development permits or condition permit approval on

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210. FLA. STAT. § 161.53(5) (2014).

211. See FLA. STAT. § 161.54(1) (2014) (defining the coastal building zone).

212. FLA. STAT. § 161.55(1)–(2) (2014).

213. FLA. STAT. § 161.55(3) (2014).

214. See FLA. STAT. § 380.21(4) (2014) ("The Legislature recognizes that land acquisition has great potential to support the state's coastal management and regulatory efforts.").

215. *Id.* § 380.21(4).

216. See ELI: FLORIDA, *supra* note 200200, at 14 (describing the Florida Forever program).

owner-undertaken action.<sup>217</sup> The Fifth Amendment provides that “private property [shall not] be taken for public use, without just compensation.”<sup>218</sup> The Fourteenth Amendment extends this obligation to the states.<sup>219</sup> The most obvious application of this right is in the context of eminent domain; however, the amendments have been interpreted to include non-physical takings of property.<sup>220</sup> In *Pennsylvania Coal Co. v. Mahon*,<sup>221</sup> Justice Holmes explained that “while property may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking.”<sup>222</sup> Holmes reasoned that extensive regulatory action constitutes a taking because it prohibits the property owner from realizing the full economic value of his/her property.<sup>223</sup>

Although the Supreme Court has struggled to articulate a clear delineating line between the protection of private property rights and the government’s interest in regulating land use, it set forth an ad hoc, factual inquiry test in the landmark case *Penn Central Transportation Co. v. City of New York*.<sup>224</sup> The three part test requires the Court to consider: (1) the extent of the economic impact of the regulation on the claimant; (2) the extent to which the regulation has interfered with distinct investment-backed expectations of the property owner; and (3) the nature and character of the governmental action.<sup>225</sup>

The most prominent cases demonstrating the application of the takings clause to conditional land use permitting are

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217. See *infra* notes 226–243 (describing application of the takings clause to conditional land use permitting).

218. U.S. CONST. amend. V.

219. See U.S. CONST. amend. XIV, § 1 (“... [N]or shall any State deprive any person of life, liberty, or property, without due process of law . . .”).

220. See DARREN BOTELLO-SAMSON, REGULATORY TAKINGS AND THE ENVIRONMENT 37 (Melvin I. Urofsky ed., 2010) (explaining that non-physical takings occur “where regulations leave property in the hands of the owner but remove either economic value or particular instances of property rights”).

221. 260 U.S. 393 (1922).

222. *Id.* at 415.

223. See *id.* at 414 (“To make it commercially impracticable to mine certain coal has very nearly the same effect for constitutional purposes as appropriating or destroying it.”).

224. See 438 U.S. 104, 138 (1978) (holding that the New York City’s Landmarks Law did not effect a taking of the appellants’ property).

225. See *id.* at 124 (establishing the ad hoc test for determining when a taking has occurred).

*Nollan v. California Coastal Commission*,<sup>226</sup> *Dolan v. City of Tigard*,<sup>227</sup> and *Koontz v. St. Johns River Water Mgmt. Dist.*<sup>228</sup> Although the Court has not explained how much weight to give each factor in the *Penn Central* test,<sup>229</sup> in each of these cases the Court has proven to be less deferential to the policy decisions of state legislators, and increasingly protective of economic freedom.<sup>230</sup>

In *Nollan v. California Coastal Commission*, the California Coastal Commission required property owners to provide a lateral easement across their property as a condition of approval for a rebuilding permit.<sup>231</sup> The Court ruled that, in order for a conditional permitting requirement to survive a takings claim, there must be an essential nexus between the legitimate state interest and the permit condition exacted from the property owner.<sup>232</sup> The Court went on to hold that the state could not condition the building permit at issue on the granting of a public easement because the state's interest in providing the public with ocean views was not furthered by the easement, and the easement standing alone would constitute an unconstitutional taking.<sup>233</sup>

In implementing the “essential nexus” test, the Court originally looked merely to the rational basis standard to evaluate the relationship between the condition and the state interest.<sup>234</sup> However, in *Dolan v. City of Tigard*, the Court expanded upon *Nollan*'s essential nexus test, by requiring a

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226. 483 U.S. 825 (1987).

227. 512 U.S. 374 (1994).

228. 133 S. Ct. 2586 (2013).

229. See BOTELLO-SAMSON, *supra* note 220, at 39–40 (describing the repercussions of the ad hoc Penn Central test).

230. See *id.* at 41–42 (describing a doctrinal shift in the courts reasoning).

231. See *Nollan*, 483 U.S. at 828 (outlining the facts of the case).

232. See *id.* at 837 (“When that essential nexus is eliminated, the situation becomes the same as if California law forbade shouting fire in a crowded theater, but granted dispensations to those willing to contribute \$100 to the state treasury.”).

233. See *id.* at 838–41 (“It is quite impossible to understand how a requirement that people already on the public beaches be able to walk across the Nollans’ property reduces any obstacles to viewing the beach created by the new house.”).

234. See BOTELLO-SAMSON *supra* note 220, at 42 (describing the historical application of *Nollan v. California Coastal Commission*).

rough proportionality between the exaction sought and the public purpose being promoted.<sup>235</sup> Writing for the Court, Chief Justice Rehnquist explained, “no precise mathematical calculation is required, but the city must make some sort of individualized determination that the required dedication is related both in nature and extent to the impact of the proposed development.”<sup>236</sup>

The Court found that the exaction of a recreational easement, which was intended to increase the floodplain adjacent to the property, did not have an essential nexus to the construction project, because the proposed development did not encroach upon existing greenway space.<sup>237</sup> The Court found that the exaction of an easement for a pedestrian pathway did meet the essential nexus test, because the state had a legitimate interest in decreasing traffic congestion and the pedestrian pathway promoted that goal.<sup>238</sup> However, the exaction failed the rough proportionality test, because the city did not demonstrate that the additional traffic that would be generated by the proposed development was reasonably related in scope to the required easement.<sup>239</sup> In reaching this conclusion, Chief Justice Rehnquist explained “[t]he findings of fact that the bicycle pathway system ‘*could* offset some of the traffic demand’ is a far cry from a finding that the bicycle pathway system *will*, or is *likely to*, offset some of the traffic demand.”<sup>240</sup>

In *Koontz v. St. Johns River Water Mgmt. Dist.*, Coy A. Koontz brought suit to challenge the water management district’s

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235. See *Dolan v. City of Tigard*, 512 U.S. 374, 391 (1994) (“We think a term such as ‘rough proportionality’ best encapsulates what we hold to be the requirement of the Fifth Amendment.”).

236. *Id.* at 391.

237. See *id.* at 394–95 (“We conclude that the findings upon which the city relies do not show the required reasonable relationship between the floodplain easement and the petitioner’s proposed new building.”).

238. See *id.* at 395 (“With respect to the pedestrian/bicycle pathway, we have no doubt that the city was correct in finding that the larger retail sales facility proposed by petitioner will increase traffic on the streets of the Central Business District.”).

239. See *id.* (“[O]n the record before us, the city has not met its burden of demonstrating that the additional number of vehicle and bicycle trips generated by petitioner’s development reasonably relate to the city’s requirement for a dedication of the pedestrian/bicycle pathway easement.”).

240. See *id.* (quoting *Dolan v. City of Tigard*, 854 P.2d 437, 447 (Or. 1993) (Peterson, J., dissenting)).

conditional permit approval for his development project.<sup>241</sup> To satisfy the conditions of the permit approval, Koontz could either “reduce the size of his development to 1 acre and deed to the District a conservation easement on the remaining 13.9 acres. . . . [or] he could proceed with the development as proposed . . . if he also agreed to hire contractors to make improvements to District-owned land several miles away.”<sup>242</sup> The Supreme Court held that the nexus and proportionality requirements of *Nollan* and *Dolan* apply to the monetary exaction at issue in the second condition and remanded the case for further consideration.<sup>243</sup>

On the one hand, this decision seems reasonable; property owners should only have to pay for mitigation projects to the extent that their development project causes wetland degradation.<sup>244</sup> In fact, a literal reading of the nexus and proportionality requirements could be used to further effective wetlands protection programs.<sup>245</sup> As mentioned earlier, the essential nexus and rough proportionality tests require that the exaction be “related both in nature and extent to the impact of the proposed development.”<sup>246</sup> A literal reading of this text implies that the monetary exactions must be used for in-kind mitigation (a project to replenish the same type of wetland that is being destroyed by the permitted development).<sup>247</sup> This interpretation could be incredibly beneficial for coastal protection, because it would ensure the maintenance of diverse types of wetlands, each of which plays a unique role in preventing ecosystem degradation.<sup>248</sup> North Carolina already has recognized

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241. See *Koontz v. St. Johns River Water Mgmt. Dist.*, 133 S. Ct. 2586, 2591 (2013) (outlining the facts of the case).

242. *Id.* at 2592–93.

243. See *id.* at 2595 (“Under *Nollan* and *Dolan* the government may choose whether and how a permit applicant is required to mitigate the impacts of a proposed development, but it may not leverage its legitimate interest in mitigation to pursue governmental ends that lack an essential nexus and rough proportionality to those impacts.”).

244. See *Dolan*, 512 U.S. at 384 (“One of the principal purposes of the Takings Clause is ‘to bar 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.’” (quoting *Armstrong v. United States*, 364 U.S. 40, 49 (1960))).

245. See *infra* text accompanying notes 248–249.

246. *Dolan*, 512 U.S. at 391.

247. See *supra* note 236 and accompanying text.

248. See *supra* note 40 and accompanying text.

the superiority of an in-kind mitigation system, and has incorporated in-kind mitigation into its wetlands protection program.<sup>249</sup>

On the other hand, the *Koontz* decision will have far reaching effects on the regulatory regimes established in the South Atlantic States.<sup>250</sup> The potential for regulatory takings liability has a distinct chilling effect on governmental regulation of real property.<sup>251</sup> As Justice Kagan warned in her dissenting opinion, this decision will likely discourage state authorities from discussing or negotiating conditional permitting options for fear of crushing litigation costs.<sup>252</sup> Therefore, the case may severely restrict the government's ability to condition permit approvals on mitigation projects, thus undermining one of the key components of the state regulatory programs in North Carolina, Georgia, and Florida.<sup>253</sup>

Additionally, the *Koontz* holding presents the practical difficulty of calculating a mitigation fee that is roughly proportional to the harm caused by the development project.<sup>254</sup> It is nearly impossible to accurately account for the peripheral costs caused by the destruction of wetlands in areas that are crucial to coastal protection.<sup>255</sup> These peripheral costs include state funding

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249. See *supra* notes 147–148 and accompanying text.

250. See *supra* Part V. (describing existing mitigation programs).

251. See 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 & ENVTL. L. 395, 432 (2011).

252. See *Koontz v. St. John's River Mgmt. Dist.*, 133 S.Ct. 2586, 2611 (2013) (Kagan, J., dissenting) (citing *St. John's River Mgmt. Dist. v. Koontz*, 77 So.3d 1220, 1231 (Fla. 2011)) (discussing the options of a District's attorney when a permit does not satisfy legal requirements).

253. See *supra* Part V (describing the current state regulatory programs).

254. See John D. Echeverria, *A Legal Blow to Sustainable Development*, N.Y. TIMES (June 26, 2013), [http://www.nytimes.com/2013/06/27/opinion/a-legal-blow-to-sustainable-development.html?\\_r=1&](http://www.nytimes.com/2013/06/27/opinion/a-legal-blow-to-sustainable-development.html?_r=1&) (explaining that the courts will no longer defer to the local government to determine proportionality, instead allowing developers to challenge the mitigation fees) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

255. See Carys A. Arvidson, *Koontz v. St. Johns River Water Management District: Will It Impact Mitigation Conditions in § 404 Permits?*, 44 ENVTL. L. REP. NEWS & ANALYSIS 10886, 10895 (2014) (describing the variation of mitigation credits and in-lieu fees between states and between different types of wetlands).

for emergency response programs, and the additional burden on governmental assistance funds caused by the intensification of poverty associated with coastal storms.<sup>256</sup>

### VII. *Public Necessity Defense*

In order to combat the negative implications of the *Koontz* decision, and to adequately protect the rights of poor, minority individuals, courts should extend the application of the public necessity defense to the context of regulatory takings where the state can show that the destruction of coastal wetlands will expose vulnerable communities to harm from hurricanes and sea level rise.<sup>257</sup>

#### A. *Elements of the Defense and Traditional Applications*

The public necessity defense is a common law defense, which provides that private property rights are subjugated by public need in times of imminent peril to the public at large.<sup>258</sup> Although the defense applies in several varying contexts, including as a defense to temporary trespass, this Note focuses on the doctrine's application to cases of destruction of property.<sup>259</sup> As Prosser and Keeton explained in their famous treatise, *Prosser and Keeton on Torts*, “[w]here the danger affects the entire community, or so many people that the public interest is involved, that interest serves as a complete justification to the defendant who acts to avert the peril to all.”<sup>260</sup> The peril to be averted in these cases may either be the danger of destruction of property, or the danger of losing life, health, or limb.<sup>261</sup>

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256. See *supra* Part III (describing the needs of at risk communities and the importance of governmental emergency response programs).

257. See *infra* Part VII.B (arguing that the cases involving wetland regulation are analogous to the traditional applications of the defense).

258. See *infra* Part VII.B at 42 (explaining the utility of the doctrine of public necessity in insulating state and local coastal regulation from landowner claims of regulatory takings).

259. See *infra* notes 266–307 and accompanying text.

260. PROSSER & KEETON, *THE LAW OF TORTS* § 24 (5th ed. 1984).

261. See John Alan Cohan, *Private and Public Necessity and the Violation of Property Rights*, 83 N.D. L. REV. 651, 690 (2007) (describing the situations in which the public necessity defense may be invoked).

In order for the public necessity defense to apply as a complete justification for the destruction of property, the actor must reasonably believe that their action is necessary to avert an imminent public disaster.<sup>262</sup> This can be separated into two basic elements: (1) the disaster must generally be imminent or impending,<sup>263</sup> and (2) the actions must be reasonably necessary to accomplish the goal of averting the disaster.<sup>264</sup>

### *1. Cases of Fire, Flood and Contagious Disease*

Cases addressing the state's response to fire, flood, and contagious disease demonstrate the most conventional applications of the public necessity defense.<sup>265</sup> In fact, many jurists regard the right to destroy property to prevent the spread of fire as one of the highest laws of necessity, and a basic human right.<sup>266</sup> In *Surroco v. Geary*, the city demolished a house and store in order to prevent the spread of fire in San Francisco.<sup>267</sup> The damage was assessed at \$65,000 and the plaintiffs brought suit for recovery under the Fifth Amendment.<sup>268</sup> Evidence presented at trial showed that the building would have been destroyed by the fire had it not been destroyed by the city.<sup>269</sup> However, plaintiff argued that he would have been able to remove more, if not all, of his goods and possessions from the

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262. See RESTATEMENT (SECOND) OF TORTS § 196 (1965).

263. See *id.* at cmt. a (“It is essential therefore that the entry be made in order to protect against or repel a public enemy, or to prevent or mitigate the effects of an impending public disaster such as a conflagration, flood, earthquake, or pestilence.”).

264. See *id.* and accompanying text.

265. See *Cohan supra* note 261, at 719–28 (reviewing the cases involving the public necessity defense cited by the Restatement (Second) of Torts).

266. See *Surroco v. Geary*, 3 Cal. 69, 73 (1853) (“The right to destroy property, to prevent the spread of a conflagration, has been traced to the highest law of necessity, and the natural rights of man, independent of society or civil government.”).

267. See *id.* at 70 (explaining the circumstances leading to the taking).

268. See *id.* (describing the nature of the plaintiff's loss).

269. See *id.* (“The proof was, however, that the fire in a very few minutes reached the site of the building, and extended beyond it, and that its destruction would have been certain if it had not been blown up.”).

building had it not been destroyed prematurely.<sup>270</sup> The court found for the city and denied recovery on the theory that destroying the property was necessary to protect the public.<sup>271</sup> In deciding the case, Chief Justice Murray of the Supreme Court of California noted:

A house on fire, or those in its immediate vicinity, which serve to communicate the flames, becomes a nuisance, which it is lawful to abate, and the private rights of the individual yield to the considerations of general convenience, and the interests of society. Were it otherwise, one stubborn person might involve a whole city in ruin, by refusing to allow the destruction of a building which would cut off the flames and check the progress of the fire, and that, too, when it was perfectly evident that his building must be consumed.<sup>272</sup>

In *Newcomb v. Tisdale*,<sup>273</sup> the Supreme Court of California considered whether cutting a levee for the prevention of downstream flooding was justified as a necessary means to save life and property.<sup>274</sup> The case arose when defendants destroyed a levee that was blocking a natural outlet of the Sacramento River.<sup>275</sup> This action flooded plaintiff's property and destroyed plaintiff's crops.<sup>276</sup> Defendants argued that the destruction of the levee was necessary to prevent flooding that would wash houses away and endanger lives throughout the county.<sup>277</sup>

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270. See *id.* at 69–70 (presenting the plaintiff's argument).

271. See *id.* at 69 (“The plaintiff cannot recover for the value of the goods in the house which he might have saved—these are equally liable to the necessities of the occasion with the house in which they are placed.”).

272. *Id.* at 73.

273. 62 Cal. 575 (1881).

274. See *id.* at 575–76 (“In this action, which was brought to recover damages for the destruction of crops, etc., caused by defendants cutting a levee or embankment across Wilkin's Slough, the defendants justified under an urgent necessity to save life and property from destruction.”).

275. See *id.* (explaining the circumstances of the taking).

276. See *id.* (describing the loss suffered by the plaintiff).

277. See *id.* at 576–77 (Myrick, J., dissenting) (outlining the defendant's argument).

In the lower court, the judge instructed the jury that if the levee was constructed on the plaintiff's property pursuant to the county code, "then the defendants had no right to cut the levee without the consent of the owners thereof, and if they did so cut it, their act was an unlawful act, for which they were responsible in damages for any injury sustained by plaintiffs."<sup>278</sup> This instruction had the effect of denying the defendants the benefit of the public necessity defense, and was therefore given in error.<sup>279</sup> The Supreme Court of California reversed the decision for further consideration of the defense, suggesting that if the levee was cut to prevent grave public injury, the defendants would not be held liable for damage that occurred to the plaintiff's property.<sup>280</sup>

*Seavy v. Preble*<sup>281</sup> demonstrates the application of the doctrine in the context of destruction of property to prevent the spread of infectious disease.<sup>282</sup> The case involved the destruction of wallpaper in the home of a person infected by small pox.<sup>283</sup> The court found that the city physician was justified in removing the wallpaper in the plaintiff's home and that he was not liable for damages.<sup>284</sup> In the opinion of the court, Justice Thornton justified the application of the defense by explaining:

Where the public health and human life are concerned the law requires the highest degree of care. It will not allow of experiments to see if a less degree of care will not answer. The keeper of a furious dog or a mad bull is not allowed to let them go at large to see whether they will bite or gore the neighbor's children. . . . In all cases of doubt the

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278. *Id.* at 576.

279. *See id.* ("This instruction took from the jury the defense set up, and in effect directed them to disregard it.")

280. *See id.* at 576 ("For this error, the judgment and order are reversed, and cause remanded for a new trial.")

281. 64 Me. 120 (1874).

282. *See id.* at 121 ("When the small-pox or any other contagious disease exists in any town or city the law demands the utmost vigilance to prevent its spread.")

283. *See id.* at 123 (explaining the taking at issue).

284. *See id.* ("Under these circumstances we think he was justified in advising the removal of the paper from the walls of the rooms in which the small-pox patients had been confined, and that the law protected him in so doing.")

safest course should be pursued remembering that it is infinitely better to do too much than run the risk of doing too little.<sup>285</sup>

## 2. *Mad Dog Case*

Although the Restatement and the cases above emphasize imminence as a prerequisite for application of the defense, some courts and commentators have suggested that “necessity” alone can satisfy the requirements of the doctrine.<sup>286</sup> In illustrating this point, the Supreme Court of South Dakota explained: “[t]he right to destroy under such circumstances [of disaster] is a natural right which springs from the Necessity of the case.”<sup>287</sup> Similarly, in *Hale v. Lawrence*,<sup>288</sup> the Court of Errors and Appeals of New Jersey explained: “[t]he right to take or destroy private property, by an individual in self defen[s]e, or for the protection of life, liberty, or property . . . is a natural right . . . founded upon necessity and not expediency. It may be exercised by . . . a community of individuals, in defen[s]e of their common safety. . . .”<sup>289</sup>

*Putnam v. Payne*,<sup>290</sup> a case about a dangerous dog that came before the Supreme Court of New York in 1812, illustrates the focus on necessity rather than a strict imminence requirement.<sup>291</sup> In *Putnam*, after public alarm regarding mad dogs was communicated to public officials, the town of Lansingburgh passed an ordinance authorizing the killing of dogs found unleashed and unaccompanied in the town.<sup>292</sup> The plaintiff’s dog was notoriously vicious and a “mad” dog had

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285. *Id.* at 121–22.

286. *See* Craig, *supra* note 251, at 420 (discussing the degree of necessity required to justify regulatory taking).

289. *Rapid City v. Boland*, 271 N.W.2d 60, 66 (S.D. 1978) (quoting 1 NICHOLS, EMINENT DOMAIN § 1.43(2)).

288. 21 N.J.L. 714 (1848).

289. *Id.* at 729.

290. 13 Johns. 312 (N.Y. 1812).

291. *See id.* at 312 (“Any person is justified in killing a ferocious and dangerous dog, which is permitted to run at large by its owner, or escapes through negligent keeping, the owner having notice of its vicious disposition.”).

292. *See id.* (describing the by-law passed requiring the restraint of dogs).

allegedly bitten him.<sup>293</sup> The defendant found the plaintiffs' dog running alone in the street and shot him dead.<sup>294</sup> The plaintiff brought suit for damages for the destruction of his property against the defendant.<sup>295</sup> Despite the uncertainty regarding if or when the dog might attack a person, the court found for the defendant because of the potential risk that the loose dog posed to the community.<sup>296</sup> The court held that: "Any person is justified in killing a ferocious and dangerous dog, which is permitted to run at large by its owner, or escapes through negligent keeping, the owner having notice of its vicious disposition. Any person is justified in killing a *dog* which has been bitten by another mad animal."<sup>297</sup>

### 3. Cases of Military Necessity

As in the case of the mad dog, courts overlook the incompatibility between a strict imminence requirement and the uncertainty surrounding the occurrence of an attack, in cases of abeyance of a common enemy in the context of military operations.<sup>298</sup> In these cases, the Court focuses on the necessity of using the destruction of private property as a preemptive tactic to avoid public harm.<sup>299</sup> The Restatement (Second) of Torts notes that the privilege of the public necessity defense attaches to anyone who violates property rights in order to "protect against or repel a public enemy."<sup>300</sup>

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293. See *id.* (explaining that the plaintiff knew that his dog had previously attacked passersby, but failed to keep him adequately contained).

294. See *id.* (stating the defendant found the plaintiff's dog wandering the streets while he was on a mission to kill the mad dog which had previously bitten the plaintiff's dog).

295. See *id.* (explaining that the lower court had found for the plaintiff).

296. See *id.* (describing the dog as dangerous and unruly).

297. *Id.*

298. See Cohan *supra* note 261, at 694–718 (describing cases in which military necessity has prevailed over private property rights).

299. SEE RESTATEMENT (SECOND) OF TORTS § 196 (1965) ("A privilege similar to that stated in this Section has been recognized in older cases, where members of the military forces have acted to occupy, remove, or destroy property for the purpose of protection against a public enemy.").

300. See *id.* (noting when the public necessity defense attaches).

In *United States v. Caltex*,<sup>301</sup> the Court held that the demolition of an oil companies' terminal facilities in Manila for the purpose of preventing the enemy from using the facilities as a strategic stronghold from which to wage war did not constitute a compensable taking.<sup>302</sup> Justice Vinson noted that the common law defense allows "the sovereign, with immunity, [to] destroy the property of a few [so] that the property of many and the lives of many more could be saved."<sup>303</sup>

The Court also addressed the application of the public necessity defense in the context of fending off a common enemy in *United States v. Pacific Railroad Company*.<sup>304</sup> Here, the Court found that the destruction of bridges during the Civil War did not constitute a compensable taking where the bridges were destroyed by the Northern Army for the purpose of impeding the advancement of the Confederate Army.<sup>305</sup> Justice Field explained that "destruction or injury of private property in battle, or in the bombardment of cities and towns . . . had to be borne by the sufferers alone. . . . The safety of the state in such cases overrides all considerations of private loss."<sup>306</sup>

### *B. Application to Regulatory Takings Cases Involving Wetlands Protection*

Although the public necessity defense is typically conceived of as a tort defense, the Court in *Lucas v. South Carolina Coastal Council* endorsed the use of the doctrine as a defense to constitutional takings claims.<sup>307</sup> Justice Scalia

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301. 344 U.S. 149 (1952).

302. *See id.* at 156 ("[T]he court below erred in holding that respondents have a constitutional right to compensation on the claims presented to this Court.").

303. *See id.* at 154 (describing situations, such as war, when government taking is justified).

304. 120 U.S. 227 (1887).

305. *See id.* at 239 ("[T]he government cannot be charged for injuries to, or destruction of, private property caused by military operations of armies in the field, or measures taken for their safety and efficiency . . .").

306. *Id.* at 234.

307. *See Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, 1029 n.16 (1992) (quoting *Bowditch v. Boston*, 101 U.S. 16, 18–19 (1880)) (giving an example of the use of public necessity as a defense to a taking); *see also infra* notes 310311. (justifying state taking of land under necessary circumstances).

explained that confiscatory regulations can be imposed without compensation if the limitations that they impose on property use can be found in “the restrictions that background principles of the State’s law of property and nuisance already place upon land ownership.”<sup>308</sup> In footnote sixteen, Justice Scalia expounded “[t]he principal ‘otherwise’ that we have in mind is litigation absolving the State . . . of liability for the destruction of ‘real and 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.”<sup>309</sup>

In outlining the application of property and nuisance principles to regulatory takings claims, Justice Scalia explained that the owner of a lakebed would not be entitled to compensation if he were denied a permit to engage in landfilling operations that would result in the flooding of neighboring lands.<sup>310</sup> Justice Scalia also noted that the owner of a nuclear power plant would not be entitled to compensation if (s)he were required “to remove all improvements from [his/her] land upon discovery that the plant sits astride an earthquake fault.”<sup>311</sup> Although the regulations at issue in these examples may have the effect of permanently eliminating the land’s only economically productive use, the owners are not entitled to compensation because the newly proscribed activities had always violated the background principles of state nuisance and property law.<sup>312</sup>

Given the underlying principles supporting application of the public necessity defense and the public hazards that the defense is intended to remedy, the defense should be extended to

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308. See *Lucas*, 505 U.S. at 1029 (1992) (“A law or decree with such an effect must, in other words, do no more than duplicate the result that could have been reached in the courts . . .”).

309. See *id.* at 1029 n.16 (quoting *Bowditch v. Boston*, 101 U.S. 16, 18–19 (1880)).

310. See *Lucas*, 505 U.S. at 1029 (providing examples of how the background principles of property and nuisance law apply in to regulatory takings claims).

311. See *id.* (giving further examples of situations where individuals are not entitled to compensation).

312. See *id.* at 1030 (“The use of these properties for what are now expressly prohibited purposes was *always* unlawful, and (subject to other constitutional limitations) it was open to the State at any point to make the implication of those background principles of nuisance and property law explicit.”).

cases of regulatory takings where the underlying exaction was designed to prevent coastal erosion.<sup>313</sup> As with fires, floods, and infectious diseases, coastal storms present extraordinary risks to human health and public safety.<sup>314</sup> The death toll in coastal storms is significant: Hurricane Katrina killed over 1,800 people and Hurricane Sandy killed 132 people.<sup>315</sup> While blunt force trauma during the storms caused many of these deaths, post-disaster infectious diseases pose an additional threat to public health and safety.<sup>316</sup> Displaced persons living in overcrowded shelters with poor water and sanitation conditions, poor nutritional status, and insufficient personal hygiene are susceptible to surges in infectious diseases.<sup>317</sup>

Coastal storm damage also results in severe property and economic losses.<sup>318</sup> Hurricane Katrina damaged 1.2 million housing units and displaced over 1 million people.<sup>319</sup> Months after the storm, nearly 600,000 families remained homeless.<sup>320</sup> Hurricane Sandy destroyed nearly 380,000 buildings and housing units.<sup>321</sup> The total economic damage caused by Hurricanes

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313. See *supra* notes 272, 282, 285, 303, 306 and accompanying text.

314. See generally Isidore Koffi Kouadio et al., *Infectious Diseases Following Natural Disasters: Prevention and Control Measures*, 10 EXPERT REV. ANTI. INFECT. THER. 95, (2012), available at <http://i.unu.edu/media/unu.edu/publication/20293/koffis-publication-2012.pdf> (describing health and safety concerns in the aftermath of natural disasters) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

315. See Newman, *supra* note 3 (comparing the impacts of Hurricanes Katrina and Sandy).

316. See Kouadio *supra* note 314, at 97–99 (explaining causes of death and infectious disease during and after natural disasters).

317. See *id.* at 96–97. (describing the challenges faced by persons displaced after natural disasters).

318. See Newman *supra* note 3 (comparing damage statistics for Hurricanes Katrina and Sandy).

319. See *id.* at 1 (estimating housing damage caused by Hurricane Katrina).

320. See *id.* at 2 (estimating displacement from Hurricane Katrina).

321. See *id.* (explaining that 305,000 housing units were damaged or destroyed in New York, 72,000 were damaged in New Jersey, and 3,000 were damaged in Connecticut).

Katrina and Sandy was estimated to be \$148 billion and \$80 billion, respectively.<sup>322</sup>

Not only are these astronomical costs to life, health, and property analogous to cases of fire, flood, and infectious disease, they are also analogous to the dangers associated with military action in defense against a common enemy.<sup>323</sup> In fact, the public enemy doctrine, another water-related legal defense, recognizes that extraordinary water conditions created by the ocean, unexpected or unprecedented floods, and storm water runoff constitute public enemies against which measures can be taken in derogation of traditional property rights.<sup>324</sup> The Florida Supreme Court reiterated this point in *Paty v. Town of Palm Beach*,<sup>325</sup> noting that “[t]he waters of the sea are usually considered a common enemy.”<sup>326</sup> Given the similarity in damage to life and property caused by military combat and that caused by flooding and storm surge, there is no logical reason why the defense should be used to protect against one enemy and not another.<sup>327</sup>

The largest hurdle for coastal protection cases to overcome in the application of the public necessity defense is the imminence requirement.<sup>328</sup> Critics explain that the slow process of wetlands erosion and the uncertainty of coastal storms cannot

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322. See *id.* (comparing estimated costs of total damage for Hurricanes Katrina and Sandy).

323. See *America's Wars Fact Sheet*, DEP'T OF VETERANS AFFAIRS (May 2013), [http://www.va.gov/opa/publications/factsheets/fs\\_americas\\_wars.pdf](http://www.va.gov/opa/publications/factsheets/fs_americas_wars.pdf) (offering an overview of dead and wounded statistics for America's wars) (on file with the WASHINGTON AND LEE JOURNAL OF ENERGY, CLIMATE, AND THE ENVIRONMENT).

324. See *Jones v. California Dev. Co.*, 173 Cal. 565, 574 (1916) (“The underlying principle governing the decision of all these cases . . . is that in such stress the landowner may use every reasonable precaution to avert injury from his land, and . . . will not be held liable for consequent damage which by these reasonable acts may be inflicted upon another landowner.”).

325. 158 Fla. 575 (1947).

326. *Id.* at 576.

327. See *supra* notes 315–322 and accompanying text (describing the damage caused by coastal storms).

328. See Craig, *supra* note 251, at 421–22 (describing the arguments against applicability of the Public necessity defense in the context of coastal protection).

satisfy a strict legal requirement of imminence.<sup>329</sup> However, uncertainty as to when and where coastal storms will fall should not hinder application of the defense, as this uncertainty was present in *Seavy v. Preble*, *Putnam v. Payne*, *United States v. Caltex*, and *United States v. Pacific R. Co.*<sup>330</sup> These cases illustrate that the public necessity defense can be used preemptively to prevent severe harm where it is likely that harm will occur.<sup>331</sup>

In *Putnam v. Payne*, the state could not predict with absolute certainty when or where the dog might attack a person, but the court relied upon past experience with mad dogs to justify the killing of the dog at issue in the case.<sup>332</sup> In *United States v. Caltex* and *United States v. Pacific R. Co.* the federal government could not predict with absolute certainty when or where enemy attacks would occur, but the court relied upon military intelligence and experience to justify the derogation of private property rights.<sup>333</sup>

In *Seavy v. Preble*, the doctor could not predict with absolute certainty if the infected wallpaper would cause the small pox to spread to other individuals in the community, but the court relied upon expert testimony regarding usual practice to justify the removal of the wallpaper.<sup>334</sup> Significantly, *Seavy* also demonstrated that scientific certainty and professional unanimity of opinion are not required for application of the defense.<sup>335</sup> The court found the removal of the wallpaper was justified despite

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329. See *id.* at 420 (explaining how a requirement of imminence could limit the applicability of a public necessity defense).

330. See *supra* notes 281–306 and accompanying text.

331. See *supra* notes 302–307 and accompanying text.

332. See *Putnam v. Payne*, 13 Johns. 312, (N.Y. 1816) (stating that public safety demands people be able to shoot mad dogs).

333. See *United States v. Caltex*, 344 U.S. 149, 154–56 (1952) (applying the principles set out in *United States v. Pacific R. Co. to hold that there was not a taking*); *United States v. Pacific R. Co.*, 120 U.S. 227, 239 (1887) (establishing a takings exception for private property destroyed during war).

334. See *Seavy v. Preble*, 64 Me. 120, 122 (1874) (evaluating expert testimony).

335. See *id.* at 123 (“Unfortunately medical science has not yet arrived at that degree of perfection which will enable its practitioners to agree. There is scarcely a case tried where medical testimony is used, in which the doctors do not disagree.”).

conflicting expert testimony regarding the efficacy of the action in preventing the spread of infectious diseases.<sup>336</sup>

As in these cases, although the state cannot predict with absolute certainty when or where a coastal storm will occur, scientific evidence can be used to forecast coastal storm damage to a significant degree of certainty.<sup>337</sup> Technological advancements now allow for the forecasting of coastal storms, such that experts can roughly predict where coastal storms will likely fall and what their potential damage will be.<sup>338</sup> The above mentioned U.S. Geological Survey study, which compared predicted elevations of hurricane-induced water levels to coastal topography along the Southeast Atlantic Coast, resulted in a determination that “[t]he combination of large waves and surges in a region with low coastal elevations makes the entire southeast Atlantic vulnerable to significant coastal erosion during storms.”<sup>339</sup> Therefore, states along the South Atlantic Coast should be able to defend land use restrictions where they can identify a need to protect vulnerable communities from the verifiable threat of severe coastal storm damage.<sup>340</sup>

### VIII. Conclusion

A healthy and robust network of wetlands protects coastal communities from storm damage.<sup>341</sup> Federal and state law makers enacted regulatory regimes that combat wetland degradation.<sup>342</sup> However, these regimes are difficult for private property owners to navigate, lack inter-governmental coordination, give rise to conflicts between private property rights

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336. See *id.* (“He could not go to his medical brethren for direction for they . . . were divided in opinion. . . . Under these circumstances we think he was justified in advising the removal of the paper from the walls of the rooms in which the small-pox patients had been confined . . .”).

337. See *supra* notes 54–56 and accompanying text.

338. See *supra* notes 54–56 and accompanying text.

339. STOCKDON, ET AL., *supra* note 53, at 24.

340. See *supra* notes 54–56 and accompanying text.

341. See *supra* Part II (describing the benefits of coastal wetlands).

342. See *supra* Parts IV–IIV (outlining the current legislative and regulatory regimes).

and public welfare, and are threatened by the regulatory chilling effect that may arise post-*Koontz*.<sup>343</sup>

The communities most vulnerable to the long-term, negative impacts of coastal hurricanes and storm surge are those with the least amount of resources at their disposal.<sup>344</sup> The citizens of these communities rely upon the state to protect their interests during permitting and litigation processes.<sup>345</sup> In order to protect these communities from the harm caused by forestalling coastal protections, courts should expand the public necessity defense to regulatory takings cases.<sup>346</sup> By absolving the state of liability in situations where the destruction of coastal wetlands will expose vulnerable communities to harm from hurricanes and rising sea levels, the public necessity defense will effectively balance the private and public interests at stake.<sup>347</sup>

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343. See *supra* Parts IV–VI (describing the challenges presented by the current legislative and regulatory regimes).

344. See *supra* Part III (describing the environmental justice implications of coastal wetland degradation).

345. See *supra* Part III (explaining that the members of environmental justice communities are under-represented in bureaucratic systems).

346. See *supra* Part VII (arguing for the expansion of the public necessity defense).

347. See *supra* Part VIII.B (analogizing the harm caused in traditional public necessity cases to the harm caused by coastal storms).