COMMENTS

Invoking the Fifth Amendment To Preserve and Restore the Nation's Wetlands in Coastal Louisiana

Gina Schilmoeller*

Hurricanes Katrina and Rita destroyed 118 square miles of Louisiana's 11,000 square miles of coastal wetlands and marshes.[1] Forty-five years from today, at least another 3,000 square miles of Louisiana's coastal wetlands and marshes will also be gone.[2] This coastal wetland and marsh loss covers two ecosystems, will cost billions of dollars to halt, and translates into national deprivation of oil, gas, fish and fish

* J.D. candidate 2007, Tulane Law School; B.E.D. 2003, University of Minnesota.

1. U.S. DEP'T OF THE INTERIOR & U.S. GEOLOGICAL SURVEY, USGS REPORTS LATEST LAND-WATER CHANGES FOR SOUTHEASTERN LOUISIANA 1 (2006) [hereinafter USGS REPORTS]; *see* Miguel Llanos, *Louisiana Loses Chunk of Natural Storm Buffer*, MSNBC, Nov. 4, 2005, http://www.msnbc.msn.com/id/9910082/.

2. LA. COASTAL WETLANDS CONSERVATION & RESTORATION TASK FORCE & WETLANDS CONSERVATION & RESTORATION AUTH, LA. DEP'T OF NATURAL RES., COAST 2050: TOWARD A SUSTAINABLE COASTAL LOUISIANA 1 (1998) [hereinafter COAST 2050]; USGS REPORTS, *supra* note 1, at 1 (noting that Coast the 2050 prediction was surpassed in 2004-2005 with 72.9 square miles of loss).

resources, recreation, and natural buffers against hurricanes, storm surges, and torrential rain.

Though coastal wetland restoration and protection advocates have warned the nation of the necessity of protecting Louisiana's wetlands over the past thirty years, Hurricanes Katrina and Rita finally gave the nation's citizens an impetus to listen to the advocates' voices. But before immediately acting upon the calls of voices, today's policymakers must now reflect on the lessons learned over the past thirty years of state and federal piecemeal legislative enactments amidst continued wetland losses. Rather than enacting more piecemeal legislation, only to be replaced with further legislation, the nation must now develop one comprehensive plan to restore and then protect the wetlands located along Louisiana's coast. At the outset, however, the nation must decide whether the comprehensive plan will seek to accomplish wetland restoration and protection through intense regulation or whether the plan will embrace the outright acquisition of the seventy-five percent of Louisiana's coast now under private ownership.[3]

Under the comprehensive plan ultimately enacted, the government may elect to restore and protect through temporary takings and strict regulations with the potential of inverse condemnation claims, or the government can acquire affected property at the commencement of the chosen comprehensive plan.[4] This decision depends upon the legal, economic, and environmental issues implicated in enacting a long-term project aimed at restoring two ecosystems, protecting over ten percent of the nation's petroleum reserves, and costing many billions of dollars.

This Comment considers the nation's dependency on resources from Louisiana's coastal wetlands and then focuses on whether regulation or acquisition of the coastal wetland property will best serve the nation in reaching the necessary goal of not only restoring but also protecting Louisiana's wetlands in perpetuity. First, the Comment discusses coastal Louisiana's natural environment and resources. With this context in mind, the Comment then focuses on the nation's dependency upon the wetland resources and the present wetland loss crises in Louisiana. Part III highlights the stream of regulations that

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3. R.H. CAFFEY, K. SAVOIE & M. SHIRLEY, STEWARDSHIP INCENTIVES FOR LOUISIANA'S COASTAL LANDOWNERS 2, 3-4 (2003), *available at* http://www.agctr.lsu.edu/NR/rdonlyres/88887817-1734-441D-BF66-A79AADED6A31/1746/Land.pdf (noting that "income initially generated from oil and gas royalties has led to multiple heirs, resulting in highly fractionated ownership structure in many areas").

4. La. Dep't of Econ. Dev., *Louisiana Economic Development: Louisiana Overview*, http://www.lded.state.la.us/led/index.asp (last visited Feb. 12, 2006) [hereinafter *Louisiana Economic Development*].

resulted in the disjointed effort to protect Louisiana's coastal wetlands over the past thirty years. Part IV then analyzes the legal, economic, and environmental issues involved in acquiring coastal Louisiana property as compared to utilizing temporary takings and strict land use regulations to accomplish the overarching goal of sustainable protection of Louisiana's coastal wetlands. At the conclusion, this Comment asserts that national funds and interests invoked under a comprehensive plan to restore and protect Louisiana's coastal wetlands are best secured in the long term through acquisition of private property.

I. THE NATION AND LOUISIANA DEPEND ON COASTAL LOUISIANA'S WETLANDS FOR ENERGY, FOOD, AND PHYSICAL PROTECTION

While Hurricanes Katrina and Rita physically devastated the Gulf Coast, the media attention generated by the storms has enhanced the future prospect of aid reaching the environmentally degradated coastal wetlands.[5] Though coastal Louisiana is only home to two million people, all 290 million United States residents are dependent upon the region for oil, food, and wildlife.[6] Immediately following Hurricane Katrina, the nation's citizens were directly impacted when twenty-five percent of the nation's crude oil production was shut down and the average gas pump price jumped from $2.60 to $3.06 in four days.[7] Considering that roughly one acre of Louisiana's coastal wetlands is lost every thirty-three minutes,[8] the nation's future ability to depend on the Gulf Coast as a stable source of natural resources is in jeopardy.

Coastal Louisiana's natural geography is unique to the United States due to its location at the outlet of the Mississippi River. Coastal Louisiana exists on a landmass created by the aggradation of alluvial sediment over the course of 5000 years.[9] This landmass is comprised of

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5. Hurricane Katrina made landfall on August 29, 2005. FED. ENERGY REGULATORY COMM'N, GULF COAST STORMS EXACERBATE TIGHT NATURAL GAS SUPPLIES 5 (2005). Hurricane Rita followed Katrina and made landfall on September 24, 2005. *Id.*

6. *See* U.S. ARMY CORPS OF ENGINEERS, LOUISIANA ECOSYSTEM RESTORATION STUDY 1-1 (2004) [hereinafter LOUISIANA ECOSYSTEM RESTORATION STUDY] (stating that forty-six percent of Louisiana's total population lives in coastal Louisiana). *See* COAST 2050, *supra* note 2, at 29 (providing map of coastal Louisiana); U.S. Census Bureau, *U.S. POPClock Projection*, http://www.census.gov/population/www/popclockus.html (last visited Feb. 17, 2006) (approximating U.S. population on February 17, 2006, at 298,128,499).

7. ROBERT L. BAMBERGER & LAWRENCE KUMINS, OIL AND GAS: SUPPLY ISSUES AFTER KATRINA (Congressional Research Service No. RS22233) CRS-4 (2005); AM. PETROLEUM INST., HURRICANE IMPACTS ON SUPPLIES AND PRICES 24 (2006).

8. Joel K. Bourne, Jr., *Gone with the Water*, NAT'L GEOGRAPHIC MAG., Oct. 2004, at 96, *available at* http://magma.nationalgeographic.com/ngm/0410/feature5/index.html?fs=www7.nationalgeographic.com.

9. COAST 2050, *supra* note 2, at 31.

the Deltaic Plain and Chenier Plain ecosystems.[10] The Louisiana barrier islands and mainland beaches total 350 miles of sandy shoreline.[11] In addition, canals, bays, lakes, and streams create 30,000 miles of water borders throughout the coastal region.[12] Together, these ecosystems comprise one of the largest expanses of coastal wetlands in the United States. These wetlands also account for ninety percent of the nation's coastal wetland loss.[13] At present, private landowners hold title to seventy-five percent of Louisiana's coastal wetlands region.[14]

The future vitality of the United States' energy supply is tied to the fate of Louisiana's coastal wetlands. Coastal Louisiana provides the United States with eleven percent of the nation's oil reserves and nineteen percent of the nation's natural gas reserves.[15] All but 100 of the nation's 4000 offshore oil drilling platforms are found off the coast of Louisiana.[16] Generally, Louisiana is the nation's second largest petroleum refiner, but led the nation in 2000 by refining 592 million barrels of oil and condensate at a value of $17 billion.[17] Each year, Louisiana produces over 16.9 billion gallons of gasoline.[18] Overall, fifty percent of the nation's crude oil refining capacity is connected to Louisiana, with twenty-nine percent of the oil physically moving through the state.[19]

Though not in the nation's spotlight like energy resources, the nation's commercial and recreational fishing industries are heavily dependent upon Louisiana's natural coastal habitat. After Alaska, Louisiana has the largest fishing industry in the United States.[20] At a value of $1 billion annually, commercial fisheries produce thirty percent

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10. *Id.* at 19; *see* LA. WETLANDS CONSERVATION & RESTORATION TASK FORCE, LOUISIANA COASTAL WETLANDS RESTORATION PLAN—LOUISIANA'S COASTAL RESOURCE (1993), *available at* http://www.lacoast.gov/reports/cwcrp/1993/ [hereinafter RESTORATION PLAN—LOUISIANA'S COASTAL RESOURCE] (describing the natural processes in the Deltaic Plain and Chenier Plain).

11. COAST 2050, *supra* note 2, at 41.

12. *Id.*

13. LOUISIANA ECOSYSTEM RESTORATION STUDY, *supra* note 6, at 1-1.

14. CAFFEY, SAVOIE & SHIRLEY, *supra* note 3, at 2, 3-4 (noting that "income initially generated from oil and gas royalties has led to multiple heirs, resulting in highly fractionated ownership structure in many areas").

15. *Louisiana Economic Development*, *supra* note 4. In addition to supplying the nation with energy resources, Louisiana's total mineral production is valued as the second highest of all states. *Id.*

16. Kerry St. Pé, Program Dir., Barataria Terrebonne Nat'l Estuary Program, Lecture at Tulane University Law School Hurricane Katrina Lecture Series (Feb. 10, 2006).

17. LOUISIANA ECOSYSTEM RESTORATION STUDY, *supra* note 6, at 1-1.

18. *Louisiana Economic Development*, *supra* note 4.

19. LOUISIANA ECOSYSTEM RESTORATION STUDY, *supra* note 6, at 1-1.

20. *Louisiana Economic Development*, *supra* note 4. In 2003, Louisiana's fishing catch was valued at $343 million (excluding mollusks). LOUISIANA ECOSYSTEM RESTORATION STUDY, *supra* note 4, at 1-1.

of the nation's fishing catch in Louisiana.[21] With four of the nation's largest fishing ports, Louisiana's annual catch is greater than the catch off the Atlantic coast.[22] In addition to the revenue derived from commercial fishing, Louisiana has a recreational fishing industry valued at $300 million annually.[23]

Fulfilling their title as the "sportsman's paradise," Louisiana wetlands provide winter habitat for seventy percent of waterfowl migrating along the Mississippi and Central Flyways.[24] The five million birds living in Louisiana coastal wetlands include domestic migratory birds, neo-tropical migratory songbirds, endangered Louisiana brown pelicans, and potentially the twenty-inch tall ivory-billed woodpecker.[25] The Mississippi Flyway alone produces a hunting value of over $10 million annually.[26] Additionally Louisiana's coastal marshes produce more furs and hides than any other state.[27]

Four of the nation's eleven largest ports are located in Louisiana, along with five other deep-water ports.[28] Through these ports, $457 million of U.S. commerce is annually traded with 191 countries.[29] In addition, Louisiana serves as the ninth largest state for international investment holdings.[30] Capital investments, including facilities, supporting services, and urban infrastructure, are valued at $100 billion.[31]

The Louisiana coastal wetlands not only provide the nation with natural resources but also protect the inland from natural disasters. For

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21. Robert Viguerie, *Coastal Erosion: Crisis in Louisiana Wetlands*, 51 LA. B.J. 85, 85 (2003). Ninety-eight percent of the state's annual catch consists of shrimp, oyster, blue crab, and menhaden. RESTORATION PLAN—LOUISIANA'S COASTAL RESOURCE, *supra* note 10.

22. RESTORATION PLAN—LOUISIANA'S COASTAL RESOURCE, *supra* note 10.

23. Viguerie, *supra* note 21, at 85. A 1984 study conducted by the Louisiana State University Center for Wetland Resources approximated that 180,000 licensed recreational fishers spent $181 million directly on fishing, while using $1 billion worth of boats, gear, and other supplies. RESTORATION PLAN—LOUISIANA'S COASTAL RESOURCE, *supra* note 10.

24. LOUISIANA ECOSYSTEM RESTORATION STUDY, *supra* note 6, at 1-1.

25. *Id.*; NAT'L PUB. RADIO, SEARCH FOR THE IVORY-BILLED WOODPECKER (Mar. 18, 2002) (transcript *available at* http://www.npr.org/programs/re/archivesdate/2002/march/) (discussing the credible report of the then believed to be extinct ivory-billed woodpecker in Louisiana).

26. RESTORATION PLAN—LOUISIANA'S COASTAL RESOURCE, *supra* note 10.

27. *Id.* (valuing fur and hides at $20 million annually).

28. *Louisiana Economic Development*, *supra* note 4.

29. *Id.* The Port of South Louisiana has the most tonnage in the nation and is the most active region of the Gulf Intercoastal Waterway. LOUISIANA ECOSYSTEM RESTORATION STUDY, *supra* note 6, at 1-1.

30. *Louisiana Economic Development*, *supra* note 4 (valuing international investments at $21 billion).

31. RESTORATION PLAN—LOUISIANA'S COASTAL RESOURCE, *supra* note 10 (valuing fur and hides at $20 million annually).

every mile of wetlands, one foot of hurricane surge water is absorbed.[32] In addition, wetlands act as a sponge and absorb excess water during heavy rains and storms.[33] As a result of utilizing wetlands as a natural buffer from the elements, the nation's citizens will mitigate insurance premiums and maintain capital investment in infrastructure.[34] Additionally, the preservation of the natural landscape will continue to provide an incentive for tourists to continue contributing to the $9.4 billion in tourism revenues Louisiana received in 2004.[35]

II. THE UNITED STATES CONTINUES TO LOSE COASTAL WETLANDS IN LOUISIANA

Over the past century, the United States has lost twenty percent of Louisiana's coastal wetlands.[36] Just after the industrial revolution, Louisiana's wetlands began on their accelerated degradation cycle.[37] Annual wetland loss increased each year during the twentieth century until peaking at forty square miles per year in the 1970s.[38] At present, eighty percent of the nation's wetland loss is in Louisiana.[39] Each year, this loss equates to an economic value of approximately $500 million.[40]

Coastal wetland loss in Louisiana is attributable to the combined effects of natural and human processes. As to human processes, a complex levee and canal system was constructed to control the Mississippi and prevent natural flooding.[41] In addition to directing the course of the Mississippi River water, the levee and canal system has precluded the natural aggradation of alluvial sediment that is necessary to build and sustain coastal wetlands.[42] Additional canals were also constructed to facilitate oil and gas sites. Now, thousands of miles of canals disrupt wetland hydrological flows and increase Gulf saltwater intrusion, which in turn, threatens vegetation and potable water

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32. Gulf Restoration Network, *Why Are Wetlands Important?*, http://www.healthy gulf.org/wetlands/values.htm (last visited Mar. 1, 2006).

33. *Id.*

34. Viguerie, *supra* note 21, at 86.

35. Mitch Landrieu, La. Lt. Gov., Address at the Louisiana Tourism and Promotion Association (Jan. 18, 2006) (transcript *available at* http://www.crt.state.la.us/documentarchive/ tourism/2006_01_18_LTPA_SPEECH.pdf).

36. COAST 2050, *supra* note 2, at 31. Because the wetlands were built over 5000 years, this loss equates to 1000 years of natural wetland development. *Id.*

37. *Id.*

38. RESTORATION PLAN—LOUISIANA'S COASTAL RESOURCE, *supra* note 10. *But see* COAST 2050, supra note 2, at 31 (stating that wetland loss peaked during the 1950s and 1960s).

39. RESTORATION PLAN—LOUISIANA'S COASTAL RESOURCE, *supra* note 10.

40. *Id.*

41. CAFFEY, SAVOIE & SHIRLEY, *supra* note 3, at 2.

42. *Id.*

supplies.[43] Deposited dredge spoil from wetlands turned into canals, farmland, residential plots, and industrial land also interferes with the wetlands natural hydrologic flow.[44]

In addition to creating levee and canal infrastructure, humans are also accountable for the accidental introduction of nutria into coastal Louisiana in the 1930s.[45] Now unprofitable to trap, the nutria are thriving on wetland vegetation.[46] Not only are nutria causing vegetation stress and loss, but they are also disrupting wetland soils and thereby accelerating land loss.[47]

Combined with human forces, natural subsidence, storms, and edge erosion are the other primary causes of Louisiana's coastal wetland loss. Subsidence is occurring as a result of the loosely compacted nature of wetland soils and Louisiana's location near fault lines.[48] The average coastal landmass subsidence rate in Louisiana is over seven times greater than the worldwide average rate.[49] Combined with the prediction that sea levels will rise eight inches by 2050 due to global warming,[50] Louisiana's shoreline may be inundated with another foot of water.

As another source of natural wetland losses, tropical storms and hurricanes cause major land transformation over a matter of days. Storm winds, rain, and surges destroy wetland plant roots, alter sedimentation, and transform barrier islands and inlets in the process of creating lakes.[51] For example, Hurricanes Katrina and Rita resulted in 118 square miles of wetland loss in two nonconsecutive days.[52]

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43. COAST 2050, *supra* note 2, at 40; CAFFEY, SAVOIE & SHIRLEY, *supra* note 3, at 2. *See generally* Viguerie, *supra* note 21, at 86 (describing dredge activity interference with natural processes).

44. Viguerie, *supra* note 21, at 86; COAST 2050, *supra* note 2, at 41 (noting that deposition of dredging spoil is now regulated).

45. COAST 2050, *supra* note 2, at 41; *see* La. Dep't of Wildlife & Fisheries, *Nutria Population Dynamics—History*, http://www.nutria.com/site2.php (last visited Mar. 1, 2006).

46. COAST 2050, *supra* note 2, at 41.

47. *Id.*

48. RICHARD A. DAVIS & DUNCAN M. FITZGERALD, BEACHES AND COASTS 63 (2004); *see* RESTORATION PLAN—LOUISIANA'S COASTAL RESOURCE, *supra* note 10 (stating that land experiences a "sediment deficit" when subsidence and the effects of sea level rise surpasses sediment accretion). Subsidence is the natural process of "compaction of soft sediments deposited by the rivers and vegetation" that eventually causes land surfaces to lower. RESTORATION PLAN—LOUISIANA'S COASTAL RESOURCE, *supra* note 10.

49. COAST 2050, *supra* note 2, at 36. The Deltaic Plain's subsidence rate varies between 3.0 to 4.3 feet per century, while the Chenier Plain's rate is between 1.3 and 2.0 feet per century. *Id.* at 35-36. Worldwide, the average subsidence rate is .394 feet per century. *Id.* at 36.

50. *Id.* at 33.

51. *See id.* at 40.

52. USGS REPORTS, *supra* note 1, at 1.

Naturally occurring edge erosion also combines with human processes by contributing to gradual coastal wetland loss. Edge erosion is caused both by storm surges and continual wave processes. Coastal erosion is most evident in Louisiana's loss of fifty-five percent of its barrier islands over the past century.[53] As storm overwash and waves hit shorelines, the harder soils erode and expose organic marsh soils to the direct impact of waves.[54]

In order to restore coastal wetlands, human processes causing wetland losses must be curtailed and restoration must compensate for the inevitable persistence of naturally caused wetland losses. The United States Geological Survey estimates that restoration of Louisiana's coastal wetlands will cost at least $50 million each year for a total of $15 billion.[55] In contrast, estimates of the economic consequences of not protecting and rebuilding the wetlands range from $27 billion to $100 billion.[56] Consequently, the nation is best financially served by acting promptly to restore the wetlands before restoration is financially unrealistic and environmentally impossible. Outside of economic and environmental cost benefit analyses, the cost of idly watching wetland loss will result in the disappearance of one of the nation's oldest and richest cultures.[57]

III. THE ULTIMATE FAILURE OF DISJOINTED STATE AND FEDERAL REGULATORY PROGRAMS AIMED AT RESTORING AND PROTECTING LOUISIANA'S WETLANDS

Though the nation has not succeeded in curtailing Louisiana's coastal wetland loss, this failure is not due to a lack of effort. Rather, since the 1970s, Louisiana and the nation have recognized the loss of coastal wetlands and the importance of the wetlands in protecting inland regions through the implementation of a variety of regulatory programs. These programs, however, are the result of piecemeal legislation that precluded the development of a cohesive long-term program that is capable of dealing with the interrelated nature of the entire coastal

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53. COAST 2050, *supra* note 2, at 41.

54. *Id.*

55. Jeff Williams, *Conf. on Restoring Coastal Barrier-Island and Wetlands Ecosystem*, USGS SOUND WAVES MONTHLY NEWS., Dec. 2001/Jan. 2002, *available at* http://soundwaves.usgs.gov/archives.html (follow "January 2002" hyperlink; then follow "Restoring Louisiana's Coastal Ecosystems"); *see also* CAFFEY, SAVOIE & SHIRLEY, *supra* note 3, at 4 (estimating the cost to implement and maintain a variety of restoration technologies at $14 billion).

56. CAFFEY, SAVOIE & SHIRLEY, *supra* note 3, at 4.

57. *See* COAST 2050, *supra* note 2 (commenting on the immeasurable costs associated with losing the coastal Louisiana culture).

region. Though this piecemeal legislation was not successful in restoring Louisiana's wetlands, the legislation does successfully exemplify the need for one unified restoration plan allowing Louisiana and the nation to coordinate resources and efforts to actually implement planned programs aimed at ending the wetland loss crises facing the nation.

Beginning in 1971, Louisiana lawmakers approached the coastal wetlands loss issue by establishing the Louisiana Advisory Commission on Coastal and Marine Resources to investigate the issues involved with supporting coastal and marine resources.[58] One year later, the federal government passed the Coastal Zone Management Act of 1972 to encourage states to take the reigns and develop individual coastal planning, permitting, and conflict resolution plans.[59] Then, in 1977, President Carter issued an executive order calling for federal agencies to execute a variety of programs aimed at protecting wetlands throughout the nation.[60] Yet the United States Corps of Engineers actually had the greatest federal impact on wetland development through its wetlands permitting program.[61]

During the subsequent fifteen years, the federal government, the State of Louisiana, and private groups instituted a variety of separate programs aimed at protecting wetland development.[62] But the first major legislation coordinating state and federal efforts, interests, and resources only came with the enactment of the Coastal Wetlands Planning,

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58. *See* COAST 2050, *supra* note 2, at 12. The Louisiana Advisory Commission on Coastal and Marine Resources published three primary reports: LOUISIANA GOVERNMENT AND THE COASTAL ZONE—1972, WETLANDS 1973: TOWARD COASTAL ZONE MANAGEMENT IN LOUISIANA, and LOUISIANA WETLAND PROSPECTUS. *See id.*

59. Pub. L. No. 89-454, 86 Stat. 1280 (1972).

60. Exec. Order No. 11,990, 42 Fed. Reg. 26,961 (May 25, 1977) (aiming to "avoid to the extent possible the long and short term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands whenever it is a practicable alternative"). Following the executive order, the Clean Water Act, the Food Security Act "Swampbuster" provisions, Water Bank Act, Small Wetland Acquisition Program, Conservation Reserve Program, Wetland Reserve Program, and the Emergency Wetlands Resources Act were passed. *See* Pub. L. No. 92-500, 86 Stat. 816 (1972); 16 U.S.C. §§ 718(d), 1301, 3823, 3831, 3837, 3901-3932 (2000).

61. *See* Clean Water Act of 1977, Pub. L. No. 92-500, 86 Stat. 816 (1972) (codified as amended at 33 U.S.C. §§ 1251-1376 (2000)); Ryan M. Seidemann, *Wetlands Conservation in Louisiana: Voluntary Incentives and Other Alternatives*, 17 J. ENVTL. L. & LITIG. 441, 452 (2002).

62. *See, e.g.*, 1981 La. Acts 2d Spec. Sess. 41 (creating a one-time $35 million fund for research and projects for coastal regions of the state); LA. WETLAND PROTECTION PANEL, SAVING LOUISIANA'S COASTAL WETLANDS: THE NEED FOR A LONG-TERM PLAN OF ACTION (1987); Lake Pontchartrain Basin Found., About Us, http://www.saveourlake.org (last visited Mar. 1, 2006) (providing the history of establishing the Lake Pontchartrain Basin Foundation in 1989 to restore the health of the lake and its rivers and to protect the natural habitat of the Basin).

Protection and Restoration Act (CWPPRA) in 1990.[63] Louisiana Senators John Breaux and J. Bennett Johnston led the passage of CWPPRA and moved the nation toward a more unified and cohesive plan for tackling the wetland loss occurring in Louisiana.[64] Under CWPPRA, the Louisiana Wetlands Conservation and Restoration Task Force was created as joint body of Louisiana and federal individuals.[65] Together, the task force is charged with developing a project list that is prioritized "based on the cost-effectiveness of such projects in creating, restoring, protecting, or enhancing coastal wetlands, taking into account the quality of such coastal wetlands."[66]

Though CWPPRA joins the federal government and the State of Louisiana in decision making and funding for coastal restoration projects,[67] the legislation has primarily resulted in small-scale projects that have not succeeded in slowing coastal wetland loss or restoring past losses.[68] Today's rate of loss of one acre of wetland each minute continues to demonstrate that CWPPRA's purpose of developing "a comprehensive approach to restore and prevent the loss of[] coastal wetlands in Louisiana . . . and integrat[ing] coastal wetlands restoration projects in a manner that will ensure the long-term conservation of the coastal wetlands" is not effectuated by the accompanying legislation.[69]

Following the enactment of CWPPRA, the Louisiana Governor's Office of Coastal Activities Science Advisory Panel Workshop issued a report providing another long-term plan for restoring Louisiana's coastal zone in 1994.[70] After identifying the need to combine scientists, local, state, and federal governments, and private citizens in the coastal

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63. Pub. L. No. 101-646, 104 Stat. 4778 (1990).

64. *Id.*; *see* Marc C. Hebert, *Coastal Restoration Under CWPPRA and Property Rights Issues*, 57 LA. L. REV. 1165, 1171-82 (1997).

65. Coastal Wetlands Planning, Protection and Restoration Act, 16 U.S.C. §§ 3951-3956. While led by the Secretary of the Army, the task force is comprised of the Environmental Protection Agency Administrator, the Governor of Louisiana, the Secretary of the Interior, the Secretary of Agriculture, and the Secretary of Commerce. *Id.* § 3951(9).

66. *Id.* § 3952(a)(1).

67. *See id.* § 3952(f) (providing that the federal government will conditionally pay up to seventy-five percent of the costs of priority list restoration projects).

68 Like over the past several decades, Louisiana continues to lose forty square miles of wetlands and marshes each year. LaCoast, Frequently Asked Questions, http://www.lacoast.gov/education/faq/index.htm (last visited Mar. 3, 2006). CWPPRA Projects are either categorized as Tier I or Tier II. Hebert, *supra* note 64, at 1174. Tier I projects comprise the majority of completed CWPPRA projects because they are the most practicable to complete with the relatively small CWPPRA budget. *Id.* Some Tier I projects are merely used as demonstrations utilized for planning future programs. *Id.* at 1174 n.66.

69. 16 U.S.C. § 3952(b)(2).

70. *See* SHERWOOD M. GAGLIANO, AN ENVIRONMENTAL-ECONOMIC BLUEPRINT FOR RESTORING THE LOUISIANA COASTAL ZONE: THE STATE PLAN (1994).

restoration process, the Louisiana Coastal Wetlands Conservation and Restoration Task Force and the Wetlands Conservation and Restoration Authority developed Coast 2050 as their official plan for restoring coastal Louisiana.[71] Coast 2050, though separate from CWPPRA, now attempts to unify state restoration efforts with CWPPRA by serving as the official coastal restoration plan for the CWPPRA task force and Louisiana's Coastal Protection and Restoration Authority.[72] Coast 2050 further attempts to create an interactive network to utilize the best available research to determine immediate coastal restoration plans and then develop the plans as new knowledge becomes available.[73]

In line with the ongoing trend of enacting more legislation, and in light of Coast 2050's framework for private citizens and all levels of the government to play a role in developing a coastal restoration plan for Louisiana, the Louisiana Legislature recently passed a new act calling for a single state agency to implement a comprehensive wetland restoration plan subsequent to Hurricanes Katrina and Rita.[74] Reflecting on the thirty years spent developing plans to restore Louisiana's coastal wetlands, it is now clear that the fragmented projects enacted under piecemeal legislation do not result in successful wetland restoration. Another initiative to develop a comprehensive plan to restore the wetlands will not protect the nation from subsequent disasters. Actual restoration on a large scale is necessary. Thus, the nation must choose one effective and comprehensive restoration plan and begin implementing the plan through a combination of regulation and land acquisition that ensures the safety of long-term economic investments and environmental health.

IV. THE LEGAL, ECONOMIC, AND ENVIRONMENTAL IMPLICATIONS OF ACHIEVING COASTAL WETLAND PROTECTION AND RESTORATION THROUGH REGULATION VERSES LAND ACQUISITION

Assuming the State of Louisiana and the federal government agree to coordinate efforts in one long-term plan for restoring and protecting coastal Louisiana's wetlands, the best method of implementing this goal

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71. COAST 2050, *supra* note 2, at 2, 5. The Wetlands Conservation and Restoration Authority was created under the Louisiana Coastal Wetlands Conservation, Restoration, and Management Act of 1977. LA. REV. STAT. ANN. § 49:213 (2005). However, the name was changed to the Louisiana Coastal Zone Management Program of 1977. *Id.* § 49:213.1-.21.

72. COAST 2050, *supra* note 2, at 7; *see* S.B. 71, 1st Spec. Sess. (La. 2005) (enacted as Act 8) (renaming the Wetlands Conservation and Restoration Fund the Coastal Protection and Restoration Fund).

73. COAST 2050, *supra* note 2, at 7-8.

74. S.B. 27, 1st Spec. Sess. (La. 2005) (enacted as Act No. 69).

is debatable. In general, the government has two major legal methods available to accomplish land restoration. The government must choose to either implement restoration plans through regulation or to implement plans through direct acquisition of private property.[75] However, before enacting legislation under either a regulatory or acquisition scheme aimed at restoring Louisiana's coastal wetlands over the long-term, the government must consider the legal, economic, and environmental issues involved with both approaches.

Legally, the government must consider whether an initial choice to regulate property will ultimately result in judicial determinations that the regulations constitute takings and require just compensation. While the federal government may only regulate land uses in coastal Louisiana under an enumerated Constitutional power and Louisiana may regulate under its police powers, either governmental body could also acquire private property with the payment of just compensation.[76] The government may only take private property for a public use, but coastal restoration and protection of Louisiana's coast clearly constitutes a public use. The United States Court of Appeals for the Fifth Circuit has stated that "wetlands are critical to flood control, water supply, water quality, and, of course, wildlife."[77] Even in circumstances where a state prohibits taking easements to protect wetlands, the federal judiciary has held that such takings are permitted under federal law because they "effectuate an important national concern."[78] After easily establishing a public purpose, the only remaining issue will be the determination of just compensation.[79] Upon payment of a settlement or judicially determined just compensation, the government will have title to the property requiring restoration and protection in coastal Louisiana.

Rather than paying just compensation for title to property, the government may choose to forego the immediate financial burden to eminent domain and instead institute a system of regulations to restore and protect coastal property. Under a regulatory framework, however, the government must determine whether regulations requiring and implementing plans for the restoration and protection of coastal Louisiana will ultimately result in successful inverse condemnation claims requiring payment of just compensation in addition to litigation

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75. While regulations promulgated under a comprehensive restoration and protection plan will vary in their affect upon private property rights, this section analyzes the takings issues resulting from those regulations that fall on or near the line of becoming a taking.

76. *See* U.S. CONST. amend. V; LA. CONST. OF 1974 art. I, § 4 (2004).

77. Sabine River Auth. v. U.S. Dep't of Interior, 951 F.2d 669, 672 (5th Cir. 1992).

78. United States v. Albrecht, 496 F.2d 906, 911 (8th Cir. 1974).

79. U.S. CONST. amend. V; LA. CONST. OF 1974, art. I, § 4.

expenses.[80] Though states have instituted permitting programs and land use zoning since colonial Boston,[81] and "property may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking."[82] A landowner bringing an inverse condemnation claim in response to coastal restoration regulations must establish a physical invasion or that no use of her property is economically beneficial.[83]

Under the United States Supreme Court's holding in *Loretto v. Teleprompter Manhattan CATV Corp.* that any physical invasion of property constitutes a taking requiring just compensation, any governmental regulation requiring physical use of a private landowner's property invokes the constitutional right to just compensation.[84] At present, no clear consensus exists to determine what solutions are necessary to restore Louisiana's coastal wetlands. Proposed solutions such as soft construction involving the replacement of native vegetation and soils as well as freeing river sediment to allow for natural alluvial aggradation will necessarily require physical invasion into private property.[85] Landowners of affected properties will have secure grounds to bring inverse condemnation actions and receive just compensation for physical takings of their property.[86]

Other properties in the coastal region, however, will not require restoration but must be protected from future assault. Such protection can be achieved through regulation of present and future land uses. However, landowners under strict regulations will have an incentive to bring inverse condemnation claims in pursuit of just compensation. Under *Lucas v. South Carolina Coastal Council*, private property owners under comprehensive plan regulations will be constitutionally entitled to just compensation only if they establish categorical takings depriving

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80. *See* U.S. CONST. amend. V (requiring just compensation for all property taken by the government for public use); *see* LA. CONST. OF 1974, art. I, § 4.

81. Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Planning Agency, 535 U.S. 302, 351-52 (2002) (noting also that many zoning and land use regulations may not be subject to takings liability).

82. Penn. Coal, Inc. v. Mahon, 260 U.S. 393, 415 (1922).

83. Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419, 441 (1982) (holding that a physical invasion of private property constitutes a taking requiring just compensation); Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1027 (1992) (noting that states may resist compensating a landowner for a regulation depriving the owner of "all economically beneficial use" if the owner's use interests were not originally part of her title).

84. *Loretto*, 458 U.S. at 441; U.S. CONST. amend. V.

85. America's Wetland, Current Solutions, http://www.americaswetlandresources.com (follow "Background & Facts" hyperlink; then follow "The Detailed Story" hyperlink; then follow "Current Solutions" hyperlink); *see* RICHARD A. DAVIS & DUNCAN M. FITZGERALD, BEACHES AND COASTS 392 (2004).

86. *See Loretto*, 458 U.S. at 427.

them of all economically viable use of their property.[87] Thereby, the government can defend regulations against inverse condemnation claims by proving that the landowner had no property interests in the regulated activity at issue.[88]

Prior to *Lucas*, states often defended regulatory taking claims by arguing that the regulation merely prohibited a noxious use, and were thus, permitted under the state police power.[89] Over a century ago, in *Muglar v. Kansas*, the Supreme Court held that private property rights do not include the right to use land in a way that creates a noxious public nuisance.[90] Consequently, the landowner adversely affected by such a regulation does not have a valid constitutional claim under the Fifth Amendment for just compensation.[91]

Following the nuisance argument, a regulation restricting all development in wetlands would likely not constitute a taking because the landowner never had a right to use property in a way that exacerbates flooding and storm surge on neighboring properties.[92] However, *Lucas* recently struck South Carolina's legislative determination of what constitutes a "nuisance."[93] Rejecting South Carolina's declaration that coastal erosion was a nuisance and thereby subject to regulation without just compensation, the court stated that the government "must identify background principles of nuisance and property law that prohibit the uses . . . now intend[ed] in the circumstances in which the property is presently found."[94] Consequently, private landowners' inverse

87. *See Lucas*, 505 U.S. at 1030-31.

88. *Id.* at 1027.

89. *See* Keystone Bituminous Coal Ass'n v. DeBenedictis, 480 U.S 470, 481-91 (1987); Penn. Coal Co. v. Mahon, 260 U.S. 393, 412-16 (1922).

90. Muglar v. Kansas, 123 U.S. 623, 668-69 (1887) (holding that actions "declared, by valid legislation, to be injurious to the health, morals, or safety of the community, cannot, in any just sense, be deemed a taking or an appropriation of the property for the public benefit"); *see also Keystone Bituminous Coal*, 480 U.S. at 491 (stating that private property owners do not have a right to use land as a nuisance to harm others).

91. *Muglar*, 123 U.S. at 675; *see* U.S. CONST. amend. V.

92. *See, e.g.*, Sabine River Auth. v. U.S. Dep't of Interior, 951 F.2d 669, 672 (5th Cir. 1992) (recognizing that "wetlands are critical to flood control, water supply, water quality, and, of course, wildlife").

93. *See* Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1007-09, 1031-32 (1992). However, the government has a valid reciprocity of advantage argument that will strike against a decision that a landowner has been deprived of all economically beneficial use of his land. Because coastal reclamation under a comprehensive plan will benefit the entire coastal ecosystem and state and national economies, affected private landowners will also benefit from the regulations. *See* Penn. Cent. Transp. Co. v. New York City, 438 U.S. 104, 137-38 (1978) (holding reasonable return is still permitted under regulation because allowed "reasonable return" and ability to transfer building rights).

94. *Lucas*, 505 U.S. at 1031-32.

condemnation claims against strict regulations of Louisiana's coastal wetlands theoretically could succeed under arguments that protecting wetlands in their natural ecological state is not a traditional nuisance under Louisiana's historical development of the coastland environment.

The government, therefore, may only invoke the nuisance exception to regulatory takings by asserting that a regulation is only accomplishing what a private landowner could have accomplished with the background principles of a common law nuisance claim.[95] However, a regulation that arguably inures in the background principles of property law, must have been in place at the time a landowner acquires property in order for the government to successfully defend an inverse condemnation claim through common law nuisance arguments.[96] The background principle may, however, come from either state or federal law.[97]

Thereby, in the face of inverse condemnation challenges resulting from coastal wetland land use regulations, the government can invoke a background principal from either Louisiana or federal property laws to avoid paying just compensation to a landowner who has affirmatively established deprivation of all economically beneficial use of their property. In Louisiana, the primary background principals of property law that the government can invoke to defend against regulatory takings under wetland regulations is the public trust doctrine and the State's constitutional directive to protect natural resources.[98]

The public trust doctrine provides the government with a broad regulatory takings exception for property located under surface water or shorelines. As stated in *Illinois Central Railroad Co. v. Illinois*, the land beneath navigable waters and tidelands, as well as the water over such lands, are held in trust by states for the public use.[99] Under the public trust doctrine, states cannot abdicate land held in the trust and thereby contract away the public right to preservation of the waters.[100] Rather,

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95. *Id.*; *see* Michael C. Blumm & Lucus Ritchie, *Lucas's Unlikely Legacy: The Rise of Background Principles as Categorical Takings Defenses*, 29 HARV. ENVTL. L. REV. 321, 324 (2005).

96. *Lucas*, 505 U.S. at 1029; Rith Energy, Inc. v. United States, 44 Fed. Cl. 108, 113 (1990).

97. *See also* Loveladies Harbor, Inc. v. United States, 28 F.3d 1171, 1182 (Fed. Cir. 1994) ("[S]ince the federal power to regulate without risk of a taking is based on the state's nuisance law . . . the federal authority, if exercised, is exercised at the risk of an absence of state authority.").

98. *See* Ill. Cent. R.R. Co. v. Illinois, 146 U.S. 387, 452-54 (1892); LA. CONST. art. IX, § 1.

99. *Ill. Cent. R.R. Co.*, 146 U.S. at 452; *see* Shively v. Bowlby, 152 U.S. 1, 57 (1894) (affirming states' power to govern lands below the high water mark subject to the United States Constitution).

100. *Ill. Cent. R.R. Co.*, 146 U.S. at 453; *see* R.W. Docks & Slips v. Wisconsin, 628 N.W.2d 781, 788 (Wis. 2001) (holding that riparian use and access rights are "qualified,

navigable waters and tidelands must be held in trust by the state and used in a manner that satisfies the interests of the public at large.[101] Following this doctrine, the Louisiana Supreme Court held that property held in trust for the public cannot be abdicated so as to give private parties the entire "use and control."[102]

The primary issue in determining the feasibility of employing a public doctrine argument, as a background principle creating an exception to a taking, is whether the subject land was held under the public trust doctrine. Under the Louisiana Code, "running waters, the waters and bottoms of natural navigable water bodies, the territorial sea, and the seashore" are in held in trust by the state.[103] Louisiana's delineation of the seashore extends to the winter high tide mark.[104] Within the waters and land held in the public trust, all people have the right to both use the seashore and fish the water bodies.[105]

While the government can invoke the public trust doctrine to defend takings claims for regulations affecting navigable water bodies and the territorial sea, Louisiana law does not include wetlands, inland nonnavigable water bodies, or the banks of rivers and streams as lands within the public trust doctrine.[106] Seventy-five percent of the Louisiana coastal wetlands are under private ownership. Consequently, the public trust doctrine will not serve as a background principle of property law to except regulations from inverse condemnation claims for the vast majority of land that must be regulated under a comprehensive plan to restore and protect the nation's coastal wetlands in Louisiana.

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subordinate, and subject to the paramount interest of the state"); Coastal Petroleum v. Chiles, 701 So. 2d 619, 624 (Fla. Dist. Ct. App. 1997) (holding offshore drilling regulations were not takings because the state has the "authority to protect lands held in trust for all people").

101. *Ill. Cent. R.R. Co.*, 146 U.S. at 456.

102. *See* Gulf Oil Corp. v. St. Mineral Bd., 317 So. 2d 576, 589 (La. 1975) (holding transfer of navigable water bed is void because cannot be abdicated from the state); Vermillion Bay Land Co. v. Phillips Petroleum Co., 646 So. 2d 408, 410 (La. Ct. App. 1994) (precluding the state from alienating navigable water body beds).

103. LA. CIV. CODE ANN. art. 450 (2005); *see also* Op. La. Att'y Gen. 92-472 (1992), 1992 WL 610613, at *5 (La. A.G. 1992) (ownership of accreted property "varies depending on the classification of the water body").

104. LA. CIV. CODE ANN. art. 451 (2005).

105. *Id.* art. 452; La. Seafood Mgmt. Council v. La. Wildlife & Fisheries Comm'n, 715 So. 2d 387, 392 (La. 1998) (recognizing fishing resources as being within the public trust doctrine).

106. LA. CIV. CODE ANN. art. 456 ("[T]he banks of navigable rivers or streams are private things that are subject to public use."); Dardar v. Lafourche Realty Co., 985 F.2d 824, 830 (5th Cir. 1995) ("Inland non-navigable water bodies and swamp lands subject to indirect tidal overflow, but not direct coastal ebb and flow, may be privately owned under Louisiana law."); State v. Barras, 615 So. 2d 285, 288 (La. 1993) (stating that marshlands with overflow are private property).

Under Louisiana law, the concept of the public trust doctrine can arguably be expanded, however, to encompass all natural resources. The Louisiana Constitution provides that "[t]he natural resources of the state, including air and water . . . shall be protected, conserved, and replenished insofar as possible and consistent with the health, safety, and welfare of the people."[107] Applying this constitutional provision, the Louisiana Supreme Court held that the state must establish a "balancing process in which environmental costs and benefits must be given full and careful consideration along with economic, social and other factors."[108] Thereby, agencies regulating for the purpose of restoring and protecting lands outside of the public trust doctrine could assert the state's constitutional dedication to protecting wetlands in inverse condemnation actions.

However, a recent Louisiana Supreme Court case clearly stated that this constitutional standard is merely a "rule of reasonableness."[109] Before acting in a way that might harm the environment, Louisiana agencies must "determine that adverse environmental impacts have been minimized or avoided as much as possible consistently with the public welfare."[110] Because agencies are vested with the discretion to balance environmental and economic concerns,[111] Louisiana would gamble that coastal restoration regulations would be held to fail a balancing test for determining whether agency regulations inappropriately favor coastal protection and restoration goals over private economic losses.

Due to the Louisiana statutory exclusion of wetlands, inland nonnavigable water bodies, and the banks of rivers and streams, the public trust doctrine will not serve as a background principle of property law excepting the government from takings liability for regulations across the majority of coastal Louisiana. Rather, private landowners will have a successful argument that regulations go "too far" to fall under the state's police power to mitigate nuisances.[112] Consequently, all coastal property owners who establish either a physical taking or that a regulatory taking has deprived him of all economically viable use of his

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107. LA. CONST. art. IX, § 1.

108. Save Ourselves, Inc. v. La. Envtl. Control Comm'n, 452 So. 2d 1152, 1157 (La. 1984).

109. Lake Bistineau Pres. Soc'y, Inc. v. Wildlife & Fisheries Comm'n, 895 So. 2d 821, 826-27 (La. Ct. App. 2005) (holding Louisiana Department of Fisheries and Wildlife properly balanced environmental and economic concerns in deciding to lower lake level to prevent muck accumulation).

110. *Id.* at 826.

111. *Id.*

112. *See* Penn. Coal Co. v. Mahon, 260 U.S. 393, 415 (1922) ("[I]f regulation goes too far it will be recognized as a taking.").

property, will likely succeed in an inverse condemnation claim and be legally entitled to just compensation.[113]

Rather than employing legal actors, paying litigation expenses, and enduring lengthy legal battles only ultimately to pay just compensation, the government is wiser to acquire title and all use rights to coastal property that must be restored under the comprehensive plan. Though restoring coastal Louisiana through regulation would avoid frontloaded financial burdens, this option carries the risk of future expenses that would drastically outweigh the cost of acquiring coastal property in the immediate future. Under a plan in which government offers the fair market value for coastal properties and is able to negotiate with willing sellers, the nation's taxpayers will avoid the costs of litigating future inverse condemnation costs and paying potentially higher fair market values in satisfaction of just compensation.[114]

In addition to considering the foreseeability of ultimately paying just compensation for regulations, the government must also consider the implication of land use rights particular to Louisiana that will initially heighten the incentive to bring an inverse condemnation claims and burden the government with litigation. Under Louisiana's Constitution, riparian landowners have the right to reclaim land lost to erosion.[115] As promulgated by the Louisiana Legislature, those landowners with property "abutting navigable waters, bays, arms of the sea, the Gulf of Mexico, and navigable lakes . . . have the right to reclaim or recover land . . . lost through erosion, compaction, subsidence, or sea level rise."[116] A landowner desiring to pursue the reclamation process must apply for a permit with the Louisiana Department of Natural Resources and be issued a permit by the State Land Office.[117] Because of this constitutionally vested right to reclaim lost land, landowners with the financial resources to reclaim their property will initially be more apt to litigate alleged categorical or physical takings of their property as violations of their constitutional right to reclaim their own property.[118]

In spite of the unique constitutional right granted to citizens to repair eroded riparian land, the government ultimately will not be

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113. Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419, 441 (1982) (holding that a physical invasion of private property constitutes a taking requiring just compensation); Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1015 (1992) (describing categorical taking of property where landowner is deprived of all economically viable use of property).

114. Kirby Forest Indus., Inc. v. United States, 467 U.S. 1, 10 (1984).

115. LA. CONST. art. IX., § 3.

116. LA. REV. STAT. ANN. § 41:1702(B)(1) (2005).

117. *Id.* § 41:1702.

118. *Id.*; LA. CONST. art. IX, § 3.

burdened with significant litigation on this basis.[119] Claims based on citizens' constitutional right to repair their riparian property will be defeated because this right to reclamation is discretionary and dependent upon receiving permits to commence reclamation.[120] Thereby, the state's constitutional right to take land for public purposes, with payment of just compensation, would likely trump private parties' reclamation rights.[121] In addition, claims that a private party's right to reclaim land was violated through public abdication of their property rights also fail. Under Section 4 of Article 9 of the Louisiana Constitution, the beds of navigable water bodies may be reclaimed by the government for "public use." Thus, as long as such public use goes to a "public purpose," the state is exercising its constitutional right to take land after payment of just compensation.[122]

After considering the legal implications of regulating land verses acquiring property at the outset of restoration, the government must also consider the implications of investing the $15 billion projected to be necessary to restore and protect coastal wetlands in Louisiana.[123] Considering that seventy-five percent of coastal Louisiana is privately owned, the majority of restoration resources under a regulatory framework will be devoted to direct improvements on private property. Because the purpose of comprehensive coastal restoration and protection plan is to provide a healthy and protective environment into the indefinite future,[124] it is imperative that the government ensures that restoration efforts will not be undermined by private property owners' subsequent actions.[125] Rather than taking this risk, the government should invest the money up front to acquire property rights to coastal lands, place the lands in a public trust, and then exercise use rights with the national interest in mind.

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119. *See* Hebert, *supra* note 64, at 1184-85; Save Our Wetlands, Inc. v. Orleans Levee Bd., 368 So. 2d 1210, 1211-14 (La. Ct. App. 1979) (holding that state reclamation of private property does not violate owner's constitutional protection against alienation of property).

120. *See* LA. CONST. art. IX, § 3 ("Except as provided in this Section, the bed of a navigable water body may be reclaimed only for public use."); *see also* Hebert, *supra* note 64, at 1189.

121. *See* LA. CONST. art. IX, § 3 (providing that "the bed of a navigable water body may be reclaimed only for public use"); *id.* art. IX, § 3; *see also* Hebert, *supra* note 64, at 1189.

122. LA. CONST. art. I, § 3.

123. Williams, *supra* note 55; *see* CAFFEY, SAVOIE & SHIRLEY, *supra* note 3, at 4 (estimating the cost to implement and maintain a variety of restoration technologies at $14 billion).

124. COAST 2050, *supra* note 2, at 2.

125. CAFFEY, SAVOIE & SHIRLEY, *supra* note 3, at 7 (stating that 75% of coastal wetlands in Louisiana are privately owned).

While an assurance of longevity and sound investment is not legally mandated as part of a public use of land, as a matter of public policy, the nation's support for coastal reclamation will increase with an assurance that the money is being invested in a resource held in trust for the public. In light of the fact that the State of Louisiana cannot finance the complete extent of reclamation required to restore the coastal wetlands,[126] the constituents supplying the national tax dollars to fund the plan will likely provide a political voice advocating taking the coastal land for a tangible public use. Through acquiring coastal Louisiana wetlands in a public trust and thereby precluding detrimental private land uses, the government will provide the taxpayers with the most stable investment in the future health of the wetlands.

The inevitability of successful physical takings claims, the likelihood of many successful regulatory takings claims, and the economic implications restoring coastal Louisiana must also be considered in light of the environmental consequences of regulating verses acquiring property in coastal Louisiana. Considering that a comprehensive plan relying on regulation to implement wetland restoration will result in the government paying just compensation, the government should not only acquire property up front and avoid heightened future costs but also implement a unified restoration process across the ecologically interconnected wetland environment.

Louisiana's coastal wetlands are comprised of the Deltaic Plain and the Chenier Plain ecosystems.[127] By definition, ecosystems consist of dynamic and interrelated processes that affect the health of the whole system.[128] Thus, piecemeal restoration of fragmented parcels of property within coastal Louisiana will not serve a long-term purpose of protecting the nation's resources and people. Though acquiring property rights in coastal Louisiana presents a political challenge, the task of restoring the entire system is an environmental challenge requiring years of consistent work and protection

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126. In the months following Hurricanes Katrina and Rita, Louisiana cut $600 million from the state budget and promised more cuts. Kathleen Blanco & Ray Suarez, Comments During PBS Online NewsHour: New Orleans Recovery Efforts (Nov. 22, 2005). Meanwhile, it is estimated that wetland reclamation will cost $15 billion. Williams, *supra* note 55; *see also* CAFFEY, SAVOIE & SHIRLEY, *supra* note 3, at 4 (estimating the cost to implement and maintain a variety of restoration technologies at $14 billion).

127. COAST 2050, *supra* note 2, at 19.

128. *See* M. LYNNE CORNE, ECOSYSTEMS, BIOMES, AND WATERSHEDS: DEFINITIONS AND USE (Congressional Research Service No. 93-655) (1993) (providing explanation of the ecosystem dynamics).

V. CONCLUSION

In the wake of the physical devastation caused by Hurricanes Katrina and Rita, the nation stands at a turning point. The devastating impacts of the storm surges from Hurricanes Katrina and Rita allowed the nation to witness just one consequence of the loss of wetlands. However, this one consequence provides citizens with the opportunity to recognize that the coastal wetlands provide the nation with energy, fish, ports, international investment, culture, and a rich natural flora and fauna. At present, scientists, politicians, and the general public generally accept the reality that Louisiana's coastal wetlands are disappearing at an alarming rate. However, the nation must now develop one comprehensive plan to coordinate resources, goals, and efforts to insure long-term restoration and protection of coastal Louisiana's wetlands.

Under this comprehensive plan, land restoration and protection should be accomplished through acquisition rather than regulation. Under the broadest light, a comprehensive plan will require restoration combined with protection. At the outset of implementing restoration objectives, physical improvements and alterations to coastal Louisiana's landscape will be required. Such objectives will result in physical takings requiring just compensation. The property that does not require physical improvements must be placed under regulations ensuring future stability. The strictest of these regulations will waiver on the line of regulatory takings depriving a landowner of all economically viable use of property and consequently demanding payment of just compensation. Under such regulations, landowners will bring inverse condemnation claims requiring the government to engage in negotiations, settlements, and possible payments of just compensation.

Recognizing the inevitability of instituting eminent domain proceedings for private property under restoration and the litigation arising from wetland protection regulations, the government will ultimately be politically, economically, and environmentally wiser to acquire broad tracts of coastal Louisiana at the outset of a comprehensive plan for restoration and protection. Through acquisition, the government will have full control to implement necessary restorative and protective efforts. In addition, the two major ecosystems comprising coastal Louisiana will be under consistent land use habits providing for the ensured success of the region's recovery. Further, the nation will avoid implementing a disjointed restoration and protection regulatory plan that inevitably is held to constitute takings requiring just compensation. Rather, the nation will pay the just compensation at the outset and

provide security to its citizens that funds used to restore Louisiana's wetlands are being used to benefit land and resources now held in trust for the nation.