

STUDENT WORKS

DEFENDING FLORIDA'S MARINE TREASURES: AN ARGUMENT TO EXPAND THE PUBLIC TRUST DOCTRINE AND REINFORCE FLORIDA'S ROLE IN CORAL REEF PROTECTION

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I. INTRODUCTION

Coral reefs, often called “the rainforests of the sea,”¹ are incredibly biodiverse ecosystems that support ecological health and provide essential ecosystem services to humans.² Despite coral reefs’ value and importance, they are rapidly dwindling and disappearing due to numerous environmental pressures, most of which originate in human activity.³ The United States has taken measures to deal with the pressures weighing on coral reefs within its waters and manages corals on both the state and federal level.⁴ But, while the government has made efforts to

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1. E.g. Marjorie Mulhall, *Saving the Rainforests of the Sea: An Analysis of International Efforts to Conserve Coral Reefs*, 19 *Duke Envtl. L. & Policy Forum* 321, 322 (2009); Tex. A&M U., *Coral Reefs: The Rainforests of the Sea*, <http://oceanworld.tamu.edu/students/coral/coral2.htm> (accessed Nov. 7, 2013).

2. O. Hoegh-Guldberg et al., *Coral Reefs under Rapid Climate Change and Ocean Acidification*, 318 *Sci.* 1737, 1737 (2007); Fredrik Moberg & Carl Folke, *Ecological Goods and Services of Coral Reef Ecosystems*, 29 *Ecological Econ.* 215, 215–216 (1999).

3. *Infra* pt. II(C) (describing the current threats to coral reef health and survival).

4. *Infra* pt. III (providing a brief overview of federal and state coral reef regulation and oversight).

protect coral reefs, some aspects of coral reef management, particularly in the realm of coastal water quality, still appear to fall short.⁵

There may be a solution, however, in increased state protections for corals. The current federal framework of environmental laws that protects corals provides states with the power—and sometimes the responsibility—to “fill in the gaps” in protection that broad federal statutes fail to fill.⁶ And the current threats to corals suggest that some aspects of coral reef protection may have fallen through those gaps.⁷

This Article argues that Florida’s existing public trust doctrine can and should be extended to create a public trust interest in coral reefs and that the courts should interpret the doctrine to place an affirmative duty on the State to use its regulatory powers to defend, manage, and maintain coral reef systems for the good of the public. In protecting coral reefs, the State would protect the public’s interests in commerce, recreation, and environmental protection.⁸ An extension of the doctrine would also help ensure that the State plays its role as a regulatory “gap filler,” thus generating added protection for the State’s reef resources.⁹

Part II of this Article describes corals’ basic biology, their value to the public, and the threats to their continuing survival.

Part III of this Article briefly discusses federal and Florida approaches to coral reef protection. It reviews major federal and state programs that play a role in coral reef protection and analyzes ways that both federal and Florida coral reef protection programs may fall short of providing the protections needed to secure a healthy future for coral reefs.

Part IV discusses the public trust doctrine in Florida. Subpart A explains the doctrine as it applies to navigable waters and the lands beneath, focusing on the doctrine’s origin, scope,

5. *Infra* pt. III(C) (describing potential problems with the current structure of government-based coral reef protection).

6. *Infra* pt. III(C).

7. *Infra* pt. II(C).

8. *Infra* pt. IV (establishing Florida legal precedent for public trust doctrine objectives).

9. *Infra* pt. VI (explaining possible methods for expanding Florida’s public trust doctrine to include coral reef protection).

and application in the State. Subpart B describes the doctrine as it applies to wildlife, highlighting a wildlife trust ethic in Florida.

Part V introduces the current theory for expanding the public trust doctrine to include wildlife and includes a discussion of a few states' efforts to extend public trust protections to wildlife.

Part VI argues that Florida's public trust doctrine should expand to include coral reef resources in its scope and that courts should interpret the doctrine to create an affirmative duty for the State to protect and manage corals. First, it argues that the traditional public trust doctrine should provide the foundational support for the public trust in coral. Second, it argues that the scope of Florida public trust doctrine can and should include coral reef resources. Third, it argues that the courts must interpret the public trust doctrine as granting not only a state power, but also a state duty to properly manage its public trust resources. Finally, it briefly addresses possible arguments against expanding the power of the doctrine to protect corals and to place a duty on the State.

Part VII provides a brief description of what a coral reef public trust doctrine case might look like and what hurdles such a case may face. The Article concludes with Part VIII, which emphasizes the State's important role in protecting coral reef resources and the significance of expanding the public trust doctrine to ensure coral reef protection under State management.

II. CORAL REEFS: MULTIFACETED RESOURCES

A. A Unique Class of Animals

Most coral species are members of kingdom *Animalia*; phylum *Cnidaria*; and class *Anthozoa*, which includes both anemones and corals.¹⁰ Coral species can be divided into two main types: hard corals and soft corals.¹¹ Corals are unique because they are benthic animals that spend their entire adult lives firmly

10. Alex Rose, *Coralscience.org, Articles, Coral Taxonomy*, <http://www.coralscience.org/main/articles/taxonomy-2/coral-taxonomy> (accessed Nov. 7, 2013). However, two types of coral, fire coral and lace coral, belong to class *Hydrozoa*. *Id.*

11. Nat'l Oceanic & Atmospheric Administration, *NOAA Coral Reef Conservation Program, About Corals, Coral 101, Coral Anatomy and Structure*, <http://coralreef.noaa.gov/aboutcorals/coral101/anatomy/> (accessed Nov. 7, 2013) [hereinafter NOAA, *Conservation Program*].

attached to the ocean bottom,¹² appearing as if they are permanent outcroppings of the ocean floor. In fact, upon first glance, one might mistake a grouping of hard corals for a congregation of submerged rocks.¹³ But they are unquestionably living animals—or perhaps in a more fanciful sense, “living rocks.”

Hard, reef-building corals consist of collaborative colonies of soft, interconnected polyps¹⁴ but gain their rocky appearance by secreting layer upon layer of calcium carbonate from specialized cells, thus creating a skeletal matrix of hard, protective material.¹⁵ In this fashion, hard corals construct entire reefs. But they do not achieve this feat of construction alone.¹⁶ To successfully build their calcium carbonate shells, hard corals foster essential symbiotic relationships with photosynthetic zooxanthellae (algae).¹⁷ The zooxanthellae, which live in the tissues of the coral polyps, fix¹⁸ carbon during the photosynthetic process and pass the carbon on to the polyp to use in synthesizing its calcium carbonate shell.¹⁹

Soft corals, which have the appearance of “colorful underwater plants,” also exist in colonies of polyps, similarly to hard corals.²⁰ They also appear in the reef ecosystem; however, they differ from hard corals in that they do not produce calcium carbonate skeletons and thus do not construct reefs.²¹

12. U.S. Dep’t Com. & Nat’l Oceanic & Atmospheric Administration, *CoRIS: NOAA’s Coral Reef Information System, About Coral Reefs, Coral Reef Biology*, <http://coris.noaa.gov/about/biology/> (revised Mar. 14, 2013).

13. See Fla. Dep’t Env’tl Protec., *Protect Florida’s Coral Reefs: Use Fertilizers and Pesticides Wisely to Protect Coastal Waters and Habitats* (available at http://www.dep.state.fl.us/coastal/programs/coral/reports/LBSP/LBSP_24_Fertilizer.pdf).

14. NOAA, *Conservation Program*, *supra* n. 11.

15. Tim Wijgerde, *Coralscience.org, Articles, How Coral Reefs Grow*, <http://www.coralscience.org/main/articles/biochemistry-2/how-reefs-grow> (accessed Nov. 7, 2013). Some corals can “grow” up to five millimeters a month in the proper conditions, while others may grow much slower. *Id.*

16. *Id.*

17. *Id.*

18. Carbon fixation is a chemical process that organisms use to assimilate inorganic carbon into organic compounds. U.S. Dep’t Com. & Nat’l Oceanic & Atmospheric Administration, *supra* n. 12.

19. *Id.* The coral polyp also uses the carbon for other essential metabolic functions. *Id.*; see also Wijgerde, *supra* n. 15 (providing a comprehensive explanation of coral reef growth and the symbiotic relationship between corals and zooxanthellae).

20. NOAA, *Conservation Program*, *supra* n. 11.

21. *Id.*

Some species of corals are heterotrophic, which means they gain nourishment by consuming other living things.²² Although the symbiotic relationship between corals and zooxanthellae provides corals with much of the energy they need, many coral species also feed on zooplankton, suspended mucous strands, or sometimes even small fish.²³

Because corals thrive through delicate metabolic processes, a unique relationship with photosynthetic zooxanthellae, and varied reproductive methods,²⁴ they require rather specific conditions to flourish—waters that are warm, saline, clear, fairly shallow, and nutrient poor.²⁵ This specific range of suitable conditions limits coral reefs to relatively few geographic locations.²⁶

B. A Valuable Resource

Aside from being fascinating and rare animals, corals are also valuable resources that provide essential ecosystem services to humans.²⁷ Among these services, coral reefs sustain marine fisheries, protect shorelines, support tourism, and provide diverse options for biochemical and medical research.²⁸ Coral reefs provide habitat for many species of fish that are commercially angled for recreation and sustenance, and many species found in the reefs are staples in human diets worldwide.²⁹ For Florida, the self-titled “Fishing Capital of the World,” the health of reefs (and thus fisheries) is paramount, as Florida’s recreational saltwater fishery alone supports more than 54,500 jobs and reels in \$5.7 billion to the local economy.³⁰ Recreational tourism industries,

22. U.S. Dep’t Com. & Nat’l Oceanic & Atmospheric Administration, *supra* n. 12.

23. *Id.*

24. Reproduction also varies among coral species, but many corals are capable of both sexual and asexual reproduction. *Id.*

25. *Id.*

26. See Defenders of Wildlife, *Learn about Wildlife, Fact Sheet: Coral Reef, Basic Facts about Coral Reefs*, <http://www.defenders.org/coral-reef/basic-facts> (accessed Nov. 7, 2013) (discussing coral reef range and providing a coral reef range map).

27. Moberg & Folke, *supra* n. 2, at 215–216.

28. Hoegh-Guldberg et al., *supra* n. 2, at 1737; Fla. Dep’t Env’tl Protec., *supra* n. 13.

29. NOAA, *Conservation Program*, *supra* n. 11, at <http://coralreef.noaa.gov/aboutcorals/values/fisheries/>.

30. Fla. Fish & Wildlife Conserv. Comm’n, *The Economic Impact of Saltwater Fishing in Florida*, <http://myfwc.com/conservation/value/saltwater-fishing/> (accessed Nov. 7, 2013). The Florida Fish and Wildlife Conservation Commission (FWCC) updated its fishery statistics through February 2011. *Id.*

such as diving and snorkeling charters, depend on coral reefs to support an abundance of attractive and interesting marine species for viewing.³¹ Even hotels, restaurants, and boat rental industries that revolve around beach tourism owe their livelihood to coral reefs because the reefs protect beaches from erosion.³²

Further, the incomparable genetic biodiversity of coral reefs could play a key role in the future development of medicines and other beneficial biochemical compounds to aid society's health and welfare.³³ Researchers engage in "bioprospecting" in the species-rich reefs, which involves scouring the ecosystem to examine and "mine" species that provide useful compounds.³⁴ Bioprospecting in coral reefs has already yielded compounds that have the potential to prevent virus replication and even treat some forms of cancer.³⁵ Such important potential medical breakthroughs could both improve quality of life and even become vital to human health and existence.

Finally, because coral reefs are essential for various human uses, they are also exceptionally valuable. One environmental economics consulting firm's estimate suggests that coral reefs provide almost \$30 billion in net benefits to the global economy through various goods and services.³⁶ In a 2001 study conducted for the National Oceanic and Atmospheric Administration (NOAA),³⁷ economic researchers estimated that the reefs

31. NOAA, *Conservation Program*, *supra* n. 11, at <http://coralreef.noaa.gov/aboutcorals/values/tourismrecreation/>.

32. *Id.*

33. *See id.* at <http://coralreef.noaa.gov/aboutcorals/values/medicine/> (explaining that, while searching for biological solutions to medical problems on land has been common for decades, only recently have researchers turned to the sea). This suggests that coral reefs may hold great untapped potential to produce medical cures and other chemical breakthroughs in the future. *Id.* Already, organisms found in coral reefs have been used to produce treatments for cancer, heart disease, and arthritis, just to name a few. *Id.*

34. *Id.*

35. David Biello, *Compound from Coral Could Combat Cancer*, *Sci. Am.*, <http://www.scientificamerican.com/article.cfm?id=compound-from-coral-could> (Mar. 13, 2006). Compounds isolated from the Taiwanese bamboo coral have shown inhibitory properties against a common herpes virus. Wei-Hua Chen, Shang-Kwei Wang & Chang-Yih Duh, *Polyhydroxylated Steroids from the Bamboo Coral Isis Hippuris*, 9 *Marine Drugs* 1829, 1830 (2011) (available at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3210607/pdf/marinedrugs-09-01829.pdf>).

36. Herman Cesar, Lauretta Burke & Lida Pet-Soede, *The Economics of Worldwide Coral Reef Degradation* 4 (Cesar Env'tl Econs. Consulting 2003).

37. The study was conducted in partnership with the State of Florida and local county agencies for Palm Beach, Broward, Miami-Dade, and Monroe counties. Nat'l Oceanic & Atmospheric Administration, *Coastal and Ocean Resource Economics, Natural and Artifi-*

in southeast Florida generated around \$4.4 billion in sales for the local residents.³⁸ But the immense value of corals only endures on the condition that reefs continue to thrive.

C. An Unguarded Treasure

Despite their observable value and significance, coral reef ecosystems are disappearing at an alarming rate, mainly due to negative, human-created influences on the ocean.³⁹ Physical damage from vessels and divers, poor coastal water quality (specifically due to local land use), overfishing, and the incursion of invasive species all threaten the existence of coral reefs.⁴⁰ Water quality in particular has posed a significant threat to coral reefs. Although oil pollution and the emergence of plastic pollution have been the most recognized threats, some of the worst damage to reefs comes from nutrient and sewage-related pollution.⁴¹ A recent study conducted in the Caribbean linked a coral disease, “white pox,” which has significantly contributed to an eighty-eight percent decline in the endangered elkhorn coral species in the Florida Keys, to bacteria found in human fecal waste.⁴² The effects of large greenhouse gas emissions in the

cial Reef Valuation—Southeast Florida, <http://coastalsocioeconomics.noaa.gov/core/reefs/sefl1.html> (reviewed July 16, 2009).

38. Grace M. Johns et al., *Socioeconomic Study of Reefs in Southeast Florida: Final Report*, at 2-59 (Nat'l Oceanic & Atmospheric Administration Oct. 19, 2001) (revised Apr. 18, 2003) (available at <http://coastalsocioeconomics.noaa.gov/core/reefs/pdfs/document.pdf>). The researchers measured the economic contribution of natural and artificial reefs by quantifying sales, income, employment, and tax revenues gained in Palm Beach, Broward, Miami-Dade, and Monroe counties. *Id.* at ES-1, ES-2.

39. Hoegh-Guldberg et al., *supra* n. 2, at 1737; see also Terence P. Hughes et al., *New Paradigms for Supporting the Resilience of Marine Ecosystems*, 20 *Trends in Ecology & Evolution* 380, 380 (2005) (explaining that marine environments are failing, mainly because of overfishing, pollution, and global climate change); Nina Chestney, *Chance of Saving Most Coral Reefs Is Dwindling—Study*, Reuters, <http://www.reuters.com/article/2012/09/16/coral-climate-idUSL5E8KE4HE20120916> (Sept. 16, 2012, 1:00 p.m. EDT) (reporting on a recent study's prediction that seventy percent of corals will be degraded by 2030, even if strict carbon dioxide emission standards are put in place).

40. Hughes et al., *supra* n. 39, at 380; Jeremy Jackson, TED Talk, *Jeremy Jackson: How We Wrecked the Ocean* at 3:22 to 3:47, 8:30 to 9:37 (TED Conferences, LLC Apr. 2010) (Galápagos, Ecuador) (available at http://www.ted.com/talks/lang/en/jeremy_jackson.html).

41. Jackson, *supra* n. 40, at 8:00 to 12:59. The existence of excess nutrients (nutrient pollution) causes toxic algal blooms and low dissolved oxygen levels, which cause toxic conditions for marine life. *Id.* at 9:38 to 11:49.

42. Pascal Fletcher, *Human Fecal Waste Is Coral Killer, Research Shows*, Reuters, <http://www.reuters.com/article/2011/08/18/us-coral-waste-idUSTRE77H6HH20110818> (posted Aug. 18, 2011, 3:44 p.m. EDT) (citing Kathryn Patterson Sutherland et al., *Human*

atmosphere and the resultant global climate change have also impacted coral reefs through the processes of coral bleaching and ocean acidification.⁴³ In 2005, atypical sea-temperature rise caused coral reefs in the Caribbean Sea and Atlantic Ocean to suffer a massive bleaching event where more than eighty percent of surveyed corals bleached, leaving them severely weakened, and over forty percent of surveyed corals died.⁴⁴ Researchers predict that the 2005 bleaching event will have far-reaching consequences and that bleaching will become an “even greater threat to coral reefs in the future.”⁴⁵ High levels of human-created atmospheric carbon dioxide also cause ocean acidification, another grave threat to coral reefs.⁴⁶ In 2008, researchers discovered that ocean acidification had caused around nineteen percent of coral reefs to disappear and predicted that many of the remaining coral reefs would be lost in the next twenty to forty years if

Pathogen Shown to Cause Disease in the Threatened Elkhorn Coral Acropora Palmata, 6 PLOS ONE 1 (Aug. 17, 2011) (available at <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0023468>); *All Things Considered*, Radio Broad., “Caribbean Coral Catch Disease from Sewage” at 0:20 to 2:19 (Nat’l Pub. Radio Aug. 17, 2011) (available at <http://www.npr.org/player/v2/mediaPlayer.html?action=1&t=1&islist=false&id=139705482&m=139721681>).

43. See NOAA, *Conservation Program*, *supra* n. 11, at <http://coralreef.noaa.gov/threats> (stating that rising levels of carbon dioxide absorbed in the ocean are reducing calcification rates in corals through ocean acidification). Coral bleaching occurs when coral reefs are stressed by environmental factors, such as a rise in ambient temperature. Env’tl Protec. Agency, *Climate Change, Ecosystems Impacts & Adaptation, Climate Impacts on Ecosystems, Threshold Effects*, <http://www.epa.gov/climatechange/impacts-adaptation/ecosystems.html#Threshold> (last updated June 21, 2013). The bleaching becomes apparent when the corals expel the symbiotic zooxanthellae that they depend on for survival, leaving the corals chronically stressed or dead. *Id.*; NOAA, *Conservation Program*, *supra* n. 11, at <http://coralreef.noaa.gov/aboutcorals/coral101/symbiotalgae/>.

44. ScienceDaily, *Heat Stress to Caribbean Corals in 2005 Worst on Record; Caribbean Reef Ecosystems May Not Survive Repeated Stress*, <http://www.sciencedaily.com/releases/2010/11/101116080407.htm> (Nov. 16, 2010); see C. Mark Eakin et al., *Caribbean Corals in Crisis: Record Thermal Stress, Bleaching, and Mortality in 2005*, 5 PLOS ONE 1, 2 (Nov. 15, 2010) (available at <http://www.plosone.org/article/attachment.action?jsessionid=5EAA97BA40C3A299B88F08123B4BAAB4?uri=info%3Adoi%2F10.1371%2Fjournal.pone.0013969&representation=PDF>) (providing a review of the 2005 coral bleaching event study).

45. Eakin et al., *supra* n. 44, at 5.

46. Ocean acidification occurs when atmospheric carbon dioxide absorbs into the oceans and increases the oceans’ acidity (indicated by a decreased pH level). See Hoegh-Guldberg et al., *supra* n. 2, at 1737. About twenty-five percent of human-created carbon dioxide enters the oceans, where it reacts with water and produces carbonic acid. *Id.* This acidification of the ocean is harmful to corals because it inhibits coral reef calcification, a process corals depend on to form the “skeletons” they rely on for survival. *Id.*; Nat. Resources Def. Council, *Ocean Acidification: The Other CO₂ Problem*, <http://www.nrdc.org/oceans/acidification/> (revised Sept. 17, 2009).

current greenhouse gas emission rates continued.⁴⁷ Unfortunately, global greenhouse gas emissions have continued to increase,⁴⁸ making the possibility of scientists' predictions very real.

Although efforts to protect coral reefs appear futile in the face of threats from global climate change,⁴⁹ research also shows that corals are quite resilient and have a fighting chance to withstand the effects of global climate change if other pressures (such as poor water quality and overfishing) are reduced or eliminated.⁵⁰ These studies suggest that effective coral reef protection is more important now than ever, with the increasing threat of climate change induced pressures looming on the horizon.⁵¹

III. CURRENT FEDERAL AND STATE CORAL REEF PROTECTION

Coral reef protection and management fall under a complex matrix of federal and state regulations.⁵² To further complicate the management scheme, existing federal and state programs operate both individually and in tandem.⁵³ Also, some programs

47. Associated Press, *One-Fifth of Coral Reefs Lost Due to Acid-Filled Oceans*, <http://news.nationalgeographic.com/news/2008/12/081210-eu-poland-AP.html> (Dec. 10, 2008).

48. See Wynne Perry, *Global Greenhouse Gas Emissions Continue to Rise*, <http://www.csmonitor.com/Science/2012/0720/Globalgreenhousegas-emissions-continue-to-rise-video> (July 20, 2012) (reporting that carbon dioxide production was up three percent in 2011).

49. NOAA, *Conservation Program*, *supra* n. 11, at <http://coralreef.noaa.gov/threats/>.

50. See ScienceDaily, *Cleaner Water Mitigates Climate Change Effects on Florida Keys Coral Reefs, Study Shows*, <http://www.sciencedaily.com/releases/2010/07/100706123025.htm> (July 6, 2010) (citing Daniel E. Wagner, Philip Kramer & Robert van Woesik, *Species Composition, Habitat, and Water Quality Influence Coral Bleaching in Southern Florida*, 408 *Marine Ecology Progress Ser.* 65, 76 (2010) (reporting that a coral reef study conducted in the Florida Keys provides evidence that improving local water quality can improve corals' ability to resist adverse changes from global climate change)). Coral reef resilience has become a popular topic of study among researchers, who continue to search for solutions to the mounting threats to coral reefs. M. Nyström et. al., *Capturing the Cornerstones of Coral Reef Resilience: Linking Theory to Practice*, 27 *J. Int'l Soc'y for Reef Stud.* 795, 795–796 (2008).

51. Nyström et. al., *supra* n. 50, at 795–796.

52. The United States is also involved in international efforts to protect coral reefs, including the International Coral Reef Initiative, an “informal partnership” of governments, international organizations, and nongovernmental organizations that endeavors to protect corals through employment of Chapter 17 of Agenda 21. Int'l Coral Reef Initiative, *ICRI at a Glance*, <http://www.icriforum.org/about-icri> (accessed Nov. 7, 2013). Because this Article focuses on domestic coral reef protection, it will not address international efforts to conserve coral reefs.

53. *Infra* pt. III(C).

are explicitly dedicated to coral reef protection while others are broader and simply encompass aspects of coral reef protection.⁵⁴ Subpart A discusses federal approaches to coral reef protection, and Subpart B discusses Florida's approaches. Subpart C explains how the complicated mesh of laws protecting coral reefs allows for gaps in coral reef protection and suggests that the states have an opportunity to fill those gaps.

A. Federal Coral Reef Protection

While federal coral reef protection has seen much recent growth,⁵⁵ many statutes that generally protect environmental quality, coastal resources, and marine resources also indirectly protect coral reefs.⁵⁶ Some federal statutes, like the National Marine Sanctuary Act,⁵⁷ indirectly protect coral reef habitat by designating marine sanctuaries.⁵⁸ In these sanctuaries, marine natural resources benefit from federal management plans⁵⁹ and protections against various physical harms.⁶⁰ Other federal statutes indirectly protect coral habitat by regulating water pollution,⁶¹ which can drastically impair coral survival.⁶² Some

54. *Infra* pt. III(A)–(C) (discussing federal coral reef protection, Florida's coral reef protection, and problems with the federal-state regulatory scheme).

55. *Infra* nn. 69–81 and accompanying text (describing Bill Clinton's 1998 Executive Order that created the United States Coral Reef Task Force and the Coral Reef Conservation Act, which Congress passed in 2000).

56. See Mike Mastry, *Coral Reef Protection under the United States Federal Law: An Overview of the Primary Federal Legislative Means by Which Coral Reef Ecosystems and Their Associated Habitat May Be Protected*, 14 U. Balt. J. Envtl. L. 1, 3 (2006) (noting that coral reef law is not a "distinct body of law" but that there are many protections in place).

57. 16 U.S.C. §§ 1431–1445 (2012).

58. *Id.* The Florida Keys National Marine Sanctuary (FKNMS), located off the coast of Florida, protects the world's third largest barrier reef within its boundaries. Nat'l Oceanic & Atmospheric Administration, *Florida Keys National Marine Sanctuary, Explore Florida Keys National Marine Sanctuary, Corals*, <http://floridakeys.noaa.gov/explore.html> (revised Dec. 8, 2011) [hereinafter NOAA, *Marine Sanctuary*].

59. The FKNMS has its own "Water Quality Protection Program" under which the EPA and Florida Department of Environmental Protection (DEP) provide recommendations on how to properly manage water quality in the sanctuary. NOAA, *Marine Sanctuary*, *supra* n. 58, at <http://floridakeys.noaa.gov/wqpp/welcome.html>.

60. Within the national marine sanctuaries, it is unlawful to destroy, possess, sell, or purchase any living or nonliving sanctuary resources managed under the marine sanctuary laws. 16 U.S.C. § 1436(1)–(2).

61. See *e.g.* Federal Water Pollution Control Act, 33 U.S.C. §§ 1251–1387 (regulating "point source" pollution and applying rigorous restrictions to ocean discharges of pollutants); Ocean Dumping Act, 33 U.S.C. §§ 1401–1420 (applying a limitation—and in some instances, prohibition—of ocean dumping in United States waters); Oil Pollution Act,

federal statutes also indirectly protect coral reefs by requiring agencies to consider the impacts of their decisions when those decisions may harm marine ecosystems.⁶³

The federal Endangered Species Act (ESA)⁶⁴ has both directly and indirectly protected coral reefs. Generally, the ESA helps regulate and maintain coral reef ecosystems by protecting individual endangered or listed reef species from direct harm and harm to their habitats.⁶⁵ In 2005, two coral species came under the direct protection of the ESA when the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA NMFS) listed the elkhorn and staghorn corals, both found off the coast of Florida, as threatened species.⁶⁶ Along with listing the two species, NOAA NMFS applied full ESA protections to the species⁶⁷ and included goals to reduce greenhouse gas emissions, minimize impacts on coral health, and decrease local stressors such as nutrient pollution.⁶⁸

Specific federal efforts to protect corals came into existence in the late 1990s.⁶⁹ In 1998, President Bill Clinton issued Executive Order 13089,⁷⁰ which marked the first major federal action

33. U.S.C. §§ 2701–2720 (addressing economic liabilities from oil-tanker groundings and oil spills).

62. *Supra* pt. II(C) (describing threats to coral reef survival).

63. *See e.g.* Coastal Zone Management Act, 16 U.S.C. §§ 1451–1466 (providing a federal framework under which state and local governments can responsibly manage coastal resources and development); National Environmental Policy Act, 42 U.S.C. §§ 4321–4370 (placing procedural requirements on federal agencies that are planning major actions that could potentially harm the environment).

64. 16 U.S.C. §§ 1531–1544.

65. *Id.* at §§ 1531(b), 1538(a)(1)(B), (C). The ESA defines a species as “endangered” if it is “in danger of extinction throughout all or a significant portion of its range” and “threatened” if it “is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” *Id.* at § 1532(6), (20).

66. 71 Fed. Reg. 26852, 26852–26860 (May 9, 2006). NOAA NMFS designated critical habitat for the two coral species in 2008, including a vast stretch of land off the Atlantic coast of the Florida Keys. 73 Fed. Reg. 72210, 72237 (Nov. 26, 2008) (including maps of areas of critical habitat).

67. 73 Fed. Reg. 64264, 64264 (Oct. 29, 2008).

68. Jennifer Moore & Alison Moulding, *Endangered Species Act Recovery Outline: Elkhorn & Staghorn Corals 5* (Nat'l Oceanic & Atmospheric Administration, Nat'l Marine Fisheries Serv.) (available at <http://sero.nmfs.noaa.gov/pr/endangered%20species/Updated%20Recovery%20Outline.pdf>).

69. *See e.g.* Exec. Or. 13089, 63 Fed. Reg. 32701, 32701–32703 (June 11, 1998) (drawing on federal agencies to work together to protect coral reefs).

70. *Id.* at 32701–32703. The Order required that

[a]ll Federal agencies whose actions may affect U.S. coral reef ecosystems . . . identify their actions that may affect U.S. coral reef ecosystems; . . . utilize their

targeting coral reef protection.⁷¹ The Order required federal agencies to curb activities that harmed corals and to actively protect the reef ecosystems through research, monitoring, management, restoration, and reduction of negative effects from fishing, pollution, and sediments.⁷² The Order also required that agencies develop management measures in partnership with the United States Coral Reef Task Force (USCRTF), a task force created by the Executive Order.⁷³ The USCRTF, co-chaired by the Secretary of the Interior and the Secretary of Commerce, and with members including the Environmental Protection Agency, the Coast Guard, and the State of Florida,⁷⁴ was established to coordinate and direct implementation of joint tasks and responsibilities created by the Order.⁷⁵ Additionally, the member agencies of USCRTF take part in coral reef protection on an individual basis by executing laws and research programs.⁷⁶

Congress also made efforts to protect coral reef ecosystems when it passed the Coral Reef Conservation Act of 2000 (CRCA),⁷⁷ the only federal law that focuses explicitly on the defense of coral reefs.⁷⁸ CRCA requires that NOAA create and submit a “[n]ational coral reef action strategy” in cooperation with the USCRTF.⁷⁹ Accordingly, NOAA and the USCRTF published the National Action Plan to Conserve Coral Reefs to attain the goals set forth by Executive Order 13089.⁸⁰ The action plan points out “gaps” in

programs and authorities to protect and enhance the conditions of such ecosystems; and . . . to the extent permitted by law, ensure that any actions they authorize, fund, or carry out will not degrade the conditions of such ecosystems.

Id. at 32701, § 2(a).

71. U.S. Coral Reef Task Force, *U.S. Coral Reef Task Force Federal Member Coral Profiles* 7 (May 2009) (available at <http://www.coralreef.gov/intro/coralpupdated.pdf>).

72. Exec. Or. 13089, 63 Fed. Reg. at 32702. Interestingly, “regulating” was not included as one of the tools for coral protection.

73. *Id.* at 32701–32702.

74. U.S. Coral Reef Task Force, *supra* n. 71, at 8.

75. Exec. Or. 13089, 63 Fed. Reg. at 32702.

76. *See generally* U.S. Coral Reef Task Force, *supra* n. 71 (reviewing each member agency of the USCRTF and its coral reefs programs).

77. 16 U.S.C. §§ 6401–6409.

78. Mastry, *supra* n. 56, at 4.

79. 16 U.S.C. § 6402(a). CRCA also provides grants for coral conservation projects. *Id.* at § 6403.

80. Mastry, *supra* n. 56, at 5; U.S. Coral Reef Task Force, *The National Action Plan to Conserve Coral Reefs* (Mar. 2, 2000) (available at <http://www.coralreef.gov/about/CRTFAxnPlan9.pdf>). The Action Plan identified problems, set goals, and laid specific action plans for the 2001 fiscal year. *Id.* Interestingly, USCRTF’s plan to address human-

reef protection and includes strategies, core principles, and goals for coral reef protection, but it does not provide any specific enforceable coral protections.⁸¹ These more focused federal efforts have succeeded in drawing attention and resources to issues faced by coral reefs as well as providing a framework under which the various state and local governments can implement coral reef protection. But the actual positive effects of CRCA, the Executive Order, and the USCRTF action plan are still unclear.

B. Florida's Coral Reef Protection

As a coastal state with a long stretch of barrier reefs, Florida is on the front line of coral reef protection.⁸² Florida, like the federal government, administers many programs that indirectly affect coral reefs.⁸³ Most importantly, Florida administers a nonpoint source water management program under the Clean Water Act (CWA).⁸⁴ This program consists of various sub-programs, including the State Stormwater Management Program, which requires local governments to create stormwater management plans with consultation from the water management districts,⁸⁵ and a coastal nonpoint source management program administered under the Coastal Zone Management Act (CZMA).⁸⁶

based impacts on corals deferred to existing federal and state authorities and “voluntary implementation of various model conservation measures,” *id.* at 17, suggesting that the USCRTF expected general state and federal authorities to take responsibility for curbing those types of threats.

81. U.S. Coral Reef Task Force, *supra* n. 71, at 9–33; *see also* U.S. Coral Reef Task Force, *The U.S. National Coral Reef Action Strategy's 13 Goals for Addressing Threats to Coral Reefs Worldwide*, <http://www.coralreef.gov/goals.html> (revised Apr. 2, 2009) (providing thirteen additional goals for protecting corals).

82. *See* Sylvia Quast & Michael A. Mantell, *Role of the States*, in *Ocean and Coastal Law and Policy* 67, 67 (Donald C. Baur, Tim Eichenberg & Michael Sutton eds., ABA 2008) (explaining that coastal states have historically acted as chief decision-makers in the management of ocean and coastal resources). In fact, long before the national Marine Protection, Research, and Sanctuaries Act was passed, California and Florida were establishing marine protected areas. *Id.*

83. *E.g.* Florida Coastal Management Act, Fla. Stat. §§ 380.205–380.27 (codifying Florida's coastal management plan under the Coastal Zone Management Act); Pollutant Discharge Prevention and Control Act, Fla. Stat. §§ 376.011–376.165, 376.19–376.21 (prohibiting the discharge of pollutants into coastal waters); Ocean and Coastal Resources Act, Fla. Stat. §§ 161.70–161.76 (providing for coastal monitoring and research).

84. Fla. Dep't Env'tl Protec., *Nonpoint Source Management Program*, <http://www.dep.state.fl.us/water/nonpoint/> (last updated Oct. 18, 2012).

85. Fla. Stat. § 403.0891 (2012).

86. Fla. Dep't Env'tl Protec., *supra* n. 84.

Although Florida has created various programs in coordination with Section 319 of the CWA,⁸⁷ the programs are not as stringent as they could be. In some cases, the State does not regulate at all but rather encourages the reduction of nonpoint source pollution through the creation of best management practices and incentive systems.⁸⁸

Florida has also passed many statutes that directly protect the corals in state waters, including the Florida Coral Reef Protection Act (FCRPA), which applies to coral reefs on Florida's sovereign submerged lands.⁸⁹ The FCRPA designates the Florida Department of Environmental Protection (DEP) as the "lead trustee" for Florida's coral reefs.⁹⁰ It also requires the owners of vessels that run aground to report their groundings to the DEP.⁹¹ The owner must then pay damages, which go into the Ecosystem Management and Restoration Trust Fund, and civil penalties for damaging the corals.⁹² The FCRPA does not provide protections against more general threats such as water pollution.

The Florida Endangered and Threatened Species Act (ETSA) also provides special protections for the staghorn and elkhorn coral species, which are listed as threatened under the Act.⁹³ Under the ETSA, the DEP is responsible for researching and managing listed species and promoting citizen awareness of listed species.⁹⁴

Florida has also established John Pennekamp Coral Reef State Park, located off the coast of Key Largo, as the "first undersea park in the [United States]."⁹⁵ The park is similar to the national marine sanctuaries and provides an extra layer of protection for corals within State waters.⁹⁶ For instance, a statute

87. *Id.*

88. *Id.* at <http://www.dep.state.fl.us/water/nonpoint/agsrc.htm> (last updated Sept. 21, 2011).

89. Fla. Stat. § 403.93345.

90. *Id.* at § 403.93345(4). That duty, however, does not preempt other agency interests in coral reef protection. *Id.*

91. *Id.* at § 403.93345(5).

92. *Id.* at § 403.93345(5)-(11). The money in the fund may only be used to assist the DEP in coral reef protection and rehabilitation. *Id.* at § 403.93345(11)(a)-(b).

93. Fla. Stat. § 379.2291; Fla. Admin. Code Ann. r. 68A-27.0031 (1998).

94. Fla. Stat. § 379.2291.

95. Fla. Park Serv., *Florida State Parks, John Pennekamp Coral Reef State Park*, <http://www.floridastateparks.org/pennekamp/> (accessed Nov. 7, 2013).

96. Fla. Stat. § 258.083.

making it a misdemeanor offense “to destroy, damage, [or] remove” coral within the park aims to deter people from directly harming the corals.⁹⁷ The park also has a management plan that coordinates authority and responsibility for management of the park.⁹⁸ While these management strategies and limitations on activity within the park promise increased protection of corals, research conducted within the park provides an unclear picture of the results of the protective measures.⁹⁹

C. Problems with the Federal-State Regulatory Scheme

Despite good intentions, the creation of a plethora of regulatory programs, and great advances in the approach to coral reef protection, the symptoms of coral reef degradation continue.¹⁰⁰ Most notably, poor coastal water quality still negatively impacts corals, even though laws that regulate water pollution exist.¹⁰¹ The proof is in the current quality of the marine environment and state of the reefs.¹⁰² But these continuing threats to corals are only symptoms of a problem with the current coral reef protection provisions.¹⁰³

97. *Id.*

98. Fla. Dep't of Env'tl Protec., *John Pennekamp Coral Reef State Park: Approved Management Plan*, (Sept. 1, 2004) (available at <http://www.dep.state.fl.us/parks/planning/parkplans/JohnPennekampCoralReefStatePark.pdf>).

99. See Nat'l Oceanic & Atmospheric Administration & U. Miami, *An Environmental Assessment of the John Pennekamp Coral Reef State Park and the Key Largo Coral Reef Marine Sanctuary (Unpublished 1983 Report)* 92 (Nov. 2002) (available at <http://www.aoml.noaa.gov/general/lib/cedar107.pdf>) (explaining that “[t]he state of health of corals is difficult to determine and no reliable methods of assessment are known”). Measuring the rises and troughs in coral health may also be difficult because there is no solid, extensive data baseline. See *id.* at 93 (explaining that a 1974 coral health study only covered five of the ten reefs studied in 1983). The Pennekamp study also noted that, although divers conducting the survey did not see any boat or anchor damage on the reefs, the perceived absence of damage may have been attributable to the limited geographical scope of the study. *Id.* at 101.

100. *Supra* pt. II(C) (discussing current threats to and degradation of coral reefs).

101. Robin Kundis Craig, *Coastal Water Quality Protection*, in *Ocean and Coastal Law and Policy*, *supra* n. 82, at 205; see also Reef Relief Founders, *Florida Keys Reefs, What Is the Biggest Threat to Florida's Coral Reef?* <http://reefrelieffounders.com/florida-keys-reefs.html> (accessed Nov. 7, 2013) (citing the overabundance of nutrients in marine waters, which come from land-based sources of pollution such as untreated and partially treated sewage and agricultural runoff, as the biggest threat to Florida's coral reefs).

102. *Supra* pt. II(C).

103. See Lisamarie Carrubba, PowerPoint, *Staghorn and Elkhorn Coral ESA Listing: Implications for Planning and Response* slide 26 (Nat'l Oceanic & Atmospheric Administration Nat'l Marine Fisheries Serv.) (available at <http://www.crnt.nrt.org/production/NRT/>)

First, the bulk of the current collection of environmental laws affecting the health of corals are not closely tailored to the issues facing coral reefs, leaving room for those issues to slip through the cracks. Some laws only impact a small aspect of coral reef protection. The ESA, for example, with its focus on individual species within the reefs,¹⁰⁴ is too narrow, disregarding large-scale, habitat-destruction issues that stem from factors far removed from the types of direct harm that the ESA protects against.¹⁰⁵ Although the ESA has a habitat-based protection plan, it is unclear how potent that aspect of the ESA really is in its protection of marine habitats, especially in the face of threats from poor water quality and atmospheric greenhouse gases.¹⁰⁶ Thus, although the ESA hits on some direct aspects of coral reef protection, it does not address the full range of management issues involved. Even the National Environmental Policy Act (NEPA), which has a much broader subject matter than the ESA,¹⁰⁷ is too narrow in its application because it only applies to major federal actions¹⁰⁸ that may affect reefs and too narrow in remedy because it only provides procedural protections for the environment and does not have substantive requirements.¹⁰⁹ Thus, NEPA does not protect against state actions that impact the environment; and even when NEPA is applied to the federal actions within its scope, it does not require agencies to conform to environmentally responsible guidelines but simply to consider the impacts.¹¹⁰ Finally, Florida's protective statute, the Florida Coral Reef Protection Act, focuses only on a small aspect of protection—

RRTHome.nsf/resources/caribbean1/\$file/StaghornandElkhornCoralESAListing_CRRTMTG.pdf) (suggesting that existing regulatory mechanisms were inadequate for protecting the elkhorn and staghorn corals).

104. See *supra* nn. 64–68 and accompanying text (describing the ESA's species-focused protections).

105. John Charles Kunich, *Preserving the Womb of the Unknown Species through Hotspots Legislation*, 52 *Hastings L.J.* 1149, 1149–1150 (2001). A similar argument also applies to the Florida Endangered and Threatened Species Act.

106. See Emily Brand, Student Author, *Considering Open Ocean Critical Habitat under the Endangered Species Act: Does Critical Habitat Actually Help Protect the Pacific Leatherback Sea Turtle?* 1 *Sea Grant L. & Policy J.* 40, 70 (2008) (noting that critical habitat designation may be “superfluous” in the face of water quality issues).

107. 42 U.S.C. § 4332(2)(C)(i). NEPA focuses not on any particular aspect of the environment but instead on the entire “environmental impact of [a] proposed action.” *Id.*

108. Specifically, NEPA applies to “major [f]ederal actions significantly affecting the quality of the human environment.” *Id.* at § 4332(2)(C).

109. *Id.* at § 4332.

110. *Id.*

direct physical damage—and does not provide protections against other serious threats such as water pollution and impacts from the presence of increased atmospheric greenhouse gases.¹¹¹

On the other hand, other environmental statutes protecting coral reefs are too broad and are not attuned to the specific needs of coral reef ecosystems. These types of statutes leave gaps in coral reef protection.¹¹² The gaps occur because the broader environmental statutes tend to weigh many interests. For instance, under the CWA, the weighing of interests may take place in the form of developing criteria that balance individual water uses against overall water quality.¹¹³ Alternatively, under the CZMA, this balance may come to light when determining whether economic or ecological interests should win out in a particular situation.¹¹⁴ Because of the varied interests protected under these broad federal statutes, agencies may allow other interests to supersede coral protection interests, or worse, completely overlook corals.

Arguably, broad statutes like the CWA and CZMA are meant to create a federal framework under which states can adopt supplementary law to fill in the gaps, creating laws that are necessary for the protection of unique state resources.¹¹⁵ And this type of regulation could prove quite successful if states do indeed act in a supplementary capacity, catching and reinforcing holes in the federal statutory defenses. However, Florida's laws have fallen short in this respect by failing to address the big picture of

111. *Supra* nn. 89–92 and accompanying text (discussing the Florida Coral Reef Protection Act's protections).

112. See Matthew Chapman, *The Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve: Ephemeral Protection*, 29 *Ecol. L.Q.* 347, 366 (2002) (opining that using broad statutes to protect reefs in northwestern Hawaii “is like trying to dress a large man using clothes tailored for someone else; occasionally something fits, but the overall result is ill-suited, and leaves embarrassing omissions in coverage”); see also Quast & Mantell, *supra* n. 82, at 67 (explaining that most federal programs that manage federal resources “rely heavily on state implementation and enforcement”).

113. For example, the “best practicable control technology” technology-based requirement allows for a balance of concerns other than water quality, including cost and engineering concerns. 33 U.S.C. § 1314(b)(1)(B).

114. See 16 U.S.C. § 1452 (citing congressional interests that include protecting natural resources, providing for coastal safety, and managing coastal development).

115. See Milo C. Mason, *Offshore Energy Development*, in *Ocean and Coastal Law and Policy*, *supra* n. 82, at 430 (explaining that the Outer Continental Shelf Lands Act (OCSLA) applies federal law to coral reef protection and adopts corresponding state law to cover gaps in federal protections). In fact, federal statutes such as the CZMA and CWA depend on states to achieve their federal policy goals. Quast & Mantell, *supra* n. 82, at 68.

coral reef protection, and, without devoted State cooperation with the broad federal environmental statutes, corals are at risk from the threats that slip through the cracks.

One example of this type of “gap” in the federal-state regulatory framework that severely affects coral health exists in Section 319 of the CWA. Section 319, which regulates nonpoint sources of water pollution, creates a framework for the regulation of nonpoint source pollution by incentivizing state nonpoint source management programs.¹¹⁶ It then leaves the states with the responsibility to fill in the gaps. Florida has failed to consistently live up to its duties, however, by providing mere guidance as opposed to regulation in areas of water quality regulation that have strongly impacted coral reefs and other sensitive ecosystems.¹¹⁷ Thus, while the State is taking some action, it may not be stringent enough to protect the most fragile of ecosystems, especially the coral reefs, upon which the pressures of poor water quality continue to weigh.

Alternatively, the Ocean Dumping Act (ODA) and CZMA provide states with the authority to adopt more stringent criteria than federal standards.¹¹⁸ These statutes give states extended power to protect the habitats in which corals exist. The power to protect coral habitat is worthless, though, if the states do not exercise it.

Even statutes and programs that focus directly on the broad spectrum of coral reefs’ needs, such as CRCA and the USCRTF,

116. 33 U.S.C. § 1329. Section 319 requires that “[t]he Governor of each State . . . prepare and submit . . . a management program which such State proposes to implement . . . [to control] pollution added from nonpoint sources to the navigable waters within the State and improv[e] the quality of such waters.” *Id.* at § 1329(b)(1).

117. See Fla. Dep’t Env’tl Protec., *supra* n. 13 (explaining Florida’s voluntary program to reduce agricultural nonpoint source pollution); Fla. Dep’t Agric. & Consumer Servs., *Water, Improve Your Water Use*, <http://www.freshfromflorida.com/#Water> (accessed Nov. 7, 2013) (encouraging voluntary enrollment in agricultural best management practices). Nonpoint source pollution such as agricultural runoff can be quite harmful because it often contains nutrient pollution, which essentially chokes out natural ecosystems such as coral reefs. Global Coral Reef Alliance, *Eutrophication and Water Quality*, <http://www.globalcoral.org/Eutrophication%20and%20Water%20quality.html> (accessed Nov. 7, 2013).

118. See Claudia Copeland, *Ocean Dumping Act: A Summary of the Law* 3 (Cong. Research Serv. Dec. 15, 2010) (available at http://www.gc.noaa.gov/documents/gcil_crs_oda.pdf) (explaining that amendments to the ODA empower states to adopt more stringent regulations of ocean dumping); 16 U.S.C. §§ 1452, 1454–1455 (offering grants to states that create and submit coastal management plans in keeping with the federal guidelines).

appear to provide little in the way of concrete protections for coral reefs among their action plans and research goals.¹¹⁹

Lastly, despite good faith efforts to clean up the coastal waters, politics and prevailing human uses challenge the goal of increased coral reef protection. For example, in 2008, spurred by the increased water quality problems that deep-ocean outfalls (pipelines that discharge wastewater into the ocean) were causing in the waters off the southeast coast of Florida, the Florida legislature passed a law banning the creation of new ocean outfalls.¹²⁰ The legislation also established that water managers must eliminate the use of outfalls by 2025.¹²¹ Although this legislation provided an enormous opportunity to increase coastal water quality, there have been repeated efforts to delay or halt it.¹²² Because the current framework allows for the weakening of such important water quality laws, it suggests a need for enforcement of the State's environmental protection duties. In fact, all these legal issues point to a need for Florida, as a steward of the resource, to play a larger role under the patchwork of laws that protect corals. But if Florida does not take the initiative on its own, who can enforce the protection of the State's valuable coral resources? The answer may lie in an extension of the public trust doctrine, under which the people of the State can enforce the State's duty to protect valuable, state-held resources.

IV. FLORIDA'S PUBLIC TRUST DOCTRINE

The public trust doctrine is based on the principle that certain resources cannot be privately owned and that the state must hold those resources in trust for the benefit of the people of

119. See 16 U.S.C. § 6402(a); U.S. Coral Reef Task Force, *supra* n. 80, at 6–7 (providing limited substantial protections).

120. Fla. Stat. § 403.086(9). Both the house and senate unanimously passed the bill. Fla. House Reps., *CS/CS/SB 1302—Wastewater Disposal/Ocean Outfalls [RPCC]*, "Vote History," <http://www.flhouse.gov/Sections/Bills/billsdetail.aspx?BillId=38134> (accessed Nov. 7, 2013).

121. Fla. Stat. § 403.086; Fla. Dep't Env't'l Protec., *Implementation of Chapter 2008-232, Laws of Florida, Domestic Wastewater Outfalls 3* (June 2010) (available at <http://www.dep.state.fl.us/water/wastewater/docs/ocean-outfall-2010.pdf>).

122. Tom Ingram, Diving Equip. & Mktg. Ass'n, *News, DEMA Opposes Deadline Extension For Florida Wastewater Outfalls*, <http://www.dema.org/displaycommon.cfm?an=1&subarticlenbr=585> (Feb. 24, 2012).

the state.¹²³ While all states have public trust powers and duties, because the doctrine was established under the common law,¹²⁴ each state interprets the doctrine in a slightly different way.¹²⁵

In Florida, the public trust doctrine applies to at least two types of public resources: water (and the submerged lands beneath) and wildlife.¹²⁶ Following in the footsteps of many other states, Florida has explicitly adopted the doctrine as it applies to navigable waters and the land beneath.¹²⁷

Aside from upholding the traditional public trust doctrine, however, it is also evident that Florida maintains a budding “wildlife trust doctrine,” a variation of the traditional public trust doctrine that extends the public trust protections to wildlife within the State.¹²⁸ This Article focuses on how courts can expand the public trust doctrine’s scope to include coral reefs within State waters through either context: water and submerged lands, or wildlife. Thus, this Part discusses the background of the doctrine as it relates to each resource. Subpart A discusses Florida’s public trust interest in its navigable waters and submerged lands, and Subpart B describes Florida’s budding wildlife trust.

123. Stephen E. Roady, *The Public Trust Doctrine*, in *Ocean and Coastal Law and Policy*, *supra* n. 82, at 39. While the doctrine originally applied to sovereign submerged lands and public waters, some courts have since expanded it to include other natural resources such as wildlife. *Id.*; Melissa Kwaterski Scanlan, *The Evolution of the Public Trust Doctrine and the Degradation of Trust Resources: Courts, Trustees, and Political Power in Wisconsin*, 27 *Ecol. L.Q.* 135, 137 (2000).

124. Roady, *supra* n. 123, at 41.

125. *Shively v. Bowlby*, 152 U.S. 1, 26 (1894) (“[T]here is no universal and uniform law upon the subject [of the public trust doctrine]; but that each state has dealt with the lands under the tide waters within its borders according to its own views of justice and policy. . .”).

126. *Infra* pt. IV(A)–(B); see David Aladjem, *The Public Trust Doctrine: New Frontiers for Sustainable Water Resources Management*, 25 *Nat. Resources & Env.* 17, 17 (2010) (citing Jan Stevens, *The Public Trust and In-Stream Uses*, 19 *Envtl. L.* 605 (1989)) (distinguishing two distinct applications of the doctrine: the traditional public trust doctrine, which relates to the sovereign control over tidal waters for commerce, and the expanded public trust doctrine, which protects additional values such as environmental and recreational interests).

127. See e.g. Fla. Const. art. X, § 11 (establishing state title to sovereign, submerged lands and mandating that the State hold title to the land in trust for the people of the State); *State v. Black River Phosphate Co.*, 13 So. 640, 643–648 (Fla. 1893) (surveying other states’ interpretations of the public trust doctrine as it applies to water and establishing the doctrine in Florida’s common law).

128. *Infra* pt. IV(B) (discussing Florida’s public trust interest in wildlife).

A. The Public Trust Doctrine: Navigable Waters
and the Land beneath

1. *Origins of Florida's Public Trust Doctrine*

The public trust doctrine is based on a deep-rooted legal principle that originated in ancient Roman law, threaded itself through the common law of England, and traveled across the Atlantic Ocean with the American colonists.¹²⁹ This principle originally established public rights in certain resources, including waters, shores, and submerged lands, and placed duties on the government to protect the public's interest in those resources.¹³⁰ The traditional resources protected by the public trust—water, shores, air, and submerged lands¹³¹—likely gained their public trust status because of their common use for public enjoyment and welfare.¹³²

Later recognized as the public trust doctrine, the principle of public ownership of natural resources traveled with the colonists to the Americas.¹³³ Upon the formation of the United States of America, each of the original thirteen states held the navigable waters and submerged lands within its boundaries in trust for the people of the state.¹³⁴ As the United States grew, each state subsequently admitted to the Union entered on equal footing, thus gaining the same public trust rights and duties as the

129. Rody, *supra* n. 123, at 40.

130. *Id.* The Roman Institutes of Justinian contains a description of the early public trust doctrine. *Id.* "By the law of nature[,] these things are common to mankind—the air, running water, the sea, and consequently the shores of the sea." Thomas Collett Sandars, *The Institutes of Justinian; with English Introduction, Translation, and Notes* 158 (Ill. Printing & Binding Co. 1876).

131. Rody, *supra* n. 123, at 40.

132. See Joseph L. Sax, *Liberating the Public Trust Doctrine from Its Historical Shackles*, 14 UC Davis L. Rev. 185, 186 n. 6 (1980) (attributing the designation of public trust resources to the Romans' attempts at rational classification of different types of properties and explaining that traditional public trust resources were likely grouped together because they were considered to be within the public domain); Jan S. Stevens, *The Public Trust: A Sovereign's Ancient Prerogative Becomes the People's Environmental Right*, 14 UC Davis L. Rev. 195, 196–197 (1980) (explaining the origins of the public trust doctrine). Sax argued, however, that the Romans' classification of public trust resources does not explain the core of the public trust philosophy. Sax, *supra* n. 132, at 186.

133. Rody, *supra* n. 123, at 41.

134. 78 Am. Jur. 2d *Waters* § 287 (2002).

existing states.¹³⁵ Florida gained its sovereign public trust powers and duties in 1819, when Spain ceded the territories of East and West Florida to the United States and the United States admitted Florida to the Union.¹³⁶ Since Florida's statehood and the consequent formation of its public trust rights and duties, both the Florida courts and the Florida legislature have worked to determine the scope and power of the public trust doctrine.¹³⁷

2. *The Common Law Heart of Florida's Public Trust Doctrine: Establishing Corresponding Rights and Duties*

The heart of Florida's public trust doctrine finds its basis in the right of the people of the State to hold public trust resources in common. Stemming from this right is a duty charged to the State to hold the public resources in trust for the people of the State so that they may have common access and common use. In the early development of Florida's public trust doctrine, the doctrine was solely a creature of common law.¹³⁸ Because of the common law nature of the doctrine, Florida's court system played a major role in defining the heart of the public trust and describing the powers and duties available to the state government to enforce the trust. In *State v. Black River Phosphate Co.*,¹³⁹ the Florida Supreme Court first took the opportunity to formally recognize Florida's public trust doctrine and establish its power in the legal landscape.¹⁴⁰ The Court addressed whether a private phosphate mining company had authority under the

135. *Id.*; Robert W. Adler, *The Law at the Water's Edge: Limits to "Ownership" of Aquatic Ecosystems*, in *Wet Growth: Should Water Law Control Land Use?* 201, 238 (Craig Anthony Arnold ed., Env't'l L. Inst. 2005). The Equal Footing Doctrine provides that new states are constitutionally guaranteed the same "powers of sovereignty and jurisdiction" held by the original states. 72 Am. Jur. 2d *States* § 17 (2012).

136. *State v. Gerbing*, 47 So. 353, 355-356 (Fla. 1908) (describing the history of Florida's statehood and its assumption of sovereignty rights and powers); see generally Hubert Bruce Fuller, *The Purchase of Florida* 371-380 (Burrows Bros. Co. 1906) (available at https://play.google.com/books/reader?id=p7QsAAAAIAAJ&printsec=frontcover&output=reader&authuser=0&hl=en_US&pg=GBS.PA3) (containing a copy of the February 22, 1819 treaty between the United States of America and Spain).

137. *Infra* pt. IV(A)(2)-(4) (discussing the Florida courts' efforts to define the doctrine, its scope, and its application).

138. Wash. St. Dep't of Ecology, *The Public Trust Doctrine*, http://www.ecy.wa.gov/programs/sea/sma/laws_rules/public_trust.html (accessed Nov. 7, 2013) (explaining that the public trust doctrine is defined by the state court systems).

139. 13 So. 640 (Fla. 1893).

140. *Id.* at 648.

Riparian Act of 1856 to mine submerged lands.¹⁴¹ The Riparian Act required that the State of Florida divest itself of title to submerged lands that were adjacent to private land and, instead, vest the property rights in the private landowners.¹⁴² After noting that no prior Florida Supreme Court opinions had “fully define[d] the relative status of the riparian owners on the one hand and of the public or state on the other,” the Court engaged in a detailed evaluation of the character of Florida’s public trust doctrine, tracing the doctrine from its ancient origins to its application in other states across the country.¹⁴³ The Court’s evaluation concluded on three major points regarding the public trust doctrine. First, it formally recognized the public ownership of navigable waters and the land beneath.¹⁴⁴ Unlike private resource ownership, where an individual holds title to use the land for individual purposes, the characteristic of the public’s ownership focused on the public interest in fishing and navigation of the waters.¹⁴⁵ Second, the Court established the State as a fiduciary of the people of the State, holding the land for the benefit of those people.¹⁴⁶ Finally, the Court defined the State’s fiduciary duty around principles of preservation, focusing specifically on the fishing and navigation uses for which the State holds the public

141. *Id.* at 640–641.

142. *Id.* The private title then empowered landowners to use or build upon the submerged lands as long as they did not disrupt the channel. *Id.*

143. *Id.* at 642–643. The Court specifically reviewed the United States Supreme Court opinion in *Illinois Central Railroad Co. v. Illinois*, 146 U.S. 387 (1892), stating that it had not found any authority in conflict with its holding. *Black River Phosphate Co.*, 13 So. at 648. The Court then quoted *Illinois Central’s* description of the public trust as “a title held in trust for the people of the state[,] that they may enjoy the navigation of the waters, carry on commerce over them, and have liberty of fishing therein[,] freed from obstruction or interference of private parties.” *Id.* at 645 (quoting *Illinois Central*, 146 U.S. at 452).

144. *See id.* at 648 (holding that “the navigable waters of the state and the soil beneath them, including the shore or space between high and low water marks, [are] the property of the state, or of the people of the state in their united or sovereign capacity”).

145. *See id.* (holding that the State must hold the resources in trust “for the use and enjoyment . . . by all the people of the state for at least the purposes of navigation and [f]ishing and other implied purposes”). In referring to “other implied purposes” the Court did, however, leave room for recognition of other public interests in the trust lands. *Id.*

146. *Id.* Nevertheless, the Court did strive to consider and protect commercial uses of navigable waters and the land beneath when balancing public trust rights against individual uses. Stephen D. Rees, Student Author, *Conveyances of Sovereign Lands under the Public Trust Doctrine: When Are They in the Public Interest?* 24 U. Fla. L. Rev. 285, 294 (1971).

trust resources.¹⁴⁷ In conclusion, the Court “strictly construed” the Act “most beneficially in favor of the state or public, and against the grantee,”¹⁴⁸ holding that riparian landowners had no greater right over the submerged lands than any other citizen.¹⁴⁹ This opinion established a powerful common law foundation for the public trust doctrine that focused on the preservation of public uses and the power of the State to protect those uses.

The Court’s essential rendering of Florida’s public trust doctrine from *Black River Phosphate Co.* has survived through subsequent cases. Fifteen years later in *State v. Gerbing*,¹⁵⁰ the Court addressed Florida’s public trust doctrine as it pertained to the State divesting itself of title to public trust land.¹⁵¹ The Court focused again on public uses of public trust land, upholding public trust interests in navigable waters and the land beneath “for purposes of navigation, commerce, fishing, and other useful purposes afforded by the waters.”¹⁵² Thus, the Court continued to characterize the trust resource through the public’s uses, naming not only the tangible land and water as trust resources but also the intangible resources of fishing, navigation, and commerce.¹⁵³ The Court held that because permanently conveying title to the land beneath navigable waters was adverse to the public’s interest in using the trust resource—specifically, the right to harvest oysters from the natural beds on the land—the State could not shirk its “implied legal duty” to protect the trust by conveying title to private parties.¹⁵⁴

147. *Black River Phosphate Co.*, 13 So. at 648 (stating that “the lawmaking branch of the government of the state, considered as the fiduciary or representative of the people, [was] . . . limited in [its] powers . . . and must be held to have acted with a due regard for the preservation of such lands and waters to the uses for which they were held”); see also Rody, *supra* n. 123, at 52 (explaining that the right to fish is intimately connected with the common law public trust doctrine in the United States, with some of the earliest cases holding that the doctrine protects the right to fish in state-owned waters). Although states do recognize the public right to fish, they still preserve their public trust duties to protect aquatic resources by regulating fishing and other uses. Rody, *supra* n. 123, at 52.

148. *Black River Phosphate Co.*, 13 So. at 648.

149. *Id.* at 648, 650.

150. 47 So. 353 (Fla. 1908).

151. *Id.* at 355–356.

152. *Id.* at 355.

153. *Id.*

154. *Id.* Notably, oysters became central to this case because of a statute that authorized citizens to plant oysters in State waters where no maternal (natural) oyster beds existed and where public trust rights were not impaired. *Id.* at 356. In its opinion, the Court specifically noted that the statute designated maternal oyster beds in the waters

Since these court opinions, the Florida Supreme Court has continued to recognize public uses such as fishing and navigation as part of the citizens' public trust rights.¹⁵⁵ The inclusion of these public uses in the definition of the public's trust rights suggests that the public trust doctrine protects far more than an interest in common ownership of land or water (although the Court has yet to extend beyond them)—it protects its common uses as well. Further, because at least one recognized common use—fishing—is inextricably tied to wildlife protection, public trust protections could potentially expand to include wildlife.

Another aspect of the public trust doctrine emerged during its development in Florida's common law—a State public trust duty to protect public trust resources. In *Broward v. Mabry*,¹⁵⁶ the Court described the public trust doctrine and, again, defined the rights of the people of the State as ones of public use related to fishing and navigation.¹⁵⁷ Most notably, however, the Court specified that the State, as trustee of the public trust resources, holds not just a right of power but a duty of care owed to the people of the State.¹⁵⁸ Particularly, the Court described a State responsibility to manage public trust lands in keeping with public welfare.¹⁵⁹ The portrayal of the public trust doctrine as a binding State duty marked a transition from prior opinions, where the Court was more focused on the State's power (rather, a lack thereof) to divest itself of public trust lands.¹⁶⁰ While this interpretation of the doctrine suggests that the State has an affirmative duty to manage public trust resources in the best

of the State as open for free use by the State's citizens. *Id.* This discussion of oysters appears to be one of the first extensions of the public trust to wildlife, which continued into contemporary statutes. See Fla. Stat. § 379.2512(1) (making all land grants subject to Section 597.010 of the Florida Statutes); *id.* at § 597.010(11)(a) (requiring the State to consider the public interest when leasing submerged lands on which maternal oysters, clams, or reefs exist).

155. *E.g. Coastal Petroleum Co. v. Am. Cynamid Co.*, 492 So. 2d 339, 342 (Fla. 1986) (recognizing that sovereign "lands differ from other state lands" in that they "are for public use") (emphasis added); *White v. Hughes*, 190 So. 446, 448 (Fla. 1939) (listing public rights in swimming, fishing, and navigation); *Clement v. Watson*, 58 So. 25, 26 (Fla. 1912) (describing the public's interest in "navigation and other public uses"); *Broward v. Mabry*, 50 So. 826, 829 (Fla. 1909) (noting the public's additional interest in "bathing").

156. 50 So. 826 (Fla. 1909).

157. *Id.* at 829.

158. *Id.*

159. *Id.*

160. *E.g. Broward*, 50 So. 826; *Gerbing*, 47 So. 353.

interest of the people of the State, the courts have not explored the extent of the State's duties as they pertain to management and maintenance of public trust resources.

As Florida's courts developed the public trust doctrine through the common law, the legislature also accepted the spirit of the doctrine into the Florida Constitution and Statutes, further entrenching the doctrine in the laws of the State.¹⁶¹ Most importantly, in 1968, the Florida legislature adopted the public trust doctrine into the Florida Constitution, declaring that the State holds "title to lands under navigable waters, within the boundaries of the state, . . . by virtue of its sovereignty, in trust for all the people."¹⁶² The constitutional acceptance of the public trust doctrine explicitly limits State sale and lease of trust lands to only those that are in keeping with public interest,¹⁶³ thus placing a constitutional duty on the State to manage title to its sovereign lands in a way that benefits the people of the State.¹⁶⁴

Florida also adopted the public trust doctrine by statute, asserting that the State must manage public lands, including submerged sovereign lands, "to serve the public interest by protecting and conserving land, air, water, and the state's natural resources."¹⁶⁵ The Statute specifically emphasizes an environmental stewardship ethic, focusing not only on the management of the land itself, but also on the protection of the plant and animal species that depend on the land.¹⁶⁶ Further, the Statute defines

161. *E.g.* Fla. Const. art. X, § 11.

162. *Id.*; 56 Fla. Jur. 2d *Water* § 146 (2012).

163. Fla. Const. art. X, § 11.

164. A history of "title-centric" Florida Supreme Court cases may explain why the adoption of the doctrine into the Constitution was focused on title to public trust lands and waters. *See e.g. Martin v. Busch*, 112 So. 274, 284 (Fla. 1927) (limiting the extent of a state land grant to only lands that are above the mean high-water line of the navigable lake because the lands below the line were subject to state title); *Clement*, 58 So. at 26–27 (determining that a stretch of shore in a cove was not part of the navigable waters and thus not subject to State title and public use); *Broward*, 50 So. at 829–831 (focusing on whether the water body at issue was navigable and thus subject to State title); *Gerbing*, 47 So. at 355–357 (holding that private ownership and use of lands submerged beneath navigable waters were preempted by State ownership).

165. Fla. Stat. § 253.034(1).

166. *Id.*; 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, 406 (2011) (noting that the Section 253.034 upholds a stewardship ethic and the spirit of the public trust doctrine).

submerged lands as “single-use” lands,¹⁶⁷ which should be managed principally for maintenance of natural conditions, fish and wildlife propagation, and public recreation.¹⁶⁸ This Statute reflects and deepens the stewardship duty expressed in *Broward* by specifically explaining that the State’s duty as trustee of public trust resources is to “conserve” the resource as well as protect it from private ownership.¹⁶⁹ Thus, with the public’s rights and the State’s duties defined, the Court’s early public trust opinions established a foundational rationale for Florida’s public trust doctrine.¹⁷⁰ As the use of the doctrine progressed, the scope of the applicability of the doctrine became clearer, lending it more power.¹⁷¹

3. Scope of the Public Trust Doctrine

The traditional public trust doctrine’s scope extends to all water and submerged lands within the State’s jurisdiction.¹⁷² More specifically, the doctrine applies to navigable waters; the land beneath navigable lakes, rivers, and streams; and land seaward of the mean high-water line.¹⁷³ While traditionally the courts have applied the “navigability test” to include internal waters such as rivers, lakes, bays, estuaries, and even shorelines within the doctrine’s scope, State marine waters also fall within the scope of the doctrine because they are well below the mean high-water line.¹⁷⁴ The United States Supreme Court has even weighed in on the scope issue, explaining that the ocean “cer-

167. “Single use” means that the land must be designated to one particular purpose “to the exclusion of all other[s].” Fla. Stat. § 253.034(2)(b). Though, single-use land may have secondary uses if the uses are compatible with and “will not detract” from the primary purpose. *Id.*

168. *Id.* Public recreation may include public uses such as hunting or fishing where the landowner deems it is appropriate. *Id.*

169. *Id.* at § 253.034(2)(a).

170. *Broward*, 50 So. at 830; *Gerbing*, 47 So. at 357; *Black River Phosphate Co.*, 13 So. at 654.

171. *Coastal Petroleum Co.*, 492 So. 2d at 342; *White*, 190 So. at 448–449.

172. Fla. Dep’t Env’tl Protec., *Sovereignty Submerged Lands*, <http://www.dep.state.fl.us/lands/submerged.htm> (last updated Aug. 29, 2012).

173. *Gerbing*, 47 So. at 357; *Roady*, *supra* n. 123, at 39. The “mean high-water line” is the boundary between the submerged shoreline, which is subject to the public trust doctrine, and the upland shoreline, which is “subject to private ownership.” 35 Fla. Jur. 2d *Maps, Plats, and Surveys* § 32 (2012).

174. *Phillips Petroleum Co. v. Miss.*, 484 U.S. 469, 488–490 (1988) (O’Connor, J., dissenting).

tainly is navigable”¹⁷⁵ and holding that the public trust includes tidal waters along a state’s ocean shores.¹⁷⁶ Even further entrenching marine waters in the public trust, the Submerged Lands Act of 1953 (SLA) placed tidelands and marine waters from the shore of the states to three nautical miles out within state management.¹⁷⁷ Although the SLA does not specifically speak to whether state public trust duties extend three nautical miles beyond their shores, court decisions mostly accept that the doctrine applies to those lands and waters, as do most scholars.¹⁷⁸ Thus, public trust protections arguably extend to waters and submerged lands within three miles of Florida.

4. Florida’s Application of the Doctrine

Despite many opportunities to expand the public trust doctrine into other areas of resource management, the State has largely used the common law doctrine to establish sovereign title to land¹⁷⁹ and to defend against takings claims,¹⁸⁰ rather than to enforce the State’s duty as a trustee and resource manager.

Most recently, in *Walton County v. Stop the Beach Renourishment, Inc.*,¹⁸¹ the Florida Supreme Court used the public trust doctrine as a defense to a takings claim that arose from a beach

175. *Id.* at 490.

176. *Id.* at 484.

177. 43 U.S.C. § 1301(a)(2) (defining “lands beneath navigable waters”); Richard G. Hildreth, *The Public Trust Doctrine and Coastal and Ocean Resources Management*, 8 J. Envtl. L. & Litig. 221, 228 (1993).

178. Hildreth, *supra* n. 177, at 228–229; e.g. *Walton Co. v. Stop the Beach Renourishment, Inc.*, 998 So. 2d 1102, 1109 (Fla. 2008) (noting that “[u]nder both the Florida Constitution and the common law, the State holds the lands seaward of the [mean high-water line] . . . in trust for the public”).

179. *E.g. Broward*, 50 So. at 831; *Black River Phosphate Co.*, 13 So. at 648, 654; see also *Craig*, *supra* n. 166, at 406–409 (providing a brief overview of Florida’s public trust doctrine as it relates to takings claims and noting Florida’s “tradition” of using the public trust doctrine to “effectively insulate [certain regulations] from constitutional takings claims”).

180. See e.g. *Coastal Petroleum v. Chiles*, 701 So. 2d 619, 621 (Fla. 1st Dist. App. 1997) (holding that the State’s protection of its public trust resources by preventing oil drilling off its coast was not a compensable taking of a drilling company’s reserved property interest); *Krieter v. Chiles*, 595 So. 2d 111, 112–113 (Fla. 3d Dist. App. 1992) (holding that the public trust doctrine prevented a landowner from bringing a successful takings claim against the State for denying a permit to construct a dock on sovereign land because it established the State’s long-standing claim to title of submerged lands).

181. 998 So. 2d 1102, *aff’d sub nom. Stop the Beach Renourishment, Inc. v. Fla. Dep’t Envt’l Protec.*, 130 S. Ct. 2592 (2010).

renourishment project conducted under Florida's Beach and Shore Preservation Act.¹⁸² After recognizing that shores below the mean high-water line are included within the scope of public trust lands,¹⁸³ the Court emphasized that the trust holding title to such lands is "governmental in its nature" and that the State has "the right and duty . . . to own and hold the lands under navigable waters for the benefit of the people."¹⁸⁴ The Court also noted Florida's "obligation" to protect its beaches,¹⁸⁵ and thus to renourish "critically eroded" beaches despite adverse private interests.¹⁸⁶ Finally, the Court held that the maintenance of the public trust resource (the beach) outweighed the private interests in maintaining title to land that extended to the water.¹⁸⁷ Thus, the public trust doctrine spurred the State's duty to protect its coastal resources, which outweighed coastal landowners' private interests, and protected the State from a takings claim.¹⁸⁸

Though *Stop the Beach Renourishment* and other similar judicial uses of the doctrine may have pigeonholed the public trust doctrine as it is used in Florida, they have also arguably set a foundation for future expansion. The history of public trust cases makes it clear that the doctrine bestows great power and great responsibility upon the State to protect public trust resources. And that power has potential to extend beyond its traditional use.

B. The Wildlife Trust

The wildlife trust doctrine, which the United States Supreme Court established early in the history of the country, holds that wild game within each state's boundaries belongs to the people of that state in common and that the states hold the wildlife in trust for the people.¹⁸⁹ Along with holding common ownership of

182. *Id.* at 1109–1112; 1120–1121.

183. *Id.* at 1109.

184. *Id.* at 1109–1110 (quoting *Brickell v. Trammell*, 82 So. 221, 226 (1919)).

185. *Id.* at 1110.

186. *Id.* at 1114–1115.

187. *Id.* at 1115.

188. *Id.* at 1114–1115.

189. *Geer v. Conn.*, 161 U.S. 519, 529 (1896); see also *Martin v. Waddell's Lessee*, 41 U.S. 367, 432–433 (1842) (recognizing the public trust in sovereign submerged land and the common fishery rights to collect oysters connected with it). The *Martin* Court did not have to take a large leap from the traditional public trust in sovereign submerged soil to

wildlife, the states also have responsibilities to conserve and protect wildlife resources.¹⁹⁰

Florida has also specifically accepted and established the wildlife trust doctrine in its common law. In *State v. Bryan*,¹⁹¹ the Florida Supreme Court established that wild game was held by the State for the use and benefit of the people and that, under its sovereign duty, the State could regulate the killing of wildlife.¹⁹² This type of regulation could include the issuance and requirement of hunting permits for the preservation of wildlife.¹⁹³ In reaching its holding, the Court established the general wildlife trust doctrine in Florida's common law and began to develop the State's power under the doctrine, making it clear that the State could place limitations on the use of wildlife in keeping with its duties. The case, however, focused on the equal implementation of hunting restrictions across counties,¹⁹⁴ and thus did not specify what duties the State must uphold under the doctrine. Further, despite numerous reexaminations of the doctrine,¹⁹⁵ the courts have yet to fully illustrate the extent of the State's duty under the common law doctrine.

Florida has also codified the trust in wildlife. The Florida Constitution creates the Fish and Wildlife Conservation Commission (FWCC) and provides that "the commission shall exercise the regulatory and executive powers of the state with respect to wild animal life[,] fresh water aquatic life[,] and . . . marine life."¹⁹⁶ Beyond the grant of power, the constitution does not define the FWCC's duties beyond stating that the FWCC must use revenue from license fees "for the purposes of management, protection, and conservation of wild animal life."¹⁹⁷ While this portion of the

bring oysters within the trust. In fact, the Court made a distinction between "floating fish" and oysters, which are "entirely local and connected with the soil." *Id.* at 433. A similar rationale could be applied to Florida's corals, which are also connected to state land. *Infra* pt. VI.

190. *Geer*, 161 U.S. at 529.

191. 99 So. 327 (Fla. 1924).

192. *Id.* at 329.

193. *Id.* The Court noted, however, that the regulation of game hunting may not be discriminatory against any people of the State and held that a county charging a higher permit fee for nonresidents than for residents of the county was unlawful. *Id.* at 329-330.

194. *Id.*

195. *E.g. State v. Millington*, 377 So. 2d 685 (Fla. 1981); *Alford v. Finch*, 155 So. 2d 790 (Fla. 1963); *State v. Lee*, 41 So. 2d 662 (Fla. 1949).

196. Fla. Const. art. IV, § 9.

197. *Id.*

constitution empowers the FWCC to create wildlife protection statutes, it does not clarify whether the FWCC must regulate air or water pollution in connection with its wildlife protection duties. Nevertheless, with this constitutional frame, the FWCC has implemented many wildlife regulations in the interest of protecting the sovereign interest in wildlife.¹⁹⁸ In fact, the FWCC even recognizes that its duty to protect wildlife stems from the public trust doctrine.¹⁹⁹

Although these cases and wildlife protection laws show that the State recognizes its duty to protect wildlife, they do not offer much in the way of guidance or motivation for increased protection. In fact, there has not been much discussion regarding what obligations the State may have under the doctrine.²⁰⁰ For this reason, the common law wildlife trust doctrine is much weaker than the traditional public trust doctrine in terms of establishment in Florida's legal fabric.

V. THEORY OF PUBLIC TRUST DOCTRINE EXPANSION

Although Florida has exercised a restrained use of the public trust doctrine to protect public trust resources, mostly invoking the doctrine to preserve State title in submerged lands,²⁰¹ academic discussion has examined the potential for a broader application,²⁰² and some states have even taken action to expand

198. Fla. Admin. Code Ann. r. 68A-1.002 (2012) (stating that “[a]ll wild animal life within the jurisdiction of the State of Florida . . . is subject to the regulation of the Commission”); *e.g. id.* at r. 68A-18.004 (creating wildlife refuges in which it is illegal to take wildlife); *id.* at rr. 68A-27.0001–27.007 (establishing rules under the Florida Endangered and Threatened Species Act).

199. Fla. Fish & Wildlife Comm’n, *Public Trust Doctrine and Wildlife Conservation in Florida* 1, 5 (Apr. 2011) (available at <http://myfwc.com/media/1348431/PublicTrust.pdf>) (naming the public trust doctrine as the “cornerstone” of the American wildlife conservation model); News Rel. from Bob Wattendorf, Fla. Fish & Wildlife Comm’n, *Fish Busters’ Bulletin, FWC Carries on the Public Trust Doctrine* (June 1, 2011) (available at <http://myfwc.com/news/news-releases/2011/june/01/fb-june/>) (explaining the role of the public trust doctrine in restoring sport fish populations).

200. See Jeremy Bruskotter, Wildlife Conservation Science & Policy, *Wolves As a Public Trust Resource, An Obligation to Conserve?* <http://bruskotter.wordpress.com/2011/09/29/wolves-as-a-public-trust-resource/> (Sept. 29, 2011) (noting that, until recently, there has not been an opportunity or need for interested citizens to force the issue of wildlife trust into the courts, thus explaining the lack of caselaw regarding state obligations under the doctrine).

201. *Supra* pt. IV(A)(4).

202. *E.g.* Jeremy T. Bruskotter, Sherry A. Enzler & Adrian Trevez, *Rescuing Wolves from Politics: Wildlife As a Public Trust Resource*, 333 *Sci. Mag.* 1828 (2011); Hildreth,

the reach of their respective public trust doctrine interpretations.²⁰³ In fact, some states have already made attempts to expand the doctrine by applying it to various species.²⁰⁴ These efforts pave the way for the doctrine to expand in other states as well.

Alaska has taken the biggest step toward expanding the traditional public trust doctrine, including a public trust interest in wildlife as part of its constitution.²⁰⁵ Specifically, the Alaska Constitution states that “[w]herever occurring in their natural state, fish, wildlife, and waters are reserved to the people for common use” and that the State legislature must provide for the “utilization, development, and conservation” of natural resources “for the maximum benefit of its people.”²⁰⁶ The Alaska Supreme Court has specifically interpreted these constitutional provisions to place a public trust duty on the State with regard to fish and wildlife.²⁰⁷ Because the public trust interest in wildlife has been solidified in the State constitution, Alaska has had relatively few problems in recognizing and enforcing a public trust in wildlife.²⁰⁸

Other states have attempted to expand the public trust doctrine expansion through the courts.²⁰⁹ California’s approach to the expansion of the public trust doctrine is perhaps most essential to other states’ efforts because the California courts have explicitly expanded the scope of the State’s public trust doctrine to include wildlife.²¹⁰ The doctrine’s expansion first took wing in *National Audubon Society v. Superior Court of Alpine*

supra n. 177; Ralph W. Johnson & William C. Galloway, *Protection of Biodiversity under the Public Trust Doctrine*, 8 Tulane Env. L. J. 21, 32 (1994); Gary D. Meyers, *Variation on a Theme: Expanding the Public Trust Doctrine to Include the Protection of Wildlife*, 19 *Envtl. L.* 723, 724–725 (1988); Patrick Redmond, *The Public Trust in Wildlife: Two Steps Forward, Two Steps Back*, 49 *Nat. Resources J.* 249, 259 (2009).

203. See generally Redmond, *supra* n. 202 (discussing various states’ attempts at expanding their public trust doctrines to include wildlife).

204. *Id.*

205. Alaska Const. art. VIII, § 3.

206. *Id.* at §§ 2–4. The Alaska Constitution requires that the State manage natural resources, including wildlife, on a “sustained yield principle,” which is intended to provide stable populations of wildlife. *Id.* at § 4.

207. *Pullen v. Ulmer*, 923 P.2d 54, 60–61 (Alaska 1996); *Owsichek v. State*, 763 P.2d 488, 493 (Alaska 1988).

208. Redmond, *supra* n. 202, at 255.

209. Those states include California, Idaho, Michigan, Wisconsin, Massachusetts, and Washington. See *id.* at 257–304 (discussing the six states’ approaches to expanding the public trust doctrine).

210. *Id.* at 259.

County,²¹¹ in which the National Audubon Society sued under the public trust doctrine to enjoin the Los Angeles Department of Water and Power's diversions of water from Mono Lake, which supported large populations of brine shrimp and rare migratory birds.²¹² The Audubon Society argued that allowing the continued diversion of water from Mono Lake was a violation of the State's public trust duties because it lowered the level of the lake, thus diminishing its economic, recreational, and scenic values.²¹³ Primarily, the Audubon Society argued that the lake's low level harmed migratory birds because it caused a decrease in safe nesting areas and a decrease in brine shrimp, which local and migratory birds rely on for sustenance.²¹⁴

In analyzing the Audubon Society's claim, the Court considered three aspects of the public trust doctrine: its purpose, its scope, and the powers and duties it conferred upon the State.²¹⁵ First, in determining the purpose of the public trust doctrine, the Court recognized that the traditional purpose of and rationale for the public trust was to protect public interests in navigation, commerce, and fishing.²¹⁶ It noted, however, that the traditional uses did not preclude protection for other valid public interests in public trust resources.²¹⁷ It then alluded to a "growing public recognition" of the public use interest in preserving the natural state of tidelands so that the tidelands may provide habitat for marine life.²¹⁸ The Court explained that protecting Mono Lake could fall under two distinct public trust purposes.²¹⁹ First, protecting Mono Lake fell under traditional public trust fishing interests because the lake supported the brine shrimp fishery.²²⁰ Second, protecting Mono Lake fell under the nontra-

211. 658 P.2d 709 (Cal. 1983).

212. *Id.* at 711-712, 716.

213. *Id.* at 716.

214. *Id.* at 715-716. The Audubon Society also argued that the reduced population of shrimp was negatively impacting the local shrimping industry and that the lowered lake level led to decreased public access and decreased scenic value. *Id.* at 716.

215. *Id.* at 719-724.

216. *Id.* at 719.

217. *Id.*

218. *Id.*

219. *Id.*

220. *Id.*

ditional public interests in recreation and ecology, which the Audubon Society emphasized in its complaint.²²¹

When determining the scope of the public trust doctrine, the Court considered whether the public trust protections on Mono Lake, a navigable body of water, extended to non-navigable tributaries that fed the lake.²²² The Court determined that the doctrine did indeed extend to the non-navigable waterways, basing its rationale not on protecting the concrete public trust resource (the waterway) but on protecting the public interest in using Mono Lake.²²³

Lastly, the Court characterized the State's public trust powers and duties to "exercise continued supervision over the trust," explaining that the public trust is "more than an affirmation of state power to use public property for public purposes."²²⁴ It held that the public trust doctrine also emphasizes "an affirmation of the duty of the state to protect the people's common heritage of streams, lakes, marshlands and tidelands."²²⁵ The Court made it clear that great responsibility comes with the State's public trust powers.²²⁶

Thus, after its analysis of the public trust doctrine, the Court held that the State of California had an affirmative duty to consider public trust values when "planning and allocat[ing] . . . water resources, and to protect public trust uses whenever feasible."²²⁷ Further, the Court held that an approval of a water appropriation imposes a "duty of continuing supervision" over the water use to ensure that the use continues in keeping with the

221. *Id.*

222. *Id.* at 720.

223. *Id.* (explaining that a diversion of water from a navigable waterway that destroys navigation and other public interests should be constrained similarly to the way a "fill" of a navigable waterway would be constrained if it destroyed those same public interests). The Court did not actually extend public trust protections to non-navigable tributaries, however. *Id.* It simply recognized that the control of non-navigable tributaries could have such a great effect on navigable waterways that they could be managed in order to protect the public trust. *Id.*

224. *Id.* at 721, 724.

225. *Id.* at 724.

226. *Id.*

227. *Id.* at 728. While this holding represented a huge step in strengthening public trust protections, the "whenever feasible" qualification placed on the State's duty suggests that public trust protections for water resources may not be as strong as they initially appear.

public interest.²²⁸ With this duty comes state power to reconsider decisions that may no longer be in keeping with public trust interests.²²⁹

California then took the expansion of the public trust doctrine a step further and brought wildlife into the scope of the doctrine's protections in *Center for Biological Diversity, Inc. v. FPL Group, Inc.*²³⁰ In this case, the Center for Biological Diversity (Center) appealed a dismissal of its suit against FPL Group (FPL), which alleged that FPL was violating the public trust doctrine because its wind turbines were killing raptors and other bird species.²³¹ The court broke the suit down into two main issues: whether wildlife was protected under the State's public trust doctrine²³² and whether the Center was the proper party to bring a suit against FPL.²³³ First, the court held that the scope of public trust protections extends to wildlife.²³⁴ The court recognized that, while the doctrine traditionally applied to state property interests in navigable bodies of water,²³⁵ it did indeed extend to encompass the protection and management of wildlife resources.²³⁶ The court relied on many historical cases and a more recent case, *Environmental Protection and Information Center v. California Department of Forestry and Fire Protection*,²³⁷ which held that there were two distinct public trust doctrines: a common law doctrine that pertains to water resources and a statute-based doctrine that pertains to wildlife.²³⁸ The court in *Center for Biological Diversity* did not appear to be concerned with whether wildlife public trust protections stemmed from common law or statute but simply that the trust existed.²³⁹ Once

228. *Id.*

229. *Id.*

230. 166 Cal. App. 4th 1349 (Cal. App. 1st Dist. 2008).

231. *Id.* at 1354.

232. *Id.* at 1359–1364.

233. *Id.* at 1364–1366.

234. *Id.* at 1363 (holding that “it is clear that the public trust doctrine encompasses the protection of undomesticated birds and wildlife”).

235. *Id.* at 1360.

236. *Id.* at 1359–1364.

237. 187 P.3d 888 (Cal. 2008).

238. *Id.* at 926. The Court explained that the statutory public trust duty sprung from Section 711.7 of the California Fish and Game Code, which decrees that the State's fish and wildlife are held in trust for the people by the Department of Fish and Wildlife. *Id.*

239. *Ctr. for Biological Diversity*, 166 Cal. App. 4th at 1364. This distinction between statutory and common law bases for the public trust may become important in later cases,

the court established that the trust in wildlife existed, and thus a State duty to protect wildlife, it held that citizens could bring suit to enforce the State's public trust obligations.²⁴⁰

Despite the court's recognition of the State's duties toward wildlife under the public trust doctrine and citizens' rights to bring suit under it, the court affirmed the trial court's dismissal, explaining that the Center could not bring a public trust doctrine suit against a private individual who was in violation of the doctrine.²⁴¹ The court explained that although the public trust doctrine provided a proper cause of action in regard to protecting wildlife, a public trust suit should be brought against the responsible public agency that could enforce and protect the trust and not a private entity.²⁴²

Although the Center's claim in *Center for Biological Diversity* did not survive in court, it did help to establish two important points. First, it established that at least some state courts will openly expand the traditional public trust doctrine to include wildlife protection.²⁴³ Because the court failed to discuss the source of the public trust protections,²⁴⁴ it is still unclear whether the expansion must stem from wildlife statutes, as the California Supreme Court precedent suggested,²⁴⁵ or whether the protections could also stem from the common law doctrine. Nonetheless, this expansion places duties on the State to protect wildlife resources just as it would protect sovereign lands or waters and provides building blocks upon which other state courts can begin to build wildlife protections under the doctrine. Second, *Center for Biological Diversity* made clear that the duties weighed upon the

because the public trust doctrine, which carries the weight of common law precedent, is more deeply rooted in the law than many more recently enacted environmental statutes. However, it is important to note that although this California case may set an example for future decisions in Florida, Florida decisions would depend on analysis of potentially different Florida environmental statutes.

240. *Id.* at 1364–1366 (holding that “the public retains the right to bring actions to enforce the trust when the public agencies fail to discharge their duties”).

241. *Id.* at 1367. The court explained that it was not that the Center had improperly invoked the power of the public trust doctrine to protect wildlife but that it had chosen the wrong party in its suit—the private enterprise rather than the government agency. *Id.*

242. *Id.*

243. This is something that Florida courts have yet to do.

244. *Id.* at 1364 (stating that “it matters not whether the obligations imposed by the public trust are considered to be derived from the common law or from statutory law, or from both”).

245. *Env'tl Protec. & Info. Ctr.*, 187 P.3d at 926.

State by the public trust doctrine establish a cause of action for citizens against the State when it fails to uphold its duties.²⁴⁶ Aside from supporting the states' powers to regulate use of wildlife resources, the public trust doctrine can also enforce the states' duties to protect wildlife, providing a cause of action for citizens when the states fail to uphold their public trust duties.²⁴⁷ Therefore, although many state courts have thus far failed to recognize it, the power with which the public trust doctrine endows the states also comes with enforceable responsibilities. Specifically, the doctrine requires states, as trustees of wildlife resources, to consider the impact of state actions on the trust resources, bar actions that will substantially harm the resources, and continually monitor and weigh the benefit of the actions against the harm to the public interest in the resources at issue to decide whether intervention is necessary.²⁴⁸ These responsibilities spring from the states' core public trust responsibilities to hold public trust resources in benefit for the people.²⁴⁹ Accordingly, as beneficiaries of the trust, the people have the right to ensure that the states act with care in their trustee responsibilities. Thus, with new boundaries of the public trust doctrine described and tested, states all over the country have a model with which they can begin to expand the doctrine for the protection of state-held resources.²⁵⁰

246. Some argue, however, that despite "solidifying" the public trust doctrine's inclusion of wildlife, the court also limited it by requiring that citizens direct suits only at government agencies. William W. Abbott & Nathan Jones, Abbott & Kindermann Land Use L. Blog, *Wildlife Protected by the Public Trust Doctrine, but Doctrine Can Only Be Enforced against Public Agencies*, <http://blog.aklandlaw.com/2008/10/articles/ceqa/wildlife-protected-by-the-public-trust-doctrine-but-doctrine-can-only-be-enforced-against-public-agencies/> (Oct. 28, 2008, 9:08 a.m.). But in light of the fact that the public trust doctrine places duties on the state, and not on private individuals, to protect sovereign resources, the court's holding seems appropriate.

247. Deborah G. Musiker, Tom France & Lisa A. Hallenbeck, *The Public Trust and Parens Patriae Doctrines: Protecting Wildlife in Uncertain Political Times*, 16 Pub. Land L. Rev. 87, 109–112 (1995).

248. *Id.* at 96 (synthesizing principles of states' public trust duties through the review of journal articles and multiple states' court holdings).

249. *Id.* at 89.

250. However, expansion will depend on states' individual constitutions, statutes, and common law precedent.

**VI. EXPANDING FLORIDA'S PUBLIC TRUST DOCTRINE:
ENFORCING A STATE DUTY TO TAKE MORE RIGOROUS
ACTION IN CORAL REEF PROTECTION**

The current state of coral reefs off the coast of Florida and the looming threats of continued pollution and damage induced by climate change suggest that Florida's coral reefs are in need of immediate and robust protection.²⁵¹ There are holes in the current federal framework, however, that cause some aspects of coral reef protection to fall through the cracks.²⁵² Florida's public trust doctrine can be used to motivate the State to fill the holes in the legal framework protecting coral reefs by requiring the State to undertake its duty to protect public trust resources. Barring an amendment to the Florida Constitution that creates a constitutional public trust in wildlife, similar to Alaska,²⁵³ Florida can expand the public trust doctrine through the common law interpretation of the doctrine.

First, for the expansion to occur, the scope of the public trust doctrine must extend to include coral reefs. This extension can occur in the common law public trust doctrine, which traditionally applies to sovereign water and submerged lands, or in the principally statute-defined wildlife trust doctrine. Although the California Court of Appeal in *Center for Biological Diversity* suggested that the basis of the public trust protections was unimportant to the issue of extending the scope of the doctrine,²⁵⁴ it could play an important foundational role in the future success and power of the trust. While the statutorily defined wildlife trust doctrine is an appealing option because its scope absolutely includes corals,²⁵⁵ the common law public trust doctrine is likely the better foundation for a trust in coral reefs. First, the traditional common law public trust doctrine has deeper roots in the State's legal framework. Not only is there extensive caselaw regarding the topic, but the concept itself is ancient,²⁵⁶ lending it stability and power. Second, a public trust interest founded in a statute may limit the interests for which citizens can intervene,

251. *Supra* pt. II(C).

252. *Supra* pt. III(C).

253. *Supra* nn. 205–208 and accompanying text.

254. *Supra* n. 239 and accompanying text.

255. *See supra* pt. IV(B) (discussing Florida's public trust interest in wildlife).

256. Rody, *supra* n. 123, at 40.

whereas the common law doctrine offers the broader interest of “the public good.”²⁵⁷ For instance, the main Florida statute that enforces a wildlife trust philosophy, the Florida Coral Reef Protection Act, only provides protection for corals through the regulation of harm from direct, physical impacts to the reefs.²⁵⁸ Thus, under the existing statute, a citizen would be limited to enforcing State duties to regulate direct, physical harm to corals, while greater harms, such as pollution and disease, would continue unaddressed. On the other hand, a citizen can enforce a broader range of State duties under the common law public trust doctrine’s “public good” standard.²⁵⁹ Thus, Florida’s public trust interest in corals should be established under the common law public trust doctrine rather than the primarily statutorily defined wildlife trust doctrine.

With the foundation of the trust established, the courts must next extend the scope of the doctrine to include corals. First, Florida’s courts can extend the doctrine to corals based simply on the intimate physical connection between corals and submerged lands. Although corals are actually living creatures, they help to form the solid landscape of the sovereign submerged lands.²⁶⁰ While the intimate physical connection between submerged lands and corals does not have any direct legal significance, it illustrates the paramount connection between coral reef protection and public trust land management—just as corals cannot easily be severed from the seafloor, coral protection cannot easily be severed from public land management. Because of this physical connection, corals do not require a large stretch of the doctrine and are a perfect first step toward extending the doctrine to wildlife.

The legal argument for extending the traditional public trust doctrine to corals stems from the rationale underlying the doctrine. The public trust doctrine traditionally protects public interests in navigation, commerce, and fishing.²⁶¹ Further, Florida courts have recognized and protected the public trust interest in

257. *Gerbing*, 47 So. at 355.

258. Fla. Stat. § 403.93345.

259. *Gerbing*, 47 So. at 355 (noting that the states’ navigable waters are held in trust for use of the people of the states and for the general welfare of the people in those states).

260. *Supra* pt. II(A).

261. *Supra* pt. IV(A)(1) (discussing the origin and rationale behind the public trust doctrine).

fishing.²⁶² Just as the California Supreme Court did in the Mono Lake case,²⁶³ Florida courts could construe the public trust to protect public uses rather than the traditional public trust resources (navigable waters and submerged lands). Focusing on the protection of traditional public fishing uses under the trust, Florida courts could extend the doctrine to include coral reefs because of the vital role that reefs play in fishery protection and proliferation.²⁶⁴ If the State's failure to protect coral reefs leads to critically damaged fisheries, arguably, the State's protection of State waters and submerged lands to protect common fishing interests becomes futile. Thus, because the rationale for the traditional public trust doctrine rests, in part, on a duty to safeguard the public's interest in fishing, it takes only a small, reasonable leap of logic to include corals in the trust in order to protect those interests.

Another more radical extension of the doctrine's scope could involve the Florida courts' recognition of new public trust interests; for example, the interests in ecological stability and aesthetic enjoyment suggested in the Mono Lake case.²⁶⁵ Just as it is vital to monitor and protect navigable waters in order to ensure ecological stability and aesthetic enjoyment, protecting coral reefs under the public trust doctrine meets those same public trust interests by defending biodiversity and maintaining beautiful reef ecosystems. Further, Florida statutes have established at least some basis for recognition of a public interest in ensuring ecological stability.²⁶⁶ That interest could be transferred to the common law public trust doctrine and serve as a connection between traditional public trust resources and coral reefs.

Finally, for an extension of the public trust doctrine to corals to be truly meaningful, Florida's courts must fully articulate the State's duties under the public trust doctrine so that the doctrine

262. *Supra* pt. IV(A)(2) (highlighting the Florida Supreme Court's focus on not just the protection of state waters and submerged lands but also the public's traditional uses of those sources—most notably fishing).

263. *Supra* nn. 211–223 and accompanying text.

264. See NOAA, *Conservation Program*, *supra* n. 11 (explaining that coral reefs support both commercial and recreational fisheries).

265. *Supra* nn. 211–223 and accompanying text.

266. *Supra* nn. 165–168 (discussing the Florida statute that designates submerged lands as “single-use” lands that should be used primarily to maintain natural, ecological conditions).

acts not only as a source of power for the government but also a source of fiduciary obligations. While Florida has traditionally used its public trust doctrine as a source of power to assert State title over sovereignty lands in the interest of the public,²⁶⁷ the courts must also interpret the doctrine to impose a corresponding duty upon the State.²⁶⁸ This duty would encompass not only a reactive approach to management, as Florida has historically exercised by weighing in its sovereign title to protect public lands from private ownership, but also a proactive approach. This proactive approach could include more specific, prescriptive regulations to bar damaging uses of the public trust resources on the front end, before damage could occur.

In the event that courts extend the public trust doctrine to corals and put more emphasis on the State's duty under the doctrine, the public would have a new way to ensure that the State takes proper action in managing and protecting its coral resources. Further, the doctrine would provide a second line of defense by filling the "gaps" between Florida and federal statutory protections.²⁶⁹ Armed with a public trust doctrine that includes coral within its scope, citizens could enforce the State duty to manage coral reefs in the courts.²⁷⁰

Some critics argue that applying the doctrine to sensitive environmental resources could work to the opposite effect, allowing the public increased access to fragile resources like coral

267. *Supra* pt. IV(A)(4) (explaining that Florida courts have mostly drawn on the doctrine as a source of power to assert State title to submerged lands in order to protect them from private claims).

268. This concept is distinguishable from other articles that suggest using the public trust doctrine as a source of power for states to regulate the use of ocean and coastal resources. *E.g.* J.C. Sylvan, Student Author, *How to Protect a Coral Reef: The Public Trust Doctrine and the Law of the Sea*, 7 *Sust. Dev. L. & Policy* 32, 34–35 (2006) (discussing the possibility of using the public trust doctrine to legitimize state limitation of public use of the fisheries with "no-take" marine reserves). Sylvan ends her discussion with the pitfalls of marine reserves, one being that marine reserves do not curb the damage from pollution. *Id.* at 35. The solution in this Article takes Sylvan's approach a few steps further and could lead to more protection against water pollution and other threats to corals' quality of habitat.

269. *See supra* pt. III(C) (discussing how the federal-state regulatory scheme has created gaps in coral reef protection).

270. *Ctr. for Biological Diversity*, 166 Cal. App. 4th at 1370 (explaining that an individual who believes that a state agency has failed to uphold its responsibilities under the public trust doctrine "may bring an appropriate action against [the agency]"); Musiker et al., *supra* n. 247, at 114–115.

reefs.²⁷¹ While the public trust doctrine places a duty on the State to hold resources in trust for the public, it also gives citizens the right to “public benefit” of the resources.²⁷² This concern will not likely become a reality, however, as the doctrine also allows the State, acting in its capacity as trustee of the public trust resource, to limit access in the interests of preserving the trust.²⁷³ In fact, allowing indiscriminate access to the reefs would likely be a violation of the State’s public trust obligation if it led to unrestrained and damaging uses.

Other critics suggest that increased litigation under the public trust doctrine is not necessary when so many environmental statutes already exist.²⁷⁴ While unrestrained litigation should surely be avoided, it is not clear that the usefulness of the public trust doctrine is completely eclipsed by environmental statutes. In fact, the public trust doctrine is a tool that can be used to ensure that the public is protected from “failure of legislatures, state agencies, and administrative personnel to recognize the state’s duty.”²⁷⁵ For this reason, strengthening the public trust doctrine can only provide citizens with the proper resource to protect their interests as beneficiaries under the public trust doctrine.

In short, the public trust doctrine can empower the citizens of Florida to ensure that the State “fills in the gaps” by providing protection for coral reefs to the best of its ability, whether it is against water pollution, overfishing, direct physical damage, or climate change. Further, this undertaking would not be completely foreign or difficult because other states have established a model framework upon which Florida can build a body of trust cases.

271. See Sarah K. Stauffer, *The Row on the Ruby: State Management of Public Trust Resources, the Right to Exclude, and the Future of Recreational Stream Access in Montana*, 36 *Env’tl L.* 1421, 1438–1442 (2006) (explaining that the public trust doctrine guarantees public access to resources and that some people worry that increased access could lead to overuse and destruction of the resources).

272. *Id.*

273. *Id.* at 1438–1439.

274. Musiker et al., *supra* n. 247, at 109–110.

275. *Id.* at 109.

**VII. APPLYING THE PUBLIC TRUST TO CORALS:
A REFLECTION ON THE FORM OF THE
SUIT AND POTENTIAL HURDLES**

The public trust in corals does not yet exist in Florida, but if—or when—it does, there will be no immediate, precedential models within Florida's caselaw upon which to structure a coral reef trust case. The California wildlife trust cases, combined with Florida's existing coral reef laws and legal structure, provide guidance for formulating a Florida coral reef trust model. This Part briefly discusses a potential framework for Florida public trust cases to assist in identifying future hurdles to applying the doctrine.

The coral reef trust suit can be filed by any citizen of the State of Florida whose interests are harmed by the State's failure to protect the public's common ownership and interest in the coral reef trust resource.²⁷⁶ An exceptional plaintiff to bring the suit will be one whose interest in fishing (or some other recognized public trust interest) has been affected by the damage to coral reefs caused by the State's failure to uphold its fiduciary public trust duty. A plaintiff with fishing interests would be a superior plaintiff because the right to fish is expressly held in common with the rest of the State's citizens under the public trust and would provide a tight bond between the public trust interest and the health of the coral reefs.

Next, the plaintiff must determine whom to sue. The plaintiff must choose a state agency, because the State is the holder of the public trust.²⁷⁷ Because the Florida Coral Reef Protection Act designates the Florida Department of Environmental Protection (DEP) as "lead trustee" for coral reefs in state waters,²⁷⁸ the DEP is the best agency to hold liable for breaching the trust. The DEP's status as "lead trustee" gives it the power to regulate and cooperate with all agencies that affect the public trust resource,²⁷⁹

276. See *Nat'l Audubon Soc'y*, 658 P.2d at 716 n. 11 (noting that citizens have standing to sue to protect the public trust).

277. See *Ctr. for Biological Diversity*, 166 Cal. App. 4th at 1367 (explaining that the Center could sue under the public trust doctrine but that it had to sue the responsible agency—not a private party).

278. Fla. Stat. § 403.93345(4).

279. The agencies that affect corals may include agencies that are not environmentally oriented but whose actions nevertheless have direct or indirect impacts. As the lead

thus allowing comprehensive management of threats that affect corals. Thus, the best defendant in a coral reef trust case is the Florida DEP.

During the case, the plaintiff will need to show that the State breached its duties as trustee of the public trust in coral reefs. This will likely require the plaintiff to first establish the public's collective public trust interest in coral reefs, which could be based on its value as a fishing resource, an ecological reserve, or its even less traditional values of scenic beauty, storm buffering, or tourism support. The plaintiff would also need to show that the DEP breached its duty as trustee of coral reefs by managing them in a way that is contrary to the public interest. For instance, a plaintiff could argue that the DEP failed to properly manage coral reefs because it did not establish an adequate statewide nonpoint source management program that could protect coral reefs from nutrient-based and microbial pollution. Because the Clean Water Act delegates nonpoint source management to state programs, the responsibility to restrict these sources of pollution for the benefit of the public trust in reefs would likely fall squarely within the State's purview. Although the DEP is not directly in charge of water quality protection, responsibility may ultimately fall on the DEP to coordinate protections with the proper agencies for the benefit of the corals.

Once a plaintiff has established the harm to the public trust interests and the State's failure to uphold its public trust duties, the court must balance the public interests. A court's analysis of the State's public trust duties will have to weigh the benefits of a damaging State action (or failure to act) against the benefits of protecting the reefs, using the public welfare as a frame of reference.²⁸⁰ This balance could favor the corals, as the welfare of coral reefs has become an issue of concern for more than the die-hard ecologists.²⁸¹ While traditionally, public interests such as fishing and coral reef protection would conflict,²⁸² the preserva-

trustee of coral resources, the DEP could possibly regulate these harmful actions in the interest of corals.

280. See Musiker et al., *supra* n. 247, at 96 (presenting model factors for a public trust "balancing test"). State courts would have to create this balancing test, but it could look similar to Musiker's factors.

281. See *supra* pt. II(B) (discussing the importance of corals in providing fish habitats, preventing beach erosion, attracting ecotourism, and producing chemical compounds of medical utility, among other reasons).

282. Sylvan, *supra* n. 268, at 35.

tion of coral reefs would possibly become essential to most public uses of coastal waters.²⁸³

Thus, the reality of a public trust in corals could tip the scales in favor of increased protection for coral reefs by allowing Florida courts to evaluate State actions or omissions with a public trust fact balancing scheme. This ability to evaluate State protections through the lens of coral reef protection would give citizens increased power to ensure that the State considers both direct and indirect impacts to coral, such as poor water quality.

VIII. CONCLUSION

Coral reef protection is a complicated issue that will likely require a complicated solution. But there is no question that Florida will have to play a crucial role in the fight to protect the reefs within its sovereign waters. The public trust doctrine allows citizens to ensure that the State properly manages their interests in coral reef resources. Florida's public trust doctrine is a long way from being an all-encompassing powerhouse to motivate State action. For one, the extension of the public trust doctrine in the courts will depend on the participation of interested parties who invoke the doctrine to protect the reefs.²⁸⁴ Only then can the courts definitively acknowledge the power of the doctrine, thus allowing citizens to bring suit and courts to act as a check in the system of coral reef protection laws.

Also, it will have to be the proper time to bring the suit. Politically, the courts must be primed to hold the State responsible for managing the resources, and the citizens must be ready to help pay for that management. Ecologically, the harm to corals must be apparent enough that courts can discern an actual harm and trace it to a State act or omission.

But the end result may just be worth the struggle. States have the unique advantage of standing on the frontline of many local issues, and Florida is on that frontline of coral reef protec-

283. For example, healthy functioning reefs are essential to the public's interest in continuing to use state fishery resources because of their capacity to support valuable fish species. *Supra* pt. II(B) (illustrating the importance of coral reefs to thriving fisheries).

284. Bruskotter, *supra* n. 200.

tion.²⁸⁵ Further, Florida has the opportunity to “fill the gaps” in the current regulatory scheme protecting corals. For these reasons, citizens and courts alike should continue to attempt to hold the State to its important duty under the public trust doctrine.

285. See Quast & Mantell, *supra* n. 82, at 68 (suggesting that states have a unique position on the frontline of coastal management issues and can set examples for other states as well as the nation).