THE PROBLEM WITH PARTICULARIZED INJURY: THE DISJUNCTURE BETWEEN BROAD-BASED ENVIRONMENTAL HARM AND STANDING JURISPRUDENCE

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I. INTRODUCTION

Several recent events harmonically converged into the topic for this article. The first was a posting on Georgetown Law's environmental law professors' listserv by Professor John Bonine, which raised a number of questions about whether and how standing doctrine might be rethought in light of the Supreme Court's opinion in *Massachusetts v. EPA*.[1] That opinion relaxed the states' standing burden because of the unique sovereign interests, finding that federalism bargaining earned states "special solicitude"[2] when it came to meeting the Court's standing requirements.

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1. Massachusetts v. EPA, 549 U.S. 497 (2007).

2. *Id.* at 520 ("[M]assachusetts' stake in protecting its quasi-sovereign interests . . . entitled [it] to special solicitude in our standing analysis.").

The second was a complaint filed by a consortium of regional environmental organizations, Chesapeake Bay Foundation, Inc., and individuals against the Environmental Protection Agency (EPA) for failing to achieve the goals of the Chesapeake Bay Agreements.[3] EPA is one of five signatories to the Agreements, which contains a variety of goals, deadlines, and recommended actions, and which has failed miserably to halt the Chesapeake Bay's decline.[4] This complaint led to a reflection on work done in the clinic several years ago, where bringing a lawsuit on behalf of a commercial fisherman challenging the practice of chumming on the Bay was thought about long and hard. Chumming involves depositing a slurry of decomposed fish parts, usually menhaden, over the side of a fishing boat to attract game fish like striped bass.[5] While chumming contributes to the Bay's nutrification, by itself it has little discernible impact on the Bay's overall health given the much larger sources of nutrients like sewage treatment plants, runoff from farm fields, and confined animal feeding operations.[6] Ultimately it was determined, in part on standing grounds, that such a lawsuit could not succeed.

The last event was a recent conversation with a retired Washington attorney about his decision to start a new organization that would supply pro bono assistance to property owners concerned about relatively discrete, highly localized harms to the Bay such as leaking septic systems or permit violations by industrial dischargers. Collectively, these separate events congealed into a somewhat amorphous concern about the extent to which the Supreme Court's standing jurisprudence and its insistence on a showing of a particularized injury-in-fact are ill-suited to the types of broad-based, generalized harms from which complex, constantly changing ecosystems suffer.

The new lawsuit against EPA mentioned above, as well as the contemplated, but never filed, chumming lawsuit, would likely fail to meet current standing requirements because plaintiffs would be unable to disaggregate the harm they suffered from the more generalized harms that the public suffers as a result of the Bay's de-

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3. Complaint at 2, Fowler v. EPA, No. 1:2009CV00005 (D.D.C. Jan. 5, 2009).

4. *See* Jeff Day, *Chesapeake Bay: Bay's Health Remains Poor After 25 Years; Officials Say 'Bolder' Initiatives Under Way*, 40 ENV'T REP. 707, 707 (Mar. 27, 2009) (reporting that 25 years after the creation of the Chesapeake Bay Program, the percentage of dissolved oxygen in the water, which is a key indicator of the health of the Bay, is virtually unchanged from what it was in 1985).

5. For more information on the practice of chumming and its adverse effects on water quality, *see generally* Hope M. Babcock, *Administering the Clean Water Act: Do Regulators Have "Bigger Fish to Fry" When it Comes to Addressing the Practice of Chumming on the Chesapeake Bay?*, 21 TUL. ENVTL. L.J. 1 (2007).

6. *Id.*

cline. While the approach of the well-meaning, retired Washington attorney is less problematic from a standing perspective, his ability to address the larger systemic problems facing the Bay is unclear. Collectively, the three events resulted in a new thought about how the Court's standing jurisprudence has driven environmental litigation to a less effective piecemeal approach to protecting complex natural systems like estuaries.

Far from being an enabler of what leads to critically important environmental litigation, the Court's requirement that litigants show a particularized injury can derail this litigation before the merits of such claims can even be considered.[7] The requirement can drive both plaintiffs' attorneys and judges into paroxysms of tangential work often with contradictory outcomes. And while there is much to praise about the Court's standing analysis in *Massachusetts*, it did not eliminate the need for the Commonwealth to show it had suffered a particularized injury from both the government's failure to attend to the potentially catastrophic harms and from the government's failure to regulate greenhouse gas emissions from tailpipes.[8] The Court's failure to eliminate that need is a great disappointment in what is otherwise a glorious opinion.

This article will attempt to persuade the reader that the Court's insistence that claimants demonstrate a particularized injury does not make sense, even in *Massachusetts*. This is evident considering the claims that arise from broad-based harms to complex, evolving natural systems like estuaries, where the level of understanding about how these systems behave is in as much flux as the systems themselves.

The first part of the article describes why it is especially difficult to particularize the harms to these systems, and why lawsuits attacking these problems in a particularized or localist way are not doing enough to solve them. The author discusses the Court's current standing jurisprudence, especially the requirement that a plaintiff's injury not only be concrete, but must also be particula-

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7. The Court's recent 5-4 decision in *Summers v. Earth Island Institute*, 129 S.Ct. 1142 (2009), carries on this tradition. The Court held that environmental organizations who had sued the Forest Service for applying its regulations to exempt salvage timber sales on 238 acres of fire-damaged federal lands from the notice, comment, and appeal process set out in the Forest Service Decisionmaking and Appeals Reform Act, 16 U.S.C. § 1612, had failed to establish a sufficiently particularized injury to make a facial challenge to the regulations absent their concrete application. *Id.* at 1147-48, 1149-50.

8. *See generally* Bradford Mank, *Should States Have Greater Standing Rights Than Ordinary Citizens?:* Massachusetts v. EPA's *New Standing Test for States*, 49 WM. & MARY L. REV. 1701, 1747 (2008) (expressing concern about the ambiguity in the majority's opinion on the extent to which Massachusetts could meet traditional standing requirements and the extent to which those requirements were modified to reflect the state's special sovereign status).

rized, in Part II of the article. Part of that discussion includes a recitation of the reasons why the Court can, and should, relax the requirement to plead particularized injuries from harms for these critically important natural systems. The article ends with a description of some limiting principles to cabin the number and type of cases that might be brought under a more relaxed injury-in-fact standard. The application of these principles will likely leave the Court's overall standing doctrine intact.

II. WHY DEMONSTRATING PARTICULARIZED HARMS TO COMPLEX, EVOLVING NATURAL SYSTEMS IS DIFFICULT AND RESULTS IN INEFFECTIVE LAWSUITS

The physically complex and constantly changing nature of ecosystems, like estuaries, and the breadth of the systemic harms afflicting them make it extremely difficult for environmental plaintiffs to articulate an injury-in-fact that meets the Court's particularization standard and, at the same time, addresses these problems. When plaintiffs can meet the particularization standard, their lawsuit will have little effect on broad systemic problems. The Chesapeake Bay is used as the platform for this argument because it is the estuary known best by the author.

The Chesapeake Bay is North America's largest estuary, consisting of 2,500 square miles.[9] Its 64,000 square mile drainage area includes all or parts of six states and the District of Columbia.[10] Approximately sixteen million people live in the Bay's watershed, many of whom rely on the Bay and its tributaries as a source of income and as a place to recreate and enjoy the natural environment.[11] The Bay is home to more than 3,700 species of plants and animals, including nearly 300 species of fish.[12] It offers unique commercial and recreational opportunities; prime among these is fishing.

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9. The Chesapeake Bay Program calculates that the size of the drainage area creates "a watershed land to Bay water volume ratio seven times that of any other major estuary in the world[.]" Chesapeake Bay Program, *Chesapeake Bay 2005 Health and Restoration Assessment, Part One: Ecosystem Health* 3 (2005), *available at* http://www.chesapeakebay.net/content/publications/cbp_12892.pdf. It is also the longest estuary in the country, with 4000 miles of shoreline; longer even than the "entire West Coast." CHRISTOPHER P. WHITE, CHESAPEAKE BAY: NATURE OF THE ESTUARY: A FIELD GUIDE 3 (1989).

10. Chesapeake Bay Program, *Chesapeake Bay 2006 Health and Restoration Assessment, Part One: Ecosystem Health* 11 (2006), *available at* http://archive.chesapeakebay.net/pubs/2007reports/EPA06_BAYHealthReport.pdf.

11. Chesapeake Bay Program: A Watershed Partnership, Facts & Figures, http://www.chesapeakebay.net/factsandfigures.aspx?menuitem=14582 (last visited Mar. 15, 2010).

12. White, *supra* note 9, at 24.

However, despite the investment of millions of dollars in improving the Bay's water quality, the Bay continues to suffer from severe environmental degradation. For example, blue crabs, an iconic symbol of the Chesapeake Bay, were once at the apex of the Bay's commercial fishery and supplied one-third of the nation's blue crab harvest.[13] In slightly less than a decade, the total abundance of crabs in the Bay has declined nearly seventy percent..[14] The Bay's equally important oyster population is at less than 1% of its historic numbers.[15] Poor water quality from onshore sources of nutrients and sediments has been a major factor in the decline of these and other Bay fisheries, as well as in the loss of vital Bay underwater grasses.[16] These grasses serve as critically important nursery and spawning areas for many of the Bay's aquatic species and help oxygenate the water so those and other species can survive.[17]

The Bay offers a challenging environment for its resident species as well as for scientists and regulators charged with the task of predicting how the system will respond to pollutants and other stressors, including natural ones. The Bay's hydrology and hydrodynamic character are extremely complex[18] and poorly understood. Although the Bay's wide mouth allows for vigorous tidal flushing, turnover of its water is slow; a parcel of water generally takes from two to three weeks to cycle along the Bay's 195-mile length.[19]

One hundred and fifty tributaries from a wide array of geophysical provinces and states drain into the Bay, contributing not only freshwater, nutrients, and other important materials for plant growth, but also pollutants.[20] The tributaries create a multiplicity of distinct ecological zones in the Bay, and the Bay's temperature fluctuations and sharp salinity gradient create barriers

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13. Chesapeake Bay Program: A Watershed Partnership, Blue Crab, http://www.chesapeakebay.net/bluecrab.aspx?menuitem=19367 (last visited Mar. 15, 2010).

14. Chesapeake Bay Program, Blue Crab Harvest, http://www.chesapeakebay.net/crabs.aspx?menuitem=14700 (last visited Mar. 15, 2010).

15. NOAA Chesapeake Bay Office, Native Oysters, http://chesapeakebay.noaa.gov/NativeOysters.aspx (Feb. 29, 2008).

16. *See* U.S. EPA, OFFICE OF INSPECTOR GENERAL, EPA NEEDS TO BETTER REPORT CHESAPEAKE BAY CHALLENGES, SUMMARY REPORT, REP. NO. 08-P-0199 30 (2008) (discussing the onshore sources of nutrients and sediments and their impact on Chesapeake Bay water quality).

17. White, *supra* note 9, at 24 (explaining that "[l]ike a pyramid of stones, the animals at the top are dependent on the size of the plant base. Top carnivores such as crabs, bluefish, and osprey are very abundant in the Chesapeake only because of the enormous plant productivity in the Bay . . . . The Bay's various plant communities . . . sustain the nations' most prolific estuarine fisheries.").

18. V.N. Mikhailov et al., *Regularities of Hydrological Processes in the Chesapeake Bay (USA): Case Study of a Classical Estuary,* 36 WATER RES. 127, 127 (2009).

19. White, *supra* note 9, at 18.

20. *Id.* at 19-20.

many species cannot cross.[21] The Bay's freshwater tributaries, salinity structure, and tidal flow are additionally highly variable.[22]

The process of trying to understand how stressors like pollutants behave in an estuarine system, like the Bay, is greatly complicated by the phenomenon of positive feedback loops. These "complex, circuitous paths"[23] are common in fluctuating systems like estuaries. A positive feedback loop occurs when the consequences of an ongoing process become factors in modifying or changing that process by reinforcing and amplifying it.[24] For example, the process of nutrification, which involves algal blooms that block sunlight from underwater grasses, causing the grasses and algae to die, sets off three positive feedback loops that reinforce and amplify the original process, leading to more die-off.[25] The effects of positive feedback loops, which act to speed up the original process, are negative because they can destabilize a system; in some cases, they even cause the system's collapse. Reversing the flow of a feedback loop will not allow the component parts of a complex, adaptive system like an estuary "simply to retrace their steps"[26] and to return to where the process started. Rather when the process is reversed, "[n]ew feedback loops may emerge, the old ones may change strength or direction, and new possibilities for the system open up."[27]

Complex systems like estuaries also react to change in unpredictable ways. The smallest changes to such systems can have wide-ranging effects.[28] This is especially true "in far-from-equilibrium conditions," such as those found in the Bay, where even the smallest disturbances or changes "can become amplified into gigantic, structure-breaking waves."[29] In fact, "the more complex a system is, the more numerous are the types of fluctuations

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21. *Id.* at 5.

22. *Id.* at 13.

23. J. B. Ruhl, *Thinking of Environmental Law as a Complex Adaptive System: How to Clean Up the Environment by Making a Mess of Environmental Law*, 34 HOUS. L. REV. 933, 948 (1997).

24. *Id.* (stating "[s]uch feedback loops can become exponential in effect and thus dominate the system in which they operate.").

25. *See* Babcock, *supra* note 5, at 10-12 (discussing this phenomenon).

26. Ruhl, *supra* note 23, at 948.

27. *Id.*

28. This is best illustrated by the "butterfly effect," in which the smallest change, like the wings of a butterfly "stirring the air today in a Chinese park can transform the storm systems appearing next month over a North American city." DONALD WORSTER, NATURE'S ECONOMY: A HISTORY OF ECOLOGICAL IDEAS 407 (Donald Worster & Alfred Crosby eds., Cambridge Univ. Press 2d ed. 1994) (1977) (explaining how "tiny differences in input might quickly become substantial differences in output.").

29. Alvin Toffler, *Introduction* to ILYA PRIGOGINE & ISABELLE STENGERS, ORDER OUT OF CHAOS: MAN'S NEW DIALOGUE WITH NATURE xvii (Bantam Books 1984).

that threaten its stability."[30] Ecosystems contain constantly fluctuating subsystems. These fluctuations, either alone or in combination, may become sufficiently powerful as a result of positive feedback loops to shatter the system's preexisting organization.[31] This makes it impossible to predict the direction change will take, let alone whether the basic structure of the system will "disintegrate into 'chaos' or leap to a new, more differentiated, higher level of 'order' or organization."[32] It also makes it difficult to discern what the initial condition of the system was before the change occurred.[33]

Additionally, our understanding of how complex systems, like estuaries, behave is in flux. The common view fifty years ago was all ecosystems were moving towards homeostasis: the point at which the system was in perfect balance.[34] Nature was seen as a "manageable system of simple, linear, rational order."[35] Today, ecologists view ecosystems as anything but stable; instead they are seen as being composed of constantly "shifting patterns in endless flux[.]"[36] There are too many variables in these systems for scientists "to plot all the lines of influence, of cause and effect[,]" because nature's processes are "essentially non-linear."[37] Where ecologists once believed they could determine what level of disturbance was safe, today's ecologists see "[e]ach organic system . . . [to be] so rich in feedbacks, homeostatic devices, and potential multiple pathways that a complete description is quite impossible."[38]

The current standing paradigm assumes a natural system that is stable and unchanging, where harms can be isolated and particularized to individual plaintiffs. However, this understanding is seriously out-dated. It is now understood that natural systems, like estuaries, are stochastic and unstable and subject to the laws of complexity or chaos theory, where change, which can be set off by the smallest disturbances to these systems, is one of the few immutable rules, and phenomena like positive feedback loops can both reinforce and alter outcomes.

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30. ILYA PRIGOGINE & ISABELLE STENGERS, ORDER OUT OF CHAOS: MAN'S NEW DIALOGUE WITH NATURE 188 (Bantam Books 1984).

31. Toffler, *supra* note 29, at xv.

32. *Id.*

33. STUART KAUFFMAN, AT HOME IN THE UNIVERSE: THE SEARCH FOR THE LAWS OF SELF-ORGANIZATION AND COMPLEXITY 23 (Oxford Univ. Press 1995).

34. WORSTER, *supra* note 28, at 366-67 (stating "the principle goal of the theory of ecosystem management was to achieve a 'steady state,' or equilibrium.").

35. *Id.* at 406.

36. *Id.* at 412.

37. *Id.* at 407.

38. ERNST MAYR, THE GROWTH OF BIOLOGICAL THOUGHT: DIVERSITY, EVOLUTION, AND INHERITANCE 59 (1982).

The complexity of the Bay's structure also means a piecemeal approach to solving its problems, one discharge pipe or septic system at a time, will not work. The attack on these problems needs to be broad-based and systemic, like the environmentalists' lawsuit against EPA for failing to meet the Chesapeake Bay Agreement's water quality goals. Furthermore, unless the courts act, the multiplicity of political jurisdictions contribute to the Bay's problems and are responsible for their solution, making it highly unlikely any one of these stakeholders will suddenly voluntarily step forward to rescue the Bay.[39] They have not done so in over twenty years, and there is no reason to believe they will do so now.[40]

The complexity of natural systems like estuaries thus creates a serious barrier to showing a particularized injury, which requires disaggregating isolated harms to the system. If individual harms cannot be isolated, then a prospective plaintiff cannot identify a discrete harm that has injured her. If, for example, scientists cannot untangle the relationship between nutrient loading and general water quality in the Bay, then how can a plaintiff show whether her injury from the Bay's excess nutrient loadings is from the contribution of nutrients from upstream tributaries, the failure of the state to control leaking septic systems, the reluctance of dairy farmers to implement manure management controls, or from airborne deposition of nitrogen, let alone from a particular source? Yet, these are exactly the showings that are required under the Court's current standing doctrine, which is discussed next.

III. THE SUPREME COURT'S CURRENT STANDING JURISPRUDENCE

Standing is the hurdle all plaintiffs must surmount before a federal court will hear the merits of their claims.[41] The elements of the Court's standing doctrine are sufficiently well known that most law students can recite them from memory: "[t]he plaintiff must

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39. *See* William W. Buzbee, *Recognizing the Regulatory Commons: A Theory of Regulatory Gaps*, 89 IOWA L. REV. 1, 5-6 (2003) (stating that when there is a mismatch between the underlying "social ills" and the existing political-legal regime, it is highly unlikely that any regulator or other interested party will step forward and try to solve the problem).

40. *See Id.* at 36 (explaining that regulators and "those benefiting from the status quo" have little incentive to change it because they "have sunk money and effort" into maintaining it and "are likely to become attached to it").

41. *See generally* Randall S. Abate, Massachusetts v. EPA *and the Future of Environmental Standing in Climate Change Litigation and Beyond*, 33 WM. & MARY ENVTL. L. & POL'Y REV. 121 (2008); Kimberly N. Brown, *Justiciable Generalized Grievances*, 68 MD. L. REV. 221 (2008); Daniel A. Farber, *A Place-Based Theory of Standing*, 55 UCLA L. REV. 1505 (2008); Andrew Long, *Standing & Consensus: Globalism in* Massachusetts v. EPA, 23 J. ENVTL. L. & LITIG. 73 (2008); Bradford C. Mank, *Standing and Global Warming: Is Injury to All Injury to None?*, 35 ENVTL. L. 1 (2005); David M. Palmer, *Untangling Tenth Amendment Standing: Why Private Parties Cannot Enforce the Federal Structure*, 35 HASTINGS CONST. L.Q. 169 (2008).

have suffered an 'injury-in fact,'" defined as "an invasion of a legally protected interest, which is (a) concrete and particularized, [citations omitted]; and (b) 'actual or imminent, not 'conjectural' or 'hypothetical.' [citations omitted]."[42] The injury must also be fairly traceable to the defendant's challenged action and not "th[e] result [of] the independent action of some third party not before the court[,]" and "be 'likely,' as opposed to merely 'speculative,' that the injury will be 'redressed by a favorable decision.'"[43] The doctrine is not set out in the Constitution; rather it is inferred from Article III's cases and controversies limitation on judicial authority[44] to assure plaintiffs have a genuine interest and personal stake in a controversy. Additional common justifications given for the standing doctrine are separation of powers, judicial economy, and fairness.[45]

The judicial requirement that a plaintiff must be able to demonstrate she has suffered an injury-in-fact is at the core of the standing doctrine. The additional adjectival requirements that the injury be "concrete" or reflect "a personal stake" in the underlying action and be actual or imminent exist to "assure that concrete adverseness which sharpens the presentation of issues upon which the court so largely depends for illumination[.]"[46] The other two prongs of the Court's standing doctrine, traceability and redressability, flow from these requirements.

A. The Need to Show a Particularized Injury

Standing has been problematic for many environmental plaintiffs because often the harms complained about cannot easily be reduced to a judicially cognizable injury-in-fact, which can then be traced to illegal governmental conduct and be redressed by a fa-

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42. Lujan v. Defenders of Wildlife, 504 U.S. 555, 560 (1992).

43. *Id.*

44. U.S. CONST. art. III, § 2, cl. 1. (extends judicial review "to all Cases, in Law and Equity, arising under this Constitution, the Laws of the United States, and Treaties . . . [and] to Controversies to which the United States shall be a Party[.]")

45. Palmer, *supra* note 41, at 177.

46. Baker v. Carr, 369 U.S. 186, 204 (1962); *See also Lujan*, 504 U.S. at 581 (Kennedy, J., concurring) ("[The] requirement [of concrete injury] is not just an empty formality. It preserves the vitality of the adversarial process by assuring both that the parties before the court have an actual, as opposed to professed, stake in the outcome, and that 'the legal questions presented . . . will be resolved, not in the rarified atmosphere of a debating society, but in a concrete factual context conducive to a realistic appreciation of the consequences of judicial action.'"); FEC v. Akins, 524 U.S. 11, 23-24 (1998) (theoretical harms should be addressed by the political process, not the judicial process, to "prevent[ ] a plaintiff from obtaining . . . an advisory opinion.").

vorable court decision.[47] Another confounding feature of the standing doctrine is that environmental harms frequently affect the commons, in which "few, if any, have distinct and particularized legal interests."[48]

This article focuses on the need for an injury to be particularized to an individual plaintiff, and thus distinguishable from injuries suffered by other members of the public, because in many ways it can be the most problematic of the adjectives adorning the Court's modern standing jurisprudence for environmental plaintiffs.[49] The need to particularize injuries to a discrete plaintiff leads to a scramble by plaintiffs' lawyers to find individuals with a personal connection to the harm complained about, thus reducing the Court's standing doctrine to what Chief Justice Roberts referred to in *Massachusetts* as a "lawyer's game."[50] The absurdity of this situation, as Professor Daniel Farber notes, is that while the government's "regulatory actions will often create the requisite injury in fact . . . in a given case an environmental organization may not be able to recruit the appropriate plaintiff" or the plaintiff's burden will not be met because she has filed the wrong affidavits.[51]

The Court's insistence that plaintiffs demonstrate a particularized injury makes it virtually impossible for plaintiffs to bring a legal action to address the Bay's broad-based problems. The plaintiffs cannot show the requisite particularized injury because the cause of their injury cannot be neatly unraveled into discrete problems. The indeterminacy and nonlinear character of the natural system described earlier preclude the identification of particularized injuries. If these injuries cannot be particularized, then in the parlance of the standing doctrine this makes them generalized injuries, which are broadly felt by an undifferentiated regional or even national population and thus barred by the Court's standing doctrine.[52]

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47. Jonathan H. Adler, *God, Gaia, the Taxpayer, and the Lorax: Standing, Justiciability, and Separation of Powers After* Massachusetts *and* Hein, 20 REGENT U. L. REV. 175, 181-82 (2008).

48. *Id.* at 182.

49. This is not to say that the other elements of injury-in-fact or the two other constitutionally mandated prongs, traceability and redressability, are problem-free. The need to demonstrate that an injury is imminent drew Justice Scalia's attention in *Summers v. Earth Island Institute*, 129 S. Ct. 1142, 1150 (2009), where he criticized the affidavit filed by one environmental plaintiff because it discussed "past injury rather than imminent future injury that is sought to be enjoined."

50. Massachusetts v. EPA, 549 U.S. 497, 526 n.24 (2007) (Roberts, C.J., dissenting).

51. Farber, *supra* note 41, at 1542.

52. There is a distinction between widespread harms, which do not defeat the standing of an individual experiencing the same harm (*see* United States v. Students Challenging Regulatory Agency Procedures, 412 U.S. 669, 687-88 (1973) (explaining that "standing is not to be denied simply because many people suffer the same injury" because that "would mean that the most injurious and widespread Government actions could be questioned by nobody[

Lujan v. Defenders of Wildlife[53] remains the Court's strongest affirmation of the need to show a particularized injury.[54] While *Massachusetts* rectified some of the more extreme elements of Justice Scalia's standing analysis in *Lujan*, the opinion did not eliminate the need for the harm to be one that directly affects the particular plaintiff.[55] Indeed, the Court went to great lengths to show Massachusetts suffered a specific injury from global climate change–the loss of its coastline.[56]

In *Lujan*, Justice Scalia emphatically states a particularized injury-in-fact is part of the "irreducible constitutional minimum of standing" and, therefore, cannot be modified.[57] Justice Scalia is wrong for two reasons. First, even if particularized injury is constitutionally mandated, the Court has relaxed other elements of its standing requirements, as shown below, and there is no reason not to loosen this one as well. Second, the particularized injury requirement is prudential, as is mootness, the political question doctrine, and the bar against third-party standing, and thus not constitutionally required.

B. Reasons to Relax the Particularized Injury Showing, Especially for Complex Evolving Ecosystems

First, if Justice Scalia is right, and particularized injury is constitutionally required, then it is hard to countenance the Court's relaxed attitude toward the other elements of standing without including the need for an injury to be particularized. For

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]")), and generalized harms where the plaintiff cannot distinguish her harm from that being suffered by others. *Id.* at 689 (stating that plaintiffs must have alleged "a specific and perceptible harm that distinguished them from other citizens who had not used the natural resources that were claimed to be affected.").

53. Lujan v. Defenders of Wildlife, 504 U.S. 555 (1992).

54. Whether *Summers* will challenge *Lujan* for that title is open to question. *See* Noelle Straub, *Experts Weigh Impact of High Court's Forest Service Ruling,* GREENWIRE, Mar. 4, 2009, http://www.eenews.net/public/Greenwire/2009/03/04/2. According to Professor Robert Fischman:

> It's hard to know with this case [*Summers*] whether it represents a departure from what had been a broadening of standing over the last 10 years or whether this is going to be an anomaly . . . The standing aspect to the ruling just touches on so many topics and so much litigation that even though it's not quite clear what it means, it's of critical importance to hundreds of plaintiffs around the country.

Id.

55. *See Massachusetts*, 549 U.S. at 521 (explaining that "it is clear that petitioners' submissions as they pertain to Massachusetts have satisfied the most demanding standards of the adversarial process. EPA's steadfast refusal to regulate greenhouse gas emissions presents a risk of harm to Massachusetts that is both 'actual' and 'imminent.'" (citing Lujan, 504 U.S. at 560)).

56. *See Massachusetts*, 549 U.S. at 523 ("Because the Commonwealth 'owns a substantial portion of the state's coastal property,' . . . it has alleged a particularized injury in its capacity as a landowner.") (internal citations omitted).

57. *Lujan*, 504 U.S. at 560.

example, the Court has substantially lessened the plaintiff's burden to demonstrate traceability and redressability when prosecuting some procedural right granted by Congress,[58] like the right to require an agency to prepare an environmental impact statement under the National Environmental Policy Act. In *Massachusetts*, the Court relaxed the need that an injury be *imminent* until the next century or longer.[59] In *Bennett v. Spear*,[60] the Court displayed a similarly relaxed attitude toward the zone-of-interest test, which was engrafted onto the injury-in-fact requirement in the last quarter of the previous century,[61] relaxing it in the context of a statutory citizen suit provision.

If the Constitution mandates these standing requirements, then the Court must apply them to *all* injuries under *all* circumstances. Any exception based on a procedural or some other right appears more like "a creature of practical necessity" than constitutional dogma and reveals the test's "fundamental ineptitude . . . as a reasonable measure of constitutional standing in public law cases."[62] Like the Pillsbury dough boy, the contours of the standing doctrine, including its most hallowed injury-in-fact component, appear infinitely malleable. If the Court can loosen these standing elements, then surely it can treat the requirement that an injury be particularized the same way. Loosening the particularized injury test will hardly open the floodgates to litigation, considering that the concrete injury requirement adequately cabined the Court's jurisdiction for years before the particularized requirement came into vogue.

The second reason for the belief that the Court can relax the particularized injury test is that the obverse of a *particularized* injury is a *generalized* one,[63] and courts have long considered the bar against generalized injuries to be prudential.[64] Because the bar

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58. *See Massachusetts*, 549 U.S. at 517-18; *cf.* Summers v. Earth Island Inst., 129 S.Ct. 1142, 1151 (2009) ("Only a 'person who has been accorded a procedural right to protect *his concrete interests* can assert that right without meeting all the normal standards for redressability and immediacy.' . . . Unlike redressability, however, the requirement of injury in fact is a hard floor of Article III jurisdiction that cannot be removed by statute.")..

59. *Massachusetts*, 549 U.S. at 522-23.

60. Bennett v. Spear, 520 U.S. 154, 164-65 (1997) (saying that the "ESA's citizen-suit provision . . . expands the zone of interests[ ].").

61. Ass'n of Data Processing Serv. Orgs. Inc. v. Camp, 397 U.S. 150, 153 (1970) (a person has standing if her interest is "arguably within the zone of interests to be protected or regulated by the statute[.]").

62. Brown, *supra* note 41, at 263-64.

63. A typical example of a generalized injury is a taxpayer suit where the injury suffered in the allegation is often minute and shared with millions of others, is indeterminable, and is a reflection of a public, not individual, concern. *See, e.g.,* Commonwealth of Mass. v. Mellon, 262 U.S. 447, 486 (1923).

64. *See, e.g.,* Warth v. Seldin, 422 U.S. 490, 498-99 (identifying the generalized grievance bar as a prudential barrier).

against pleading generalized injuries is prudential, courts can and have relaxed it. Jonathan R. Nash identifies two such instances.[65] The first involves the "[o]verbreadth doctrine," which allows parties to object to overbroad speech regulations, even when the regulations do not infringe directly on their speech.[66] The second example Nash gives is a declaratory judgment where courts can declare broadly the rights and legal relations of any party seeking such relief regardless of whether the party has personally experienced the effect of the threatened action.[67] In each instance, plaintiffs are raising broad-based public concerns; in neither case is the injury particularized to the plaintiff, nor will the effects of a positive ruling from the court be limited to redressing just the injury to the particular plaintiff.

The reason for barring generalized grievances is the same reason for requiring particularized injuries–to prevent courts from breaching the barrier between the judicial branch and the other two branches of government.[68] However, in the situation which has given rise to this article, that reason does not make sense. Precisely because harms to complex natural systems like the Bay are widespread and shared by many, it is unlikely that the public will organize to pressure the government to abate them.[69] Moreover, neither the government nor the public responds well to "ex ante" catastrophic risks, where the benefits of expenditures before the catastrophic event occurs appear less tangible than the present day costs of taking action to avert it.[70] These social dynamics become barriers to action, a dynamic afflicting the Bay, and allow the political branches of government to avoid acting. Lastly, the political branches are not powerless to act before a court reaches the merits of a case and can thus preempt the lawsuit at any time before it must step in and resolve the dispute.

Unless courts are willing to set aside the requirement that plaintiffs plead a particularized injury in the case of harms to complex natural systems like estuaries, and fill the vacuum left by the elected branches, those harms will continue unabated and, in the case of the Bay, will potentially magnify and become worse. If

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65. Jonathan R. Nash, *Standing and the Precautionary Principle*, 108 COLUM. L. REV. 494, 518-19 (2008).

66. *Id.* at 518.

67. *Id.* at 518-19.

68. *See* FEC v. Akins, 524 U.S. 11, 33 (1998) (Scalia, J., dissenting) (explaining the bar against generalized grievances as preventing "'something in the nature of an Athenian democracy or a New England town meeting to oversee the conduct of the National Government by means of lawsuits in federal courts'").

69. *See* Buzbee, *supra* note 39, at 28-29 (discussing how people faced with harm to a common pool resource are unlikely to take any initiative to protect it).

70. Nash, *supra* note 65, at 520.

one agrees that the particularized injury requirement is prudential, or at least capable of modification like the other elements of standing, then it should be apparent that the Court can abandon or modify it in some situations.[71] However, no court is likely to abandon or modify the requirement without some limiting principles to curb the number and type of potential plaintiffs who might otherwise flood the courts.

IV. SOME PROPOSED LIMITING PRINCIPLES TO CONSTRAIN THE NUMBER AND TYPES OF CASES UNDER A MORE RELAXED INJURY-IN-FACT STANDARD

In the final part of this article, four limiting principles are proposed for consideration.

The first principle limits the type of plaintiff who can qualify for a waiver of the need to show a particularized injury.[72] This principle is similar to the Court's prudential third party standing jurisprudence, where parties have sometimes been allowed to raise the concerns of others not before the court when the litigation would impact those other parties.[73] One type of plaintiff who would qualify under this principle is someone who satisfies Daniel A. Farber's place-based standing requirement.[74] Place-based standing is the idea that plaintiffs with a special connection to the geographic area they are concerned about are uniquely qualified to prosecute matters affecting that area.[75] Thus, the eponymous Chesapeake Bay Foundation, which is dedicated to the restoration and

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71. But, unlike the Court in *Massachusetts*, the author sees no reason to limit this proposed relaxation of the Court's standing doctrine to states. The unusual vehemence and breadth of the Chief Justice's attack on the majority's analysis, including noting that there was no basis in the Court's standing jurisprudence to carve out states for "special solicitude" raises at least the possibility that the dissenters envision the effect of the majority's standing analysis to have a much broader impact than just on state plaintiffs. Massachusetts v. EPA, 549 U.S. 497, 536-37 (2007). In a subsequent article, these and other reasons why the opinion should be applied more broadly will be developed.

72. *See* Rob Atkinson, *Unsettled Standing: Who (Else) Should Enforce the Duties of Charitable Fiduciaries?,* 23 J. CORP. L. 655 (1998) (exploring the complexities of expanding standing as a way of enforcing the duties of charitable trusts and examining alternatives to doing that).

73. *See* Craig v. Boren, 429 U.S. 190, 195 (1976) (stating that a bartender was "entitled to assert those concomitant rights of third parties that would be 'diluted or adversely affected' should her constitutional challenge fail and the statutes remain in force."). *But see* Tileston v. Ullman, 318 U.S. 44 (1943) (denying standing to a doctor who challenged a statute on the ground that it would deprive plaintiffs of their lives without due process).

74. *See generally* Farber, *supra* note 41. While Farber proposes replacing the injury-in-fact test with a place-based theory of standing, it is merely suggested here as a limiting principle for allowing some generalized claims of injury.

75. *Id*. at 1549 (stating that place-based standing recognizes that "humans are intimately and deeply connected with their geographic surroundings, and therefore have legitimate cause for complaint about environmental violations that impact those surroundings.").

protection of the Chesapeake Bay and devotes all of its resources and energies to that end, should be able to establish a concrete physical connection to the Bay. Even though the broader public in the Bay's watershed may share the Foundation's interest in a healthy Bay, the Foundation's concrete connection to the Bay makes its harm from the Bay's decline "more than the abstract injury to ideology that the Court has consistently rejected as nonjusticiable."[76]

Another type of plaintiff who would not need to make a showing of particularized injury would be an organization that possesses the commitment, expertise, agenda, and resources to prosecute the matter. For example, the National Audubon Society qualifies by each of these metrics to protect critically important bird habitats like the Rainwater Basin in Nebraska or the Prairie Pothole region of North Dakota, even though the organization may not be physically proximate to the resource. The principle recognizes that only such groups have the expertise and resources necessary to contribute meaningfully to such litigation. This plaintiff finds its origins in Justice Blackmun's dissent in *Sierra Club v. Morton*, where he argued for an "imaginative expansion of our traditional concepts of standing in order to enable an organization . . . [with] pertinent, bona fide, and well-recognized attributes and purposes in the area of the environment" to have standing to litigate environmental issues.[77] It is narrower, however, than Justice Douglas' proposal, which would grant standing to speak for a natural resource, like a river, to anyone if she enjoyed some attribute of it.[78]

The second limiting principle focuses on the nature and importance of the resource that is the subject of litigation *and* on the failure of the elected branches of government to protect it. The elimination of the particularized injury requirement would only extend to litigation involving large, nationally or regionally important ecosystems, like the Bay, the Everglades, or a migratory bird flyway, where the effect of government inaction risks catastrophic and/or irreversible harm.[79] Thus, not every lawsuit would justify elimination of the particularized injury test, but only those involv-

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76. Brown, *supra* note 41, at 277.

77. Sierra Club v. Morton, 405 U.S. 727, 757 (1972) (Blackmun, J., dissenting).

78. *See id.* at 743 (Douglas, J., dissenting) (suggesting that "people who have a meaningful relation to that body of water–whether it be a fisherman, a canoeist, a zoologist, or a logger–must be able to speak for the values which the river represents and which are threatened with destruction.").

79. *See* Toffler, *supra* note 29, at xvii (describing how sometimes the smallest of disturbances can lead to wide systemic changes and even their collapse or complete restructuring).

ing resources of "unusual importance,"[80] where the impacts are "diffuse, with effects that are insidious and imperceptible but dangerously irreversible[,]"[81] and where the elected branches of government have failed to act, as in the case of the Bay, or acted improperly.

The third principle addresses the type of harm the litigation is trying to arrest or abate. Relief from the need to demonstrate a particularized injury would only be allowed when the lawsuit addresses broad-based systemic harms to those resources, from which discrete harms cannot be isolated. Lawsuits to protect severable parts of these areas, like a specific wetland, would continue to be subject to a particularized injury standard, in part because the showing could be made.[82] The same would go for suits filed against individual violators of various environmental laws, even if the violation involves a much larger resource, so long as the claim did not rest on disaggregating an individual injury from a much larger systemic harm.

Both the second and third principles address situations in which, consistent with the concept of separation of powers, the judicial branch is expected to step in and correct a situation where the executive branch has failed to implement a directive from the legislative branch to the detriment of the people. In neither case are courts being asked to develop programs to protect these systems, as they clearly lack the competence to do this. Rather, courts are being asked to interpret whether existing law requires some form of government action–"a question eminently suitable to resolution in federal court."[83]

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80. Massachusetts v. EPA, 549 U.S. 497, 506 (2007). This principle elicited the most comments from Florida State University College of Law faculty after my lecture, illustrating a justifiable level of concern about the vagueness of the proposal and its capacity for abuse. Several of these comments suggested ways in which the proposal could become less vague, such as proposing that resources of importance be identified through a process similar to the listing of wetlands of international significance under Ramsar or by having plaintiffs demonstrate the significance of the resource and the failure of the government to protect it. Either of these might work, so long as they do not add to the burden plaintiffs already bear to meet the remaining standing prongs. A possible way to identify important resources that would avoid increasing plaintiffs' burden is to include in the principle only those resources the importance of which Congress has recognized directly, such as through the Great Lakes Program in section 118 of the Clean Water Act, 33 U.S.C. § 126, or through the National Estuary Program under section 320 of the Clean Water Act, 33 U.S.C. § 1330. Developing any of these ideas further, however, is beyond the scope of this article and must be saved for another day.

81. Brown, *supra* note 41, at 279-80.

82. The author is not arguing here that these more confined lawsuits, such as suits to stop the filling of a wetland or to stop an unpermitted discharger, should not be brought. The author is only asserting that, by themselves, they cannot address the systemic problems of larger resources.

83. *Massachusetts*, 549 U.S. at 516.

The final limiting principle derives from the means by which a plaintiff seeks relief from a court. Under this principle, waivers of the particularized injury test would be restricted to claims brought under statutory citizen suit authority.[84] This proposal piggybacks on the majority's reasoning in *Massachusetts* that when Congress has authorized the filing of a legal action to protect some right or entitlement, some elements of injury-in-fact can be relaxed.[85] That reasoning is simply extended to the need to show a particularized injury. One reason for this approach is that citizen suit provisions contain their own limiting principles, offering additional constraints on the number and type of suits that can be brought.[86] For example, plaintiffs can only sue a federal agency for some failure to perform a mandatory duty when their claim has not been preempted by subsequent agency action, where the plaintiffs have complied with various jurisdictional prerequisites, and where the violation is ongoing.

There is a risk that the factual burden of meeting these limiting principles, especially the first one, could be as onerous as what plaintiffs currently face under the particularized injury requirement; however a simple declaration will be all that is necessary to establish either the specific place-based connection or the organizational qualifications to prosecute the matter. There is also a risk that the nature of the litigation, compelling agency action unreasonably withheld, invites the courts into micromanaging agency behavior. But courts do this every time they put an agency on a compliance schedule for failing to meet some mandatory duty, or, as the Court did in *Massachusetts,* demand that an agency give a reasoned explanation for its inaction.

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84. This limitation means that place-based or otherwise qualified groups suing to protect some resource from harm under the many natural resources and public land laws, such as the Wilderness Act, 16 U.S.C. § 1131 *et. seq.*, or the Federal Land Policy & Management Act 43 U.S.C. §1701 *et. seq.*, which contain no citizen suit provisions, would still have to show particularized injury.

85. There seems to be some disagreement among the Justices in *Summers* over the extent to which Congress can loosen the constitutionally mandated standing prongs. *See* Summers v. Earth Island Inst., 129 S.Ct. 1142, 1151 (2009) (stating that Congress "can loosen the strictures of the redressability prong[,]" but not the requirement to show a concrete injury); *Id.* at 1153 (Kennedy, J., concurring) (asserting that the "case would present different considerations if Congress had sought to provide redress for a concrete injury" and had identified or conferred "some interest separate and apart from a procedural right," where no case or controversy had existed before); *Id.* at 1154-55 (Breyer, J., dissenting) (discussing a hypothetical statute which expressly permits environmental groups to bring cases like the one before the court, and saying that since "[t]he majority cannot, and does not, claim that such a statute would be unconstitutional[,] . . . [h]ow then can it find the present case constitutionally unauthorized?").

86. *See, e.g.*, 33 U.S.C. § 1365(b) (2008) (precluding citizen suits where plaintiffs have failed to file a 60-day notice letter or where the government has already initiated an enforcement action against the alleged violator).

There is another risk, however, that is more serious. By continuing to demand "particularized proof" of a plaintiff's injury, the Court guarantees the judicial branch will not fill the gap left by the other two branches when it comes to protecting fragile and complex ecosystems from broad-based systemic harms. Private litigation to stem the loss of biodiversity at a regional, let alone national or global, level, such as the disappearance of Neotropical birds from North American flyways and the plunge in stocks of straddling fish, will fail. Instead, environmental plaintiffs will be restricted to discrete, less effective challenges to individual permit violations or to government actions that affect some small part of a larger ecosystem.

V. CONCLUSION

Despite the *Massachusetts's* Court's sophisticated understanding of how complex natural systems work and how human interactions with them can have diffuse, often delayed, impacts, *Massachusetts* illustrates the tenacity of the particularized injury test. The lengths to which the majority went to find a particularized harm to Massachusetts from global climate change underscores the poverty of the requirement, making the Court's effort seem like a return to what Blackmun feared in *Lujan*–"code-pleading formalism."[87]

It seems that the Court needs a way out of the box in which Justice Scalia has placed it.[88] This article has tried to respond to this need by suggesting why the particularized injury requirement should be loosened in certain limited situations. In support of this idea, the features of large, complex natural systems, like the Chesapeake Bay, that make it impossible for plaintiffs to show a particularized injury have been identified. The author has argued that the Court has had a relaxed attitude towards various elements of the standing doctrine, and therefore the need to show a particularized injury could as well be relaxed because it is more akin to the prudential standing doctrine than to a strict constitutional requirement. The author recognizes that this proposal, should it be taken up by any litigant, has an extremely low chance of success on the current Court. Nonetheless, the risk of trying and failing are more than offset by the environmental harm of continuing the status quo.

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87. Lujan v. Defenders of Wildlife, 504 U.S. 555, 593 (1992) (Blackmun, J., dissenting).

88. The continuing divisiveness on the Court over the contours of the standing doctrine and its use to block consideration of the merits of certain controversies, as illustrated most recently by *Summers*, seems proof positive of this conclusion.

OF BEACHES, BOUNDARIES AND SOBS

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I. INTRODUCTION

My father-in-law was a southern Ohio farmer who grew up, lived, and died within a very short distance of the farming region of Kentucky where Wendell Berry's Mat Feltner of the short story, *The Boundary*,[1] lived his life. Like Mat, he walked his boundaries and worried about his fences and treasured his land and his community. Boundaries were important to him: In the early years of my marriage, when we moved continually, his first act upon visiting our latest rental house was to find the survey markers and walk the boundaries. He embodied the land paradigm of the nineteenth century American philosophy of property at law described by Professor Eric Freyfogle.[2] To him, boundaries were not just "hypothetical," but had a very "distinct . . . and a physical . . . existence" that focused attention on the actual, physical location of the boundaries and "the landowner's right to exclude."[3] And yet, in his annual pilgrimages to Florida,[4] it is unlikely that he pondered the question of where the boundary lay as he strolled the sandy seashore. He would have been affronted by the signs often encountered today on Florida beaches that pronounce beaches to be private and intimidate beachgoers with the threat of prosecution under (sometimes fictitious) Florida laws.[5] Had he attempted to search for the boundary, he would have been confounded at the complexity of the dynamic boundary between land and water and amazed that "property" could be defined in terms of limits that

1. WENDELL BERRY, *The Boundary, in* THAT DISTANT LAND 289, 290-307 (2004). Wendell Berry's work is seen as part of the heart of the "new agrarianism" movement, which focuses on a connection to land and community. *See, e.g.*, ERIC T. FREYFOGLE, ed., *Introduction: A Durable Scale*, *in* THE NEW AGRARIANISM: LAND, CULTURE, AND THE COMMUNITY OF LIFE xix-xxii (2001). The relationship of humanity to the sea should also embody this kind of spiritual bond and sense of stewardship.

2. Eric T. Freyfogle, *The Owning and Taking of Sensitive Lands*, 43 UCLA L. REV. 77, 98-99 (1995).

3. *Id.* at 98.

4. These trips were always delayed an extra day or two while he checked all his fences.

5. For a slideshow of signs proclaiming private beaches and an archive of articles concerning statewide beach access controversies, see Surfrider Foundation Beach Access Blog, http://flbeachaccess.blogspot.com/ (last visited Mar. 15, 2010); *see also* Erika Kranz, *Sand for the People: The Continuing Controversy Over Public Access to Florida's Beaches*, 83 FLA. B.J. 10, 11 (2009).

are not only "hypothetical," but also virtually "unknowable" at any given moment. Are shifting sands somehow different both philosophically and legally when it comes to boundaries, the right to exclude and the nature of title?

Directly addressing this issue, the Florida Supreme Court has stated that:

> The beaches of Florida are of such a character as to use and potential development as to require separate consideration from other lands with respect to the elements and consequences of title. The sandy portion of the beaches are of no use for farming, grazing, timber production, or residency—the traditional uses of land—but has served as a thoroughfare and haven for fishermen and bathers, as well as a place of recreation for the public. The interest and rights of the public to the full use of the beaches should be protected.[6]

The court's approach seems to be based on the conclusion that because beaches are not useful for traditional land uses, they are not valuable as private property. The market value of littoral[7] property seems to repudiate that conclusion,[8] and the owners of the most expensive property in the state often assume that the bundle of rights purchased includes the right to exclude people from the shore, making boundaries of extreme importance. But unlike Mat Feltner's boundaries, which engendered stewardship and linked him to his land, his community, as well as past and future generations,[9] the boundaries that many modern littoral owners seek to enforce may be more related to "the corrupting influence of the market and the aggressive pursuit of self-interest."[10]

The members of the public, too, have a high stakes interest in the boundary of littoral property. Seaward of that boundary are tidelands

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6. City of Daytona Beach v. Tona-Rama, Inc., 294 So. 2d 73, 77 (Fla. 1974).

7. Littoral means bordered by "a lake or sea." *See* 78 AM. JUR. 2D *Waters* § 30 (2008) (defining "littoral rights").

8. From 2002-2006, the value of coastal properties in Florida more than doubled. Judith Kildow, NATIONAL OCEAN ECONOMICS PROGRAM, FLORIDA OCEAN AND COASTAL COUNCIL, PHASE II, FACTS AND FIGURES, FLORIDA'S OCEAN AND COASTAL ECONOMIES REPORT 16 (June 2008), *available at* http://www.dep.state.fl.us/oceanscouncil/reports/Facts_and_figuresII.pdf. "Florida's 367,359 coastal properties were valued for tax purposes in 2006 at $181B . . . ." *Id.*

9. *See* Eric T. Freyfogle, *Wendell Berry and the Limits of Populism, in* WENDELL BERRY: LIFE AND WORK 175-76 (Jason Peters ed., 2007).

10. *Id.* at 181. Freyfogle also compares Wendell Berry's writings and theories of progress to the views of civic republicanism:

> Civic republicans (Thomas Jefferson among them) worried about the corrupting influence of the market and the aggressive pursuit of self-interest . . . . Like the civic republicans, Berry perceives a clash between the common good and the aggressive pursuit of self-interest. He agrees, too, that leadership requires virtue and that virtue is endangered, particularly by money. Good governance, in turn, is a communal aspiration. . . .

Id.

and submerged lands held by the state in the public trust for the use and enjoyment of its citizens.[11] The Florida Supreme Court has weighed in as well (and quite eloquently) on the fundamental nature of this public trust right:

> There is probably no custom more universal, more natural or more ancient, on the sea-coasts, not only of the United States, but of the world, than that of bathing in the salt waters of the ocean and the enjoyment of the wholesome recreation incident thereto. The lure of the ocean is universal; to battle with its refreshing breakers a delight. Many are they who have felt the lifegiving [sic] touch of its healing waters and its clear dust-free air. Appearing constantly to change, it remains ever essentially the same. This primeval quality appeals to us. 'Changeless save to the wild waves play, time writes no wrinkles on thine azure brow; such as creation's dawn beheld, thou rollest now.' The attraction of the ocean for mankind is as enduring as its own changelessness. The people of Florida—a State [sic] blessed with probably the finest bathing beaches in the world—are no exception to the rule.[12]

In many areas, the public has gained the right to use the state's sandy beach landward of the boundary,[13] but the right to use the public trust lands—also known in Florida as sovereignty lands—seaward of the littoral boundary is constitutionally guaranteed.[14] The constitutional provision further protects this right as an essential element of state governance.[15]

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11. *See* FLA. CONST. art. X, § 11*; see also* Broward v. Mabry, stating:
Under the common law of England, the crown [sic] in its sovereign capacity held the title to the beds of navigable or tide waters, including the shore or the space between high and low water marks, in trust for the people of the realm, who had rights of navigation, commerce, fishing, bathing, and other easements allowed by law in the waters. This rule of the common law was applicable in the English colonies of America. After the Revolution resulting in the independence of the American States [sic], title to the beds of all waters, navigable in fact, whether tide or fresh, was held by the states in which they were located, in trust for all the people of the states respectively. . . . New states, including Florida, admitted 'into the Union on equal footing with the original states, in all respects whatsoever,' have the same rights, prerogatives, and duties with respect to the navigable waters and the lands thereunder within their borders as have the original thirteen states . . . .
58 Fla. 398, 407-08, 50 So. 826, 829-30 (1909).

12. White v. Hughes, 139 Fla. 54, 58-59, 190 So. 446, 448-49 (1939).

13. Although discussion of the topic is beyond the scope of this article, the public may also gain the right to use areas landward of the boundary by prescription, dedication, custom and other legal means. *See generally* Gilbert L. Finnel, Jr., *Public Access to Coastal Public Property: Judicial Theories and the Taking Issue*, 67 N.C. L. REV. 627 (1989); *and* Carol Rose, *The Comedy of the Commons: Custom, Commerce, and Inherently Public Property*, 53 U. CHI. L. REV. 711 (1986).

14. *See* FLA. CONST. art. X, § 11.

15. The Florida Supreme Court had early stated that under the public trust, as a matter of

This article explores public and private interests in beaches and shores, and how the complexities of coastal boundaries contribute to controversies about the use of beaches. The article then looks at how Florida beach management and restoration legislation attempts to protect both the private and public interests in the coast through, among other provisions, establishing a fixed boundary for restored beaches. Finally, the challenges confronting Florida's beach management that have arisen as a result of suits in the Florida Supreme Court and now in the United States Supreme Court will be analyzed.

II. THE NATURE OF THE PUBLIC'S INTEREST IN THE SHORE

I must down to the seas again, for the call of the running tide
Is a wild call and a clear call that may not be denied[.][16]

The right of the public to use lands below navigable waters, including beaches below the MHWL, is known as the public trust doctrine.[17] With roots in Roman law and the Institutes of Justinian, the public trust doctrine passed to the states as part of their English common law heritage.[18] "The strength of the public trust doctrine" has been attributed to "its origins; navigable waters and submerged lands [which] are the focus of the doctrine, and the basic trust interests in navigation, commerce, and fishing [which] are the object[s] of its guarantee of public access."[19] The public trust doctrine is implemented as a matter of state law,[20] and many states have expanded the scope of the public's interests in access beyond the traditional triad of uses. Particularly, many states, including Florida, recognize re-

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common law the state has:

> the right and duty . . . to own and hold the lands under navigable waters for the benefit of the people, as such prerogatives are essential to the sovereignty, to the complete exercise of the police powers, and to the welfare of the people of the new states as of the original states of the Union.

Broward, 58 Fla. at 408, 50 So. at 830.

16. JOHN MASEFIELD, *Sea-Fever*, *in* SALT -WATER BALLADS 59 (Elkin Matthews 1913).

17. *See* Shively v. Bowlby, 152 U.S. 1, 14 S. Ct. 548 (1894) (describing the history of the public trust doctrine and its acceptance into the common law in the United States); *see also* Joseph L. Sax, *The Public Trust Doctrine in National Resource Law: Effective Judicial Intervention*, 68 MICH. L. REV. 471 (1970) (revitalizing the public trust doctrine as a tool for protection of the public's interest in the nation's waters and management of resources).

18. *See Shively*, 152 U.S. at 11-17, *and* Sax, *supra* note 17, at 475-77*; see also Broward*, 58 Fla. at 407-08, 50 So. at 408.

19. Richard J. Lazarus, *Changing Conceptions of Property and Sovereignty in Natural Resources: Questioning the Public Trust Doctrine*, 71 IOWA L. REV. 631,710-11 (1986).

20. In *Shively*, the U.S. Supreme Court stated that:

> there is no universal and uniform law upon the subject, 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, reserving its own control over such lands, or granting rights therein to individuals or corporations, whether owners of the adjoining upland or not, as it considered for the best interests of the public.

152 U.S. at 26, 14 S. Ct. at 557.

creational use of sovereignty lands and waters as within the scope of the public trust's common law protections.[21]

The utilitarian purposes originally served by the public trust doctrine[22] in preserving the access of the public for economic purposes related to commerce, navigation, and fishing may seem far removed from protecting the public's right to stroll the sands, frolic in the waves, or ruminate on the vastness of the sea. In fact, however, the utility of protecting the ability of the public to exercise these rights in Florida may have greater significance to the economy of the state than protection of traditional public trust uses. Beach tourists, who number over twenty million annually, contribute over $24 billion to the state's economy each year.[23] The connection of people to the sea nurtures not only their souls, but also the fiscal vitality of the state.

Florida's constitution further supports the proposition that the public trust doctrine embodies a fundamental right of the people to access the beaches and the sea. The Florida Constitution provides in relevant part that "[t]he title to lands under navigable waters, within the boundaries of the state, which have not been alienated, including beaches below mean high water lines, is held by the state, by virtue of its sovereignty, in trust for all the people."[24]

III. THE NATURE OF SANDY BEACHES

Sandy beaches have little relationship to solid land. Kaufman and Pilkey describe beaches as "land which has given itself up to wind and wave."[25] Anyone who has spent more than a day on a beach is aware that the shifting sands are never the same from day to day. "The nature of sand is to move,"[26] and so beaches and barrier islands[27] are dynamic systems.[28] The changes are continual and perpe-

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21. *See* White v. Hughes, 139 Fla. 54, 58, 190 So. 446, 448-49 (1939); *see also* Robin Kundis Craig, *A Compartive Guide to the Eastern Public Trust Doctrines: Classifications of States, Property Rights, and State Summaries*, 16 PENN ST. ENVTL. L. REV. 1, 18 (2007).

22. *See generally* J.B. Ruhl & James Salzman, *Ecosystem Services and the Public Trust Doctrine: Working Change from Within*, 15 SE. ENVTL. L.J. 223, 224-29 (2006).

23. *See* Florida Atlantic University Center for Urban & Environmental Solutions, Florida Visitor Study at 1 (2008), *available at* http://www.cuesfau.org/publications/Florida%20Visitor%20Study%20-%20February%202008.pdf.

24. FLA. CONST. art. X, § 11.

25. WALLACE KAUFMAN & ORRIN PILKEY, JR., THE BEACHES ARE MOVING: THE DROWNING OF AMERICA'S SHORELINE 12 (Anchor Press / Doubleday 1979).

26. *Id.* at 24.

27. In the case of barrier islands, the entire island, not just the beach, is moving. For an excellent discussion of the movement of barrier islands, see Amy H. Moorman, *Let's Roll: Applying Land-Based Notions of Property to the Migrating Barrier Islands*, 31 WM. & MARY ENVTL. L. & POL'Y REV. 459, 465-73 (2007).

28. Beaches and barrier islands are described by geologists as being in dynamic equilibrium, but this does not mean that they are stable over time. Instead, "[d]ynamic equilibrium of beaches describes the tendency for beach geometry to fluctuate about an equilibrium which also

tual:[29] Beaches can change drastically within hours when pounded by waves and sculpted by the wind;[30] beaches change seasonally due to tides[31] as well as to water temperatures, atmospheric pressure, and wind differences;[32] and beaches can change over relatively short periods due to interruption of sand supply,[33] or over geologic time as shorelines and barrier islands migrate landward in a natural process.[34]

Commentators agree, however, that sea level rise will have an extreme effect on the dynamic equilibrium of beaches and result in substantial erosion and migration of beaches, with the "retreat being a multiple of the sea-level rise[.]"[35] This is because the rising water level will not simply inundate the shoreline, but will induce and accelerate further beach erosion. Leatherman cites several reasons for this:

> First, higher water level enables waves to break closer to shore. Second, deeper water decreases wave refraction and thus increases the capacity for longshore transport. Finally, with higher water level, wave and current erosion processes act farther up the beach profile, causing a readjustment of [the] profile. Maintenance of an equilibrium beach/nearshore profile in response to sea level rise requires an upward and landward displacement of the beach in time and space; this translates to erosion in ordinary terms.[36]

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changes with time, but much more slowly." Maurice L. Schwartz, *Dynamic Equilibrium of Beaches*, *in* ENCYCLOPEDIA OF COASTAL SCIENCE 399 (2005).

29. *See generally id.*

30. *See* DAVID M. BUSH ET AL., LIVING BY THE RULES OF THE SEA 11 (Duke University Press 1996).

31. *See* KAUFMAN & PILKEY, *supra* note 25, at 68-69.

32. *See* RICHARD A. DAVIS, JR. & DUNCAN M. FITZGERALD, BEACHES AND COASTS 58-59 (Blackwell Science Ltd. 2004).

33. *See* Schwartz, *supra* note 28, at 399. For example, a significant amount of Florida's beach erosion is attributed to the building and maintenance of inlets (usually those cut through barrier islands) that interrupt the littoral sand flow. *See* Florida Department of Environmental Protection, Beach Erosion Control Program (BECP), http://www.dep.state.fl.us/beaches/programs/bcherosn.htm (last visited Mar. 15, 2010) [hereinafter BECP Website].

34. Accordingly, "the dynamic equilibrium [of barrier islands] is not limited to the beach and the dunes. The whole island, from sound to ocean, moves with the beach, changing shape and position." KAUFMAN & PILKEY, *supra* note 25, at 96; *see also* BUSH ET AL., *supra* note 30, at 11.

35. Schwartz, *supra* note 28, at 399; Stephen P. Leatherman, *Social and Economic Costs of Sea Level Rise*, *in* SEA LEVEL RISE: HISTORY AND CONSEQUENCES 191-93 (Douglas et al. eds. 2001) [hereinafter SEA LEVEL RISE]; *see also* KAUFMAN AND PILKEY, *supra* note 25, at 25-26; James G. Titus, et al., *Greenhouse Effect and Sea Level Rise: The Cost of Holding Back the Sea*, 19 COASTAL MGMT. 171, 176-78 (1991); *see generally* James G. Titus, *Sea Level Rise*, *in* U.S. EPA OFFICE OF POLICY, PLANNING, AND EVALUATION, REPORT TO CONGRESS, THE POTENTIAL EFFECTS OF GLOBAL CLIMATE CHANGE ON THE UNITED STATES, 118-43, *available at* http://www.epa.gov/climatechange/effects/downloads/rtc_ sealevelrise.pdf.

36. SEA LEVEL RISE, *supra* note 35, at 189.

Florida's 825 mile of sandy shorelines,[37] like most of the world's sandy shorelines,[38] have retreated during the last century. Relatively recent data show that the state had 217.6 miles of critically eroding beach and 114.8 miles of non-critically eroding beach in 1989.[39] Data also shows that by 2008, there were "396.4 miles of critically eroded beach, 8.9 miles of critically eroded inlet . . . [and] 95.5 miles of non-critically eroded beach[.]"[40] Accelerated sea level rise during this next century will assure that the landward mobility of these beaches will continue and increase.

IV. THE NATURE OF LITTORAL BOUNDARIES

In view of the nature of beaches to move, it seems evident that upland property boundaries that reference the sea as a natural boundary of property[41] would also be migratory, and this is indeed the case.

A. The Legal Significance of Migrating Beach Boundaries

Although different processes may cause the apparent effect, the land/sea boundary may migrate either landward or seaward. The gradual and imperceptible[42] addition of material[43] to a beach is known as accretion and results in the legal boundary moving seaward.[44] Conversely, and as is more often the case in Florida, the slow and imperceptible encroachment of the sea on the land, erosion, moves the boundary landward.[45] This is the general rule when the sea erodes

37. Memorandum from Ralph R. Clark on Beach Conditions in Florida: A Statewide Inventory and Identification of the Beach Erosion Problem Areas in Florida 89-1 (5th ed. December 1993), *available at* http://www.dep.state.fl.us/beaches/publications/pdf/fl_beach.pdf.

38. SEA LEVEL RISE, *supra* note 35, at 189.

39. Florida Department of Environmental Protection, Bureau of Beaches and Coastal Systems, Division of Water Resource Management, *Critically Eroded Beaches in Florida* 1 (June 2009), *available at* http://www.dep.state.fl.us/beaches/publications/pdf/CritEroRpt09.pdf [hereinafter *Critically Eroded Beaches*].

40. *Id.* at 3.

41. It is ironic that a major purpose of boundaries is to provide certainty and permanence. Consequently, in boundary descriptions, immutable, natural monuments, such as rocks, trees, and *water bodies* are given priority in property descriptions by courts over other kinds of property descriptions. *See, e.g.,* County of St. Clair v. Lovingston, 90 U.S. 46, 62 (1874) (explaining that "[i]t is a universal rule that course and distance yield to natural and ascertained objects. (citation omitted). A call for a natural object, as a river, a spring, or even a marked line, will control both course and distance."); *see also* JESSE DUKEMINIER ET AL., PROPERTY 516 (6th ed. 2006), *and* AARON L. SHALOWITZ, II SHORE AND SEA BOUNDARIES 470 (1962).

42. The United States Supreme Court has stated that "[t]he test as to what is gradual and imperceptible in the sense of the rule is, that though the witnesses may see from time to time that progress has been made, they could not perceive it while the process was going on." *Lovingsto*n, 90 U.S. at 68.

43. The deposited material is called alluvion. *See id.* at 66-67.

44. *Id.* at 66-69.

45. *See generally* BLACK'S LAW DICTIONARY 582 (8th ed. 2004) (defining "erosion").

the coastline by removing material from the shore, but the gradual subsidence (or submergence) of land or rising of sea level will bring about the same result.[46] In all these circumstances, the apparent effect is that the water slowly and imperceptively overtakes the land. Avulsive events—sudden and perceptible changes in the location of the seashore—however, do not alter the boundary.[47] There is some question as to whether the doctrine of avulsion should apply to ocean shorelines,[48] but Florida courts have recognized that the doctrine applies to the open beaches in the state,[49] and Florida legislation further reinforces this conclusion by defining the MHWL as "the boundary between the foreshore owned by the state in its sovereign capacity and upland subject to private ownership[,]"[50] but preserving "the legal effects of accretion, reliction, erosion, or avulsion."[51]

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46. The general rule is that the slow, imperceptible submergence of land causes the boundary to move. There is some inconsistency in the rule, however, when dealing with ownership of the property if it re-emerges. *See* BRUCE S. FLUSHMAN, WATER BOUNDARIES: DEMYSTIFYING LAND BOUNDARIES ADJACENT TO TIDAL OR NAVIGABLE WATERS 97 n.122. (Roy Minnick ed., 2001) [hereinafter FLUSHMAN, WATER BOUNDARIES]. Florida's rule concerning land that re-emerges after it is totally eroded away is that the prior owner does not reacquire ownership. *See* Schulz v. City of Dania, 156 So. 2d 520, 522 (Fla. 2d DCA 1963) (explaining that "there can be no right of title by subsequent accretion when the lands have themselves become completely submerged and there is no visible land to which lands by accretion could attach."). *Cf.* Kruse v. Grokap, Inc., 349 So. 2d 788 (Fla. 2d DCA 1977) (holding that the MHWL, not just the current water level, must be landward of the eroded property, not just the current water line, for the land to be lost to submergence).

47. *See, e.g.,* Bd. of Trs. of the Internal Improvement Trust Fund v. Sand Key Assocs., Ltd., 512 So. 2d 934, 946 n.6 (Fla. 1987) [hereinafter *Sand Key Assocs.*] (stating "[w]hen 'new' land is formed by the process by [sic] avulsion, title remains in its former owner. (citation omitted)."). A second circumstance where the boundary does not change is when the upland owner fills in state lands or causes artificial accretions, the "accreted land remains with the sovereign." *Id.* at 938.

48. *See* FLUSHMAN, WATER BOUNDARIES, *supra* note 46, at nn. 177-78 (discussing Texas cases which reject application of the doctrine of avulsion to tidal lands because it could result in the private ownership of tidelands inhibiting public access and use of beaches, and because the rule would complicate the identification of littoral boundaries); *see also* Joseph J. Kalo, *The Changing Face of the Shoreline: Public and Private Rights to the Natural and Nourished Dry Sand Beaches of North Carolina*, 78. N.C. L. Rev. 1869, 1885 (2000) (arguing that language in North Carolina statutes providing that the MHWL is the seaward boundary of upland property abrogates the common law doctrine of avulsion for oceanfront property), *and* Joseph J. Kalo, *North Carolina Oceanfront Property and Public Waters and Beaches: The Rights of Littoral Owners in the Twenty-first Century*, 83 N.C. L. REV. 1427, 1440-44 (2005).

49. *See* Bryant v. Peppe, 238 So. 2d 836, 838 (Fla. 1970); *see also* Walton County v. Stop the Beach Renourishment, Inc., 998 So. 2d 1102, 1116-17 (Fla. 2008) [hereinafter *STBR*], *and* Florida Coastal Mapping Act of 1974, FLA. STAT. § 177.28(2) (2009). A trial court in Florida found that:

> the law of avulsion insofar as it is attempted to be applied in this case should be rejected as the law of Florida, partly because of the authorities which exclude such theory applied to seashores . . . and also . . . because of the impracticability of applying it intelligently . . . the Court prefers to adopt a firm principle of law on avulsion in this state as it relates to land areas washed by the Gulf or the sea (as distinguished from rivers) than to leave the question open to uncertainty, and thus encourage vexatians and ingenious litigation.

Siesta Props., Inc. v. Hart, 122 So. 2d 218, 222-23 (Fla. 2d DCA 1960). The district court was subsequently overruled on the issue. *Id.*

50. FLA. STAT. § 177.28(1) (2009).

51. *Id.* § 177.28(2).

Interestingly, the earliest treatise in the United States on coastal law, Joseph K. Angell's *Tide Waters*, described the movement of the boundary as a result of accretion as an exception to the general rule that:

> when the sea by casting up sand and other substances makes an accession to the land . . . the accession so made belongs to the sovereign, as it is no more than a part and parcel of the *fundus maris*, or bottom of the sea, which as has been shewn was previously the property of the sovereign.[52]

Today, however, accretions are viewed as part of the bundle of rights that accrue to a littoral owner,[53] and in litigation over the nature of a boundary change, additions to coastal property are usually presumed to be accretions.[54] A number of rationales have been given for the vesting of alluvion in the littoral owner as a riparian right. A Florida appellate court summarized policies advanced by the doctrine of accretion as follows:

> (1) De minimis non curat lex; (2) he who sustains the burden of losses and of repairs imposed by the contiguity of waters ought to receive whatever benefits they may bring by accretion; (3) it is in the interest of the community that all land have an owner and, for convenience, the riparian is the chosen one; (4) the necessity for preserving the riparian right of access to the water.[55]

An early United States Supreme Court case has gone so far as to state that as a matter of the federal law:

> [t]he riparian right to future alluvion is a vested right. It is an inherent and essential attribute of the original property. The

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52. JOSEPH K. ANGELL, A TREATISE ON THE RIGHT OF PROPERTY IN TIDE WATERS, AND IN THE SOIL AND SHORES THEREOF 68 (Harrison Gray 1826).

53. For example, the Florida Supreme Court has stated:

> upland owners hold several special or exclusive common law littoral rights: (1) the right to have access to the water; (2) the right to reasonably use the water; (3) the right to accretion and reliction; and (4) the right to the unobstructed view of the water. These special littoral rights 'are such as are necessary for the use and enjoyment' of the upland property, but 'these rights may not be so exercised as to injure others in their lawful rights.' Though subject to regulation, these littoral rights are private property rights that cannot be taken from upland owners without just compensation.

STBR, 998 So. 2d at 1111 (citations omitted).

54. *See* FLUSHMAN, WATER BOUNDARIES, *supra* note 46, at 99-100. The same presumption applies to erosion versus avulsion. *Id.; see also* Mun. Liquidators, Inc. v. Tench, 153 So. 2d 728, 731 (Fla. 2d DCA 1963), *and* Schulz v. City of Dania, 156 So. 2d 520, 521 (Fla. 2d DCA 1963).

55. Bd. of Trs. of the Internal Improvement Trust Fund v. Medeira Beach Nominee, Inc., 272 So. 2d 209, 212-13 (Fla. 2d DCA 1973) [hereinafter *Medeira Beach Nominee*].

> title to the increment rests in the law of nature. It is the same with that of the owner of a tree to its fruits, and of the owner of flocks and herds to their natural increase. The right is a natural, not a civil one. The maxim '*qui sentit onus debet sentire commodum*' lies at its foundation. The owner takes the chances of injury and of benefit arising from the situation of the property. If there be a gradual loss, he must bear it; if a gradual gain, it is his.[56]

The comparison of the right to future alluvion to the fruit of trees or the increase of flocks seems an inapt and anachronistic analogy. The primary value of riparian or littoral land is not that it may produce more land, and the policy for recognizing the right to accreted land is not to encourage the filling of submerged land or creation of more land,[57] but to provide access to the water. The Supreme Court has subsequently stated that "[a]ny . . . rule [other than the right of the riparian owner to future alluvion] would leave riparian owners continually in danger of losing the access to water which is often the most valuable feature of their property . . . ."[58] In *Thiesen v. Gulf, Florida & Alabama Railway Co.,* the Florida Supreme Court stated:

> The fronting of a lot upon a navigable stream or bay often constitutes its chief value and desirability, whether for residence or business purposes. The right of access to the property over the waters, the unobstructed view of the bay, and the enjoyment of the privileges of the waters incident to ownership of the bordering land would not, in many cases, be exchanged for the price of an inland lot in the same vicinity. In many cases, doubtless, the riparian rights incident to the ownership of the land were the principal, if not sole, inducement leading to its purchase by one and the reason for the price charged by the seller. [59]

The ambulatory boundary that results from accretions or erosion assures that no intervening ownership between the upland owner and the sea impedes the continued physical and visual access to the water upon which every other riparian right depends.

While the littoral owner bears the risk of losing land to erosion, there is authority for the proposition that a littoral owner has a li-

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56. County of St. Clair v. Lovingston, 90 U.S. 46, 68-69 (1874) (emphasis added).

57. In fact, if the upland owner fills in state lands or causes artificial accretions, the "accreted land remains with the sovereign." *Sand Key Assocs.*, 512 So. 2d 934, 938 (1987).

58. Hughes v. Washington, 389 U.S. 290, 293 (1967). The Court also noted that the rule helped stem litigation about the original location of the boundary. *Id.* at 294.

59. Thiesen v. Gulf, 75 Fla. 28, 78, 78 So. 491, 507 (1919) (Ellis, J., on reh'g).

mited right to reclaim land lost in an avulsive event. In his well-known treatise on water law, Henry Farnham relies on Hale's *De Jure Maris* and Sander's *Justinian* to support the proposition that "[i]f a portion of the land of the riparian owner is suddenly engulfed, and the former boundary can be determined or the land reclaimed within a reasonable time, he does not lose his title to it."[60]

Long-term changes occur in the beach by accretion, erosion, sea level rise, and by other gradual and imperceptible, as well as natural and human-induced, phenomena. Such changes, however, are only the beginning of how wind, waves, and sea level changes contribute to the movement of beaches. The seasonal profile of beaches can range widely and greatly affect the area of submerged or emergent beach.[61] Even daily effects of wind and waves can change the contours of a sandy beach: "beaches are ever-changing, restless armies of sand particles, always on the move."[62]

B. The Determination of the Boundary of Littoral Beach Property

The line of demarcation between private property and sovereignty tidelands subject to the public trust derives in most U.S. jurisdictions from the English common law as set out by Sir Matthew Hale in *De Jure Maris*, published in 1787,[63] and in subsequent cases applying his theory of sovereign rights and the public trust.[64] Hale designated lands covered by the "ordinary high tide," identified as neap tides, as the boundary.[65] However, perhaps due to confusion about Hale's meaning of the terms, courts and individual states have adopted various interpretations of ordinary high tide.[66] Considering that beaches

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60. 1 HENRY PHILIP FARNHAM, THE LAW OF WATERS AND WATER RIGHTS: INTERNATIONAL, NATIONAL, STATE, MUNICIPAL, AND INDIVIDUAL INCLUDING IRRIGATION, DRAINAGE, AND MUNICIPAL WATER SUPPLY 331 (1904) (citation omitted).

61. *See* WILLARD BASCOM, WAVES AND BEACHES: THE DYNAMICS OF THE OCEAN SURFACE 250-55 (1980); *see generally* Frank E. Maloney & Richard C. Ausness, *The Use and Legal Significance of the Mean High Water Line in Coastal Boundary Mapping*, 53 N.C. L. Rev. 185, 232-35 (1974). A 1974 Florida case noted "a predictable, seasonal loss and replenishment of approximately 90 feet of beach sand." Trs. of Internal Improvement Fund v. Ocean Hotels, Inc., 40 Fla. Supp. 26, 27 (Fla. 15th Cir. Ct. 1974).

62. BASCOM, *supra* note 61, at 249.

63. *See* AARON L. SHALOWITZ, I SHORE AND SEA BOUNDARIES 91 n.20 (1962) [hereinafter I SHALOWITZ];

64. Maloney & Ausness, *supra* note 61, at 188-89, 198-205.

65. *See* I SHALOWITZ, *supra* note 63, at 91; *see also* Borax Consol. v. City of L.A., 296 U.S. 10, 23-24 (1935).

66. Maloney & Ausness, *supra* note 61, at 203-06; *see*, *e.g.*, *Ocean Hotels, Inc.*, 40 Fla. Supp. at 30 (explaining that "the state argues persuasively that the [Miller v. Bay-to-Gulf, Inc., 193 So. 2d 425 (1940)] case which formulated a definition of 'ordinary high tide' as requiring an averaging of what the opinion termed 'neap tides,' as opposed to an averaging of *all* high tides, is based on a misconception of early common law principles."). It should also be noted that several states have changed the common law, and in Delaware, Maine, Massachusetts, Pennsylvania and Virginia, private property may extend to the low tide line. *See* JOSEPH J. KALO ET AL., COASTAL AND OCEAN LAW 1 (3d ed. 2007).

and their water interfaces are so dynamic, it would seem that an interpretation linked to a visually recognizable indicator of lands ordinarily inundated by water would afford the clearest and most utilitarian demarcation for the boundary. While the boundary might change regularly, visible indicia would still serve to locate the migrating boundary. Some states have adopted this approach. Hawaii, for example, uses the "the upper reaches of the wash of waves, usually evidenced by the edge of vegetation or by the line of debris left by the wash of waves . . . ."[67] Washington's Supreme Court at one time defined "ordinary high tide" as the "line which the water impresses on the soil by covering it for sufficient periods to deprive the soil of vegetation . . . ,"[68] *i.e.*, the vegetation line. While such visual indicators may not address all boundary issues, day-to-day users of the beach can clearly identify the area of public ownership which they are entitled to use as a matter of law.

The boundary for littoral property is not, however, always only a matter of state property law. The U.S. Supreme Court has held that if the ocean shoreline property is traced to a federal grant, federal law applies to the determination of the littoral boundary.[69] In *Borax Consolidated v. Los Angeles*, the Court had to determine the boundary between upland conveyed by the United States to a private party and tidelands that had previously been granted to California upon admission to the Union.[70] The Court held that federal law controlled, but it

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67. *See In re* Ashford, 440 P.2d 76, 77 (Haw. 1968), *and* HAW. REV. STAT. § 205A-1 (2001) (defining "shoreline"). Hawaii's law concerning coastal boundaries, however, is based on Hawaiian custom rather than the common law. In *County of Hawaii v. Sotomura*, the Hawaii Supreme Court held that:

> as a matter of law . . . where the wash of the waves is marked by both a debris line and a vegetation line lying further mauka; the presumption is that the upper reaches of the wash of the waves over the course of a year lies along the line marking the edge of vegetation growth.

517 P.2d 57, 62 (1973).

68. Harkins v. Del Pozzi, 310 P.2d 532, 534 (Wash. 1957); *see also* Shelton Logging Co. v. Gosser, 66 P. 151 (Wash. 1901) (finding the vegetation line and the mean high tide line to be the same). In *Hughes v. State*, however, the Washington Supreme Court adopted the mean high water line as:

> '[T]he line of ordinary high tide' as used in Article 17 of the constitution is not a term of technical exactness. It is indefinite at best and an over-simplification of a phenomenon inherently complex and variable. In the absence of any indication to the contrary, we deem the word "ordinary" to be used in its everyday context. The "line of ordinary high tide" is not to be fixed by singular, uncommon, or exceptionally high tides, but by the regular, normal, customary, average, and usual high tides. One cannot sit and watch the tide reach its stand at different elevations on each turn as it ebbs and floods without realizing that a line to be fixed by it must be based upon an average. Thus the line of 'ordinary high tide' is the average of all high tides during the tidal cycle.

410 P.2d 20, 26-29 (Wash. 1966), *rev'd on other grounds*, 389 U.S. 290 (1967).

69. *See Borax Consol.*, 296 U.S. at 22 (stating that "[t]he question as to the extent of this federal grant, that is, as to the limit of the land conveyed, or the boundary between the upland and the tideland, is necessarily a federal question."). Further, in the case of a federal grant, the question of what riparian rights accrue to the grantee is also a matter of federal law. *See Hughes v. Washington*, 389 U.S. at 292.

70. *Borax Consol.*, 296 U.S. at 16 (1935).

left unanswered the question of what was meant by the ordinary high water mark by determining that when the shoreline "'is named as a boundary, the line of ordinary high-water mark is always intended where the common law prevails,'"[71] still left unanswered the question of what was meant by the ordinary high water mark. The Court specifically rejected the notion that the boundary was a physical mark on the shore made by the waters—"it means the line of high water as determined by the course of the tides."[72] The Court reviewed the variability of tides based on the cycles of the moon in relation to the position of the earth and sun, and concluded that the ordinary tide should be determined by the mean of all the high tides.[73] Although early cases considered these cycles as monthly and annual events,[74] the Court relied upon the assessment of the United States Coast and Geodetic Survey that the average of the high tides over a period of 18.6 years reflected a complete cycle of periodic lunar variations.[75] The federal definition of the ordinary high water boundary, then, is the intersection with the shore of the tidal plane at the height of the mean of all the high tides over a period of 18.6 years.

Although there is the potential for seafront properties in some states to be treated inconsistently depending on whether state or federal law applies to the determination of their seaward boundaries, the adoption by many states,[76] including Florida, of the federal mean high water definition for coastal property boundaries has created less potential for this situation to arise. The Florida Coastal Mapping Act of 1974[77] defines mean high water as "the average height of the high waters over a 19-year period."[78] The mean high water line is "the intersection of the tidal plane of mean high water with the shore."[79]

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71. *Id.* at 23 (quoting United States v. Pacheco, 69 U.S. 587, 590 (1864).

72. *Id.* at 22.

73. *Id.* at 23-34. The Court could find "no justification for taking neap high tides, or the mean of those tides, as the boundary between upland and tideland, and for thus excluding from the shore the land which is actually covered by the tides most of the time." *Id.* at 26.

74. *Id.* at 24 (citing Attorney General v. Chambers, 4 De G.M. & G. 206 (1854).

75. *Id.* at 26-27; *see also* Maloney & Ausness, *supra* note 61, at 196 (stating that "[t]he variations in the major tide-producing forces are a result of changes in the moon's phases, declination to the earth, distance from the earth and regression of the moon's nodes. The variations which occur because of this latter factor will go through one complete cycle in approximately 18.6 years.") (citation omitted).

76. *See generally* Maloney & Ausness, *supra* note 61, at 206 (explaining that "[b]ecause *Borax* is a progressive decision which incorporates the most accurate methodology for determining tidal boundaries; it has been followed by a number of state courts and should eventually displace the older common-law 'ordinary high water mark' standard.") (citation omitted).

77. FLA. STAT. §§ 177.25-.40 (2009).

78. *Id.* § 177.27(14). In addition, "[f]or shorter periods of observation, 'mean high water' means the average height of the high waters after corrections are applied to eliminate known variations and to reduce the result to the equivalent of a mean 19-year value." *Id.*

79. *Id.* § 177.27(15).

C. The Nature of Tides and the Mean High Tide Line

The "alternate rising and falling of the level of the sea,"[80] usually twice each day, is known as the tide.[81] There are three basic types of tides: semidiurnal tides which complete the full tidal cycle of high and low water in half a day; daily tides which complete a tidal cycle in a day; and mixed tides which exhibit two high and two low tides a day, but with significant differences between the two high tides or between the two low tides of the day.[82] The range of the tide, on the other hand, is the magnitude of rise and fall of the tide.[83] While locations may experience the same types of tides, the time and range of the tides may vary greatly.[84] Even at the same location, the range of the tides varies from day to day.[85] Tidal range is a very localized phenomenon, related not only to primary forces of the sun and the moon, but also to bottom topography, the configuration of ocean basins, the configuration of bays and estuaries, and meteorological effects.[86] The mean high tide level undulates along the coastline and cannot be determined by application of a single contour line along the shore,[87] but has to be established by averaging the high tides *at a specific place* on the coastline.[88]

The determination of the mean of high water level over the requisite nineteen years, known as a tidal epoch,[89] is technically determinable with some degree of precision. The National Oceanic and Atmospheric Administration's National Ocean Service (NOS) and its predecessor federal government agencies have monitored tides for more than 150 years.[90] NOS currently maintains a network of 175 long-term, continuously operating tide measurement stations throughout the country which serve as controls for determining tidal datums for short-term tidal datum stations.[91] In Florida, the Depart-

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80. H.A. MARMER, TIDAL DATUM PLANES 1 (U.S. Dep't of Commerce Coast & Geodetic Survey, Spec. Pub. No. 135, rev. ed. 1951), *available at* http://docs.lib.noaa.gov/rescue/cgs_specpubs/QB275U35no135RevEd1951.pdf.

81. *Id.* at 5-7.

82. *Id.* at 9.

83. *Id.* at 4.

84. *Id.* at 9.

85. *Id.* at 4.

86. *See* Peter K. Nunez, *Fluctuating Shorelines and Tidal Boundaries: An Unresolved Problem*, 6 SAN DIEGO L. REV. 447, 450 (1969).

87. *See* Maloney & Ausness, *supra* note 61, at 246.

88. George M. Cole, *Tidal Water Boundaries*, 20 STETSON L. REV. 165, 172 (1990).

89. *Id.* at 171. For information about the current tidal datum epoch, see National Tidal Datum Epoch 1983-2001, http://data.labins.org/2003/SurveyData/WaterBoundary/EpochNotice/epoch.htm (last visited Mar. 15, 2010).

90. *See* Cole, *supra* note 88, at 175.

91. *See* National Oceanic and Atmospheric Administration, The National Water Level Program (NWLP) and the National Water Level Observation Network (NWLON), http://tidesandcurrents.noaa.gov/nwlon.html (last visited Mar. 15, 2010). Tidal datums must be local to be useful for identifying the MHW for the epoch, so short-term tidal stations must be set up in the

ment of Environmental Protection's (DEP) Bureau of Survey and Mapping has established and maintained numerous additional tide stations.[92] The Florida Coastal Mapping Act of 1974 imposes standards and methods for the establishment of local tidal datums[93] and requires that surveyors purporting to establish a local tidal datum and determine the mean high-water line for recording or court purposes must submit a copy of the results to DEP.[94] Information on tidal datums from NOS and Florida tidal stations, as well as local tidal datums established by private surveyors, is made available to the public and the surveying community through DEP's Internet-based Land Boundary Information System (LABINS).[95] The use of the proper surveying procedures and availability of reliable, consistent control tidal datums allows one to confidently determine the level of the mean high water over a tidal epoch for a particular sandy beach area. The tidal datum for the mean high tide, however, provides only the vertical element necessary to establish a littoral property boundary. The mean high water line boundary is found at the point at which the horizontal tidal plane of the mean high water intersects with the shore.[96] The vertical determination of mean high water is basically stable, being based on observations over nineteen years.[97] The horizontal element of the boundary determination on a sandy beach is anything but stable. The intersection of the horizontal plane of mean high water changes with erosion and accretion, seasonal variations in the beach, wind, waves, storms and man-made changes to the beach—anything that changes the profile of the beach. As a result, "[a] water boundary determined by tidal definition is . . . not a fixed visible mark on the ground, but represents a condition at the water's edge during a particular instant of the tidal cycle."[98] It follows that even the most accurate determination of the MHWL for a dynamic sandy beach is no more than a snapshot of the boundary at that particular time and place.

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area of the property where the boundary is to be established. Short-term tidal observations from the new station can be interpolated by comparing to simultaneous observations with an established station where the nineteen-year MHW is known and using a ratio of the tide ranges observed at the two stations. *See* Cole, *supra* note 88, at 172.

92. *See* Cole, *supra* note 88, at 176; *see also* Department of Environmental Protection (DEP), Survey & Mapping, http://www.dep.state.fl.us/lands/survey.htm (last visited Mar. 15, 2010).

93. FLA. STAT. § 177.38 (2009).

94. *Id*. § 177.37.

95. *See* DEP, About LABINS, http://data.labins.org/2003/General/about.cfm (last visited Mar. 15, 2010).

96. *See* Aaron L. Shalowitz, *Boundary Problems Raised by the Submerged Lands Act*, 54 COLUM. L. REV. 1021, 1038 (1954) [hereinafter *Boundary Problems*].

97. *See Id.* Because sea level rise is not the same on all areas of the coast, and because sea level rise may accelerate in the near future, the National Tidal Datum Epoch may not be the most accurate basis for calculating the current MHW for a locality. *See* Cole, *supra* note 88, at 173-74.

98. *Boundary Problems, supra* note 96, at 1039.

The circumstance of this ambulating boundary confounds not only property owners and beach users, but also courts. A California case, *People v. William Kent Estate Company*,[99] involved the determination of the boundary on a beach that fluctuated about eighty feet on a relatively predictable seasonal basis.[100] The appellate court rejected the notion of accretion and erosion applying to such a regular fluctuation of the beach and the boundary, and sought permanence by requiring that the boundary be set by "fixing an average, mean, or ordinary line of the shore against which the average plane of the water at high tide may be placed to determine a reasonably definite boundary line."[101] In a Florida case involving similar seasonal fluctuations of the beach, the trial court also rejected the idea of a property boundary migrating with the seasonally growing or receding beach as "not acceptable as a property law concept."[102] The court further stated that the ambulatory boundary would be "impractical in that it is too uncertain to be enforced . . . [and] contrary to all notions of specific boundary limitations and would engender more problems than it would resolve."[103] The Florida court rejected the *Kent Estate* solution, however, because it would result in the MHWL being seaward of the boundary for a significant part of the year, violating the Florida Constitution and the public trust doctrine.[104] Instead, the court found the winter tide, the most landward mean high water line, to be the permanent boundary.[105] Neither of these cases has been subsequently followed: The *Kent Estate* case has been reinterpreted and rejected by subsequent caselaw in California,[106] and Florida's *Ocean Hotels, Inc.*, case was presumably preempted by the Florida Coastal Mapping Act of 1974[107] and not subsequently followed. The cases demonstrate, however, the tension between traditional concepts of property law and the application of ambulatory boundaries to dynamic sandy beach systems. The cases also illustrate that it is not only laymen who find the concept of a "movable freehold"[108] to be confusing and incompatible with their notions of "property."

The impracticality of enforcing trespass complaints led one Florida community to adopt a policy of allowing beachgoers to use the

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99. People v. William Kent Estate Co., 242 Cal. App. 2d 156 (Dist. Ct. App. 1966).
100. *Id.* at 158.
101. *Id.* at 161; *see generally* Nunez, *supra* note 86, at 464-68.
102. Trs. of Internal Improvement Fund v. Ocean Hotels, Inc., 40 Fla. Supp. 26, 32 (Fla. 15th Cir. Ct. 1974).
103. *Id.*
104. *Id.* at 32-33.
105. *Id.* at 33.
106. FLUSHMAN, WATER BOUNDARIES, *supra* note 46, at 127-28.
107. *See* FLA. STAT. § 177.27(17) (2009).
108. *Ocean Hotels, Inc.*, 40 Fla. Supp. at 32.

beach up to twenty feet landward of the MHWL.[109] Of course, twenty feet from the MHWL is just as indeterminate as the MHWL, so the city has at times used the debris line or the wet sand line as a surrogate for the MHWL.[110] The policy has not provided a resolution to more than a decade of disputes between the public beachgoers. A local organization, Save Our Beaches (SOBs), is currently suing the City of Destin in regard to the private property boundary, alleging that the city is allowing continuing trespasses on private property.[111]

Can the confusion be addressed by simply permanently fixing the boundaries of littoral property? The short answer is no, for both legal and policy reasons. First, if littoral land can be traced to a federal grant, the U.S. Supreme Court has held that state legislation or judicial decisions attempting to fix the boundary would not effect a change in the ambulatory nature of the boundary.[112] When the Washington Supreme Court found that the coastal boundary was fixed by the state's constitution at the time of statehood, terminating the littoral rights of an adjacent owner who traced title to a federal grant,[113] the U.S. Supreme Court in *Hughes v. Washington* held that federal law controlled the interpretation of the grant.[114] Relying on *Borax*,[115] the Court found that federal law defined the littoral rights granted to federal grantees, and that such grantees were entitled to accretions to the shoreline.[116] Consequently, fixing the boundary as a matter of state law would not affect federal grantees and could lead to disparate treatment of landowners.

A second reason to reject the idea of a permanent boundary is also found in *Hughes* in Justice Stewart's dissent. He viewed the Washington court's decision as changing the state's property law in a manner that constituted an uncompensated taking of Mrs. Hughes property—

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109. *See* Fraser Sherman, *BATTLE FOR THE BEACH: Charges Fly As City Seeks To Clarify 20-foot "Rule of Thumb,"* THE DESTIN LOG, August 5, 2009, *available at* http://www.thedestinlog.com/articles/beach-10350-city-thumb.html [hereinafter *BATTLE FOR THE BEACH*], *and* Fraser Sherman, *Resurrected Lawsuit Puts City's Beach Access Rules Behind Closed Doors*, THE DESTIN LOG, July 21, 2009, *available at* http://www.thedestinlog.com/articles/beach-1051-behind-puts.html [hereinafter *Resurrected Lawsuit*]; *see also* Jennifer A. Sullivan, *Laying Out an "Unwelcome Mat" to Public Beach Access*, 18 J. LAND USE & ENVTL. L. 331, 340-46 (2003), *and* S. Brent Spain, *Florida Beach Access: Nothing But Wet Sand?* 15 J. LAND USE & ENVTL. L. 167, 186-90 (1999).

110. *See BATTLE FOR THE BEACH*, *supra* note 109, *and Resurrected Lawsuit*, *supra* note 109.

111. *See BATTLE FOR THE BEACH*, *supra* note 109, *and Resurrected Lawsuit*, *supra* note 109.

112. *See* Hughes v. Washington, 389 U.S. 290, 292 (1967).

113. Hughes v. State, 410 P.2d 20, 31-32 (Wash. 1966).

114. *Hughes v. Washington*, 389 U.S. at 292.

115. Borax Consol. v. City of L.A., 296 U.S. 10 (1935).

116. *Hughes v. Washington*, 389 U.S. at 293; *see also* Maloney & Ausness, *supra* note 61, at 229 (stating "[t]he exact scope . . . is not entirely clear. While *Hughes* involved a federal patent made prior to statehood, . . . *Borax* involved patents made after statehood. It is therefore likely that federal law will govern wherever a federal patent is involved.").

the right to the land that had accreted since statehood.[117] Thus, changing state property law may raise constitutional questions if it "constitutes a sudden change in state law, unpredictable in terms of the relevant precedents"[118] impairing "pre-existing property interests."[119]

Policy considerations also undermine the concept of a fixed littoral boundary for an unstable coastline. Where the shore is accreting, fixing the boundary deprives the littoral owner's property boundary contact with the MHWL, potentially jeopardizing the right of access which is the underlying basis for all other littoral rights. Where the shoreline is eroding, leaving a fixed boundary under water as the beach erodes, the public's rights to use of sovereign waters and the wet sand area of the beach are unreasonably compromised.

Thus, attempting to fix a permanent shoreline boundary between upland owners and sovereignty lands can be problematic. There is one situation, however, where a fixed boundary is the most reasonable policy resolution and, if legislation is designed properly, should avoid constitutional problems. This is where the state and/or federal government renourishes critically eroding beaches or beaches that are retreating dramatically in the face of erosion and sea level rise.

V. BEACH RESTORATION AND BOUNDARIES

A. The Process of Beach Restoration

As the coastlines have continued to erode during the last few decades due to storms, sea level rise, and manmade impacts such as building of inlets, development and population growth along the coasts has also continued.[120] Responses to the migration of beaches include retreat and hard armoring of the coastline and beach restoration.[121] The level of development in many coastal areas has made large-scale retreat of development economically unviable, and although hard armoring of the coastline may protect structures, it gen-

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117. *Hughes v. Washington*, 389 U.S. at 294-98.

118. *Id*. at 296.

119. *Id.* at 298. Apparently in an attempt to deal with the unique hydrography of Florida's lakes (for example, large lakes of more than 5,000 acres can suddenly drain in few days), Florida enacted legislation to fix the boundaries of navigable, meandered lakes at their position at the time of statehood. *State v. Fla. Nat'l Props*., 338 So. 2d 13, 14-15 (Fla. 1976) (citing FLA. STAT. § 253.151). In *Florida National Properties*, the Florida Supreme Court held the migratory ordinary high water line to be the boundary, stating that "[a]n inflexible meander demarcation line would not comply with the spirit of [sic] letter of our Federal or State Constitutions nor meet present requirements of society." 338 So. 2d at 19.

120. *See generally* NOAA COASTAL SERVICES CENTER, SOCIAL AND DEMOGRAPHIC TRENDS THAT AFFECT THE NEED FOR BEACH NOURISHMENT, *in* BEACH NOURISHMENT: A GUIDE FOR LOCAL GOVERNMENT OFFICIALS, *available at* http://www.csc.noaa.gov/beachnourishment/html/human/socio/change.htm (last visited Mar. 15, 2010).

121. *See* KALO ET AL., *supra* note 66, at 303-15.

erally leads to further loss of the beach and public trust tidelands.[122] Many states and communities have chosen to restore or renourish beaches. The perceived benefits of beach nourishment include storm damage protection, enhancement of recreation and tourism, and related benefits such as "[i]ncreased business and tax revenues[,] [e]nhanced property values[,] [i]ncreased property tax revenues[,] [j]ob creation[,] [e]nvironmental benefits[,] [and] [a]esthetic benefits."[123]

Florida has an extensive beach management program authorized under the Florida Beach and Shore Preservation Act.[124] Through 2006, the Florida Legislature has appropriated over $582 million for beach erosion control and hurricane recovery;[125] and state, local, and federal authorities currently manage over 200 miles of restored beaches.[126] Because beach loss due to sea level rise in the state is currently not as significant a factor in beach migration as background erosion rates, Florida's response to sea level rise in the next fifty to one hundred years will likely be to continue restoration and renourishment of beaches.[127] Accelerating sea-level rise will require that projects be adapted by moderately increasing the volume of sand placed on the beach, but even under those circumstances, it is projected that restoration and renourishment will continue to be cost effective.[128]

Beach restoration generally involves the collection of sand by dredging from offshore sites. Tons of sand, as much as a million cubic yards in a typical project, may then be pumped in a slurry of sand and

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122. Jenifer E. Dugan, et al., *Ecological Effects of Coastal Armoring on Sandy Beaches*, 29 MARINE ECOLOGY 160, 161 (Suppl. 1. 2008).

123. NOAA COASTAL SERVICES CENTER, TYPES OF ECONOMIC BENEFITS ASSOCIATED WITH BEACH NOURISHMENT PROJECTS, *in* BEACH NOURISHMENT: A GUIDE FOR LOCAL GOVERNMENT OFFICIALS, *available at* http://www.csc.noaa.gov/beachnourishment/html/human/socio/types.htm.

124. *See* FLA. STAT. ch. 161 (2008).

125. BECP Website, *supra* note 33.

126. *Id.*

127. E-mail from Dr. Nicole Elko, Coastal Coordinator, Pinellas County, Dep't of Envtl. Mgmt., to Donna Christie, Elizabeth C. & Clyde W. Atkinson Professor of Law, Florida State Univ. College of Law (June 10, 2009, 11:24 EST) (on file with author). Dr. Nicole Elko cautions, however, about the long-term effects of beach renourishment as a response to sea level rise when she writes:

> If beaches are elevated and stabilized (horizontally) by shore protection efforts, the adjacent geologic and environmental systems will be prohibited from migrating landward and upward. At some unknown value of sea level rise at some unknown time in the long-term future (>100 yrs), this will result in a loss of nearshore coastal features and habitat. Before continued shore protection can be affirmed as an appropriate long-term adaptation strategy for sea level rise, an analysis must address these and other impacts to the surrounding coastal systems. Meanwhile, we are safe to continue our programs, as long as we plan appropriately for the future.

Id.

128. Nicole Elko, *Planning for Climate Change: Recommendations for Local Beach Communities* 14 (forthcoming 2009) (manuscript at 14, on file with author).

water to the beach through huge pipes.[129] As the water drains, leaving the sand deposited on the beach, bulldozers sculpt the beach to the specifications of the design profile.[130] The project generally continues twenty-four hours a day as the beach is widened from one hundred to two hundred feet.[131]

B. The Florida Beach and Shore Preservation Act

1. Policy and Purpose

In 1986, the Florida Legislature enacted the Beach and Shore Preservation Act (BSPA)[132] to manage and protect Florida's critically eroding beaches. The Legislature specifically found that beach erosion has "advanced to emergency proportions" and that the state has a "necessary governmental responsibility to properly manage and protect Florida beaches . . . from erosion" and therefore directed "that the Legislature make provision for beach restoration and nourishment projects[.]"[133] Restoration projects were declared to be "in the public interest"[134] and limited to critically eroded beaches[135] or shoreline that would benefit an adjacent critically eroded beach.[136] Projects must provide benefits consistent with the state's beach management plan[137] and be "designed to reduce potential upland damage or mitigate adverse impacts caused by improved, modified, or altered inlets, coastal

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129. *See infra* note 131 and accompanying text.

130. *See* BECP Website, *supra* note 33; *see also* Robert G. Dean et al., *Beach Nourishment with Emphasis on Geological Characteristics Affecting Project Performance, in Beach Nourishment: A Guide for Local Government Officials* (NOAA) (last visited Mar. 15, 2010), *available at* http://www.csc.noaa.gov/beachnourishment/html/geo/scitech.htm. For an interesting description of a beach restoration project on the west coast of Florida, see Cindi Peters, *Shifting Sands: A Slightly Technical View of Beach Restoration*, *available at* http://www.islandtime.com/Shifting Sands/tech.shtml.

131. A recent project at Cape San Blas deposited more than 3.6 million cubic yards of sand from offshore to create 225 feet of new beach. *See* Jennifer Portman*, Cape San Blas Saved – For Now,* TALLAHASSEE DEMOCRAT, June 29, 2009, at 1A-2A.

132. FLA. STAT. § 161 (2009).

133. *Id.* § 161.088.

134. *Id.*

135. "Critically Eroded Shoreline" is defined as:

> a segment of shoreline where natural processes or human activities have caused, or contributed to, erosion and recession of the beach and dune system to such a degree that upland development, recreational interests, wildlife habitat or important cultural resources are threatened or lost. Critically eroded shoreline may also include adjacent segments or gaps between identified critical erosion areas which, although they may be stable or slightly erosional now, their inclusion is necessary for continuity of management of the coastal system or for the design integrity of adjacent beach management projects.

FLA. ADMIN. CODE r. 62B-36.002(4) (2003).

136. § 161.088.

137. Beach management plans are developed pursuant to section 161.161(1), Florida Statutes (2009), and approved by the legislature under section 161.161(2), Florida Statutes (2009).

armoring, or existing upland development."[138] To receive state funding, projects must provide adequate public access and protect natural resources and endangered and threatened species.[139] Projects "must have an identifiable beach erosion control or beach preservation benefit," and projects providing only recreational benefit cannot be funded by the state.[140]

2. Establishing Boundaries for the Renourished Beach

Before construction of a beach restoration project, the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees), who holds title to sovereignty lands in Florida,[141] must establish the line of mean high water and an erosion control line (ECL) for the area to be restored.[142] The MHWL is the primary reference for the Board of Trustees to establish the erosion control line (ECL) for the project,[143] but it may also be set by taking into account the "requirements of proper engineering in the beach restoration project, the extent to which erosion or avulsion has occurred, and the need to protect existing ownership of as much upland as is reasonably possible."[144] If the ECL must be located landward of the MHWL in order to accomplish the project, the land seaward of the ECL may be condemned through eminent domain proceedings.[145] After surveying and establishing a proposed ECL, the Board of Trustees holds a public hearing to receive "evidence on the merits of the proposed erosion control line and . . . of locating and establishing such requested erosion control line[ ]"[146] and may subsequently approve or disapprove the proposed ECL.[147]

Approval of the ECL by the Board of Trustees is subject to chal-

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138. *Id.* § 161.088.

139. *Id.* § 161.101(12).

140. *Id.* § 161.101(13).

141. *Id.* § 253.001; *see also id.* § 253.02(1) (vesting sovereignty lands in the Board of Trustees—the Governor, the Attorney General, the Chief Financial Officer, and the Commissioner of Agriculture).

142. *Id.* § 161.161(3).

143. *Id.* § 161.161(5).

144. *Id.* Sections 161.141 and 161.191, Florida Statutes (2009), read together, establish that if the ECL is located seaward of the MHWL, section 161.191(1) can actually operate to increase the upland owner's title seaward of the MHWL, but it does not authorize a taking of the upland property landward of the MHWL. Section 161.141 indicates that if the ECL must be located landward of the MHWL in order to accomplish the project, the land seaward of the ECL must be condemned through eminent domain proceedings.

145. *Id.* § 161.141 (stating that "[i]f an authorized beach restoration, beach nourishment, and erosion control project cannot reasonably be accomplished without the taking of private property, the taking must be made by the requesting authority by eminent domain proceedings.").

146. *Id.* § 161.161(4).

147. *Id.* § 161.161(5).

lenge for substantive or procedural errors.[148] If there is no timely challenge, the Board of Trustees files its resolution approving the erosion control line in the public records and records the survey showing the area of beach to be protected and the erosion control line in the book of plats of the county or counties where the erosion control line lies.[149] Once the resolution and survey are filed, title to all land seaward of the ECL is:

> vested in the state by right of its sovereignty, and title to all lands landward of [the ECL are] vested in the riparian upland owners whose lands either abut the erosion control line or would have abutted the line if it had been located directly on the line of mean high water on the date the board of trustees' survey was recorded.[150]

3. The Effect of ECL Establishment on Riparian or Littoral Rights

Once recorded, the ECL not only replaces the MHWL as the boundary of sovereignty land and upland private property, but also fixes the boundary so that it is no longer ambulatory. The BSPA specifically states that the "common law shall no longer operate to increase or decrease the proportions of any upland property lying landward of such line, either by accretion or erosion or by any other natural or artificial process . . . ."[151] Under the common law then, the upland is technically no longer littoral land, because the ambulatory MHWL is no longer the boundary. The Act goes on, however, to provide statutory protection for virtually all of the common law rights that characterize riparian or littoral ownership, as follows:

> Any upland owner or lessee who . . . ceases to be a holder of title to the mean high-water line shall, nonetheless, continue to be entitled to all common-law riparian rights [except those associated with boundary change related to accretion and erosion]. . . , including but not limited to rights of ingress, egress, view, boating, bathing, and fishing. In addition the state shall not allow any structure to be erected upon lands created, ei-

148. *See id*. § 161.181, *and* § 26.012(2)(g).

149. *Id.* § 161.181. If timely review of a project or ECL is taken, the Board of Trustees may still continue with recording of the ECL and the beach restoration unless there has been a "final decision of a court of competent jurisdiction preventing the implementation of a beach erosion control project or invalidating, abolishing, or otherwise preventing the establishment and recordation of the erosion control line[.]" *Id.* Of course, the state may incur liability if it proceeds while litigation is pending.

150. *Id.* § 161.191(1).

151. *Id.* § 161.191(2).

> ther naturally or artificially, seaward of any erosion control line . . . , except such structures required for the prevention of erosion. Neither shall such use be permitted by the state as may be injurious to the person, business, or property of the upland owner or lessee; and the several municipalities, counties and special districts are authorized and directed to enforce this provision through the exercise of their respective police powers.[152]

In effect, the BSPA redefines littoral land to be land bounded by the ECL and preserves all access and access-dependent littoral rights.

Administrative rules further protect the riparian owner by assuring that persons other than the riparian owner cannot get permits to carry out activities on sovereign submerged lands adjacent to the littoral property. Rule 18-21.004(3)(b) of the *Florida Administrative Code*, provides that "[s]atisfactory evidence of sufficient upland interest is required for activities on sovereignty submerged lands riparian to uplands . . . ."[153] Because the littoral owner's access rights are protected by the BSPA for government projects, the rule provides an exception for government beach restoration or enhancement projects, "provided that such activities do not unreasonably infringe on riparian rights."[154] Implementing rules further provide that "[n]one of the provisions of this rule shall be implemented in a manner that would unreasonably infringe upon the traditional, common law riparian rights, as defined in Section 253.141, F.S.,[155] of upland property owners adjacent to sovereignty submerged lands."[156]

Further statutory protection for littoral owners is set out in section 161.141, Florida Statutes, which provides that "[i]f an authorized beach restoration, beach nourishment, and erosion control project cannot reasonably be accomplished without the taking of private property, the taking must be made by the requesting authority by

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152. *Id.* § 161.201.

153. FLA. ADMIN. CODE r. 18-21.004(3)(b) (2009).

154. Moreover, "[s]atisfactory evidence of sufficient upland interest is not required for activities on sovereignty submerged lands that are not riparian to uplands, or *when a governmental entity conducts restoration and enhancement activities*, provided that such activities do not unreasonably infringe on riparian rights." *Id.* (emphasis added).

155. Section 253.141(1), Florida Statutes (2008), provides the following description of riparian rights:

> Riparian rights are those incident to land bordering upon navigable waters. They are rights of ingress, egress, boating, bathing, and fishing and such others as may be or have been defined by law. Such rights are not of a proprietary nature. They are rights inuring to the owner of the riparian land but are not owned by him or her. They are appurtenant to and are inseparable from the riparian land. The land to which the owner holds title must extend to the ordinary high watermark of the navigable water in order that riparian rights may attach. Conveyance of title to or lease of the riparian land entitles the grantee to the riparian rights running therewith whether or not mentioned in the deed or lease of the upland.

156. FLA. ADMIN. CODE r. 18-21.004(3)(a).

eminent domain proceedings."[157] Finally, if the beach restoration is not commenced within a two-year period, is halted for more than six-months, or authorities do not maintain the restored beach, the ECL may be cancelled.[158]

C. Of SOBs: The Challenge for Fixed Boundaries on Renourished Beaches

1. Background

Since at least the mid-1990s, the Gulf of Mexico coast along sections of the Florida Panhandle has been experiencing serious erosion exacerbated by a series of storms and hurricanes starting in 1995.[159] Areas that once had broad, sugar-sand beach and dune systems now have only ribbons of sand along the shore that have become battlegrounds for use by increasing numbers of coastal property owners and recreational beach users. For example, the city of Destin has tried futilely to mediate disputes between upland property owners and members of the public for more than a decade.[160] While beach restoration in the area would alleviate the pressures caused by the intensity of the use on a narrow strip of beach, some property owners view beach restoration projects under the BSPA as simply building a public beach in front of their property, creating the opportunity for more disturbance of their use and enjoyment by unwelcome interlopers.[161]

The Florida Department of Environmental Protection (DEP) began a process of extensive studies, consultations, and construction design after finding that the beaches of Destin and Walton County were critically eroded in 1995.[162] As a result of the DEP's efforts, on July 30, 2003, the city and county applied for a Joint Coastal Permit and Authorization to Use Sovereign Submerged Lands (JCP) to restore approximately 6.9 miles of beaches.[163] After a survey to determine the

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157. FLA. STAT. § 161.141 (2009).

158. *Id.* § 161.211.

159. *See STBR*, 998 So. 2d 1102, 1106 (Fla. 2008).

160. *See generally* Sullivan, *supra* note 109, at 330-46.

161. *See, e.g.*, Save Our Beaches, Inc., http://saveourbeaches.net/ (last visited Mar. 15, 2010) (stating "[t]he only objective of the City of Destin is to make all privately owned Gulf front beach open to the public.").

162. *Critically Eroded Beaches*, *supra* note 39, at 48-49.

163. *STBR*, 998 So. 2d at 1106. A beach nourishment permit requires both regulatory authorization from the DEP, which includes a coastal construction permit and a wetland environmental resource permit, and a proprietary license from the Board of Trustees of the Internal Improvement Trust Fund (Board of Trustees). *See* FLA. STAT. ch. 161, *and* FLA. ADMIN. CODE ch. 62B-41, *see* FLA. STAT. ch. 373, *and* FLA. ADMIN. CODE ch. 62-312; *see* FLA. STAT. ch. 253, *and* FLA. ADMIN. CODE ch. 18-21. The proposed project was described as follows:

> The application proposed to dredge sand from an ebb shoal borrow area south of East Pass in eastern Okaloosa County, using either a cutter head dredge (which disturbs the sand on the bottom of the borrow area and vacuums it into a pipeline which delivers it to the project area) or a hopper dredge (which fills itself and is moved to the

MHWL, the Board of Trustees adopted and recorded the ECL at the surveyed MHWL,[164] and a Notice of Intent to Issue the Permit was issued by DEP on July 15, 2004.[165]

The fixed boundary provision of Florida's BSPA was challenged indirectly by two organizations representing shorefront property owners in Destin and Walton County, Florida.[166] Save Our Beaches, Inc. (SOB) has 150 members, representing the owners of approximately 112 properties, and Stop the Beach Renourishment, Inc. (STBR) represents the owners of five beachfront properties.[167] SOB and STBR filed two petitions for administrative hearings challenging the issuance of the permit and the ECL, which were consolidated for purposes of the hearing.[168] Deferring constitutional challenges for adjudication in court, the administrative law judge (ALJ) found that the permit applicants met the applicable standards and recommended issuance of the permit.[169] DEP entered a final order on July 27, 2005, affirming than the JCP was properly issued.[170]

SOB and STBR challenged the final order in the First District Court of Appeal. The court's decision put the Florida Beach Erosion Control Program in jeopardy by finding that the BSPA deprived the beachfront property owners of their constitutionally protected riparian rights without just compensation,[171] and that riparian rights could not be severed from riparian land.[172] Consequently, the court concluded that the government must show "sufficient upland interest" to carry out a beach restoration project,[173] because if the "'project can-

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> project site). On the project site, heavy equipment moves the dredged sand as specified in the design plans. The project is executed in this manner and progresses along the beach, usually at a pace of about 300 to 500 feet a day.

STBR, 998 So. 2d at 1106.

164. *Id.*

165. *Id.*

166. *See* Save Our Beaches v. Fla. Dep't of Envtl. Prot., 31 Fla. L. Weekly D1173 (Fla. 1st DCA 2006) [hereinafter *Save Our Beaches*].

167. Neither organization owns property in the affected area, but "[b]oth *Save Our Beaches* and *Stop the Beach Renourishment* were incorporated not for profit in Florida for the purpose of protecting and defending the natural resources of the beaches, protecting private property rights, and seeking redress of past, present, and future authorized and/or inappropriate beach restoration activities." *Id.* at 5 (emphasis added).

168. *Id.* at 1.

169. Specifically, the ALJ found that "Destin and Walton County gave reasonable assurance that applicable water quality standards will not be violated and . . . Destin and Walton County have obtained, or are able to obtain, all requisite private property rights necessary to implement the proposed project." *Id.* at 1.

170. *Id.* at 2.

171. *Id.* at 10.

172. For this proposition, the District Court of Appeal relied on *Belvedere Development Corp. v. Department of Transportation*, 476 So. 2d 649 (Fla. 1985), which held that in an eminent domain action, the state could not acquire riparian property in fee simple absolute with an express reservation to the landowners of the riparian rights that appertained to the acquired land. *Id.* at 652-63.

173. *Id.* at 11. The court in *STBR* was referring to the fact that the city and county could not fall into the exception to Florida Administrative Code Rule 18-21.004(3)(b), which allows

not reasonably be accomplished without the taking of private property, the taking must be made by the requesting authority by eminent domain proceedings.'"[174]

The case was certified to the Florida Supreme Court, which accepted jurisdiction[175] and heard the case in April 2007. At both the administrative hearing and district court levels, SOB was found to lack standing and was not a party to the Florida Supreme Court proceedings.[176]

2. Beach Restoration in the Florida Supreme Court

Although, according to the Florida Supreme Court, the District Court of Appeal had dealt with the constitutional challenge to the BSPA as a facial challenge, the question certified to the Florida Supreme Court was "in terms of an applied challenge."[177] The supreme court rephrased the certified question: "On its face, does the Beach and Shore Preservation Act unconstitutionally deprive upland owners of littoral rights without just compensation?"[178] The court noted that while review of the constitutionality of a statute and the interpretation of a constitutional provision are questions of law to be reviewed *de novo*, "legislative acts [have] a presumption of constitutionality."[179] The court's test for finding a statute facially unconstitutional required "'that no set of circumstances exists under which the statute would be valid.'"[180]

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restoration by the government when "such activities do not unreasonably infringe on riparian rights." *Id.* at 2 (emphasis in original).

174. *Id*. at 31-32 (quoting FLA. STAT. § 161.141 (2003)).

175. Walton County v. Save Our Beaches, Inc., 937 So. 2d 1100 (Fla. 2006); Fla. Dep't of Envtl. Prot. v. Save Our Beaches, Inc., 937 So. 2d 1099 (Fla. 2006).

176. *STBR*, 998 So. 2d 1102, 1106 n.5 (Fla. 2008).

177. *Id*. at 1105. The question certified to the Florida Supreme Court by the district court was:

> [h]as Part I of Chapter 161, Florida Statutes (2005), referred to as the Beach and Shore Preservation Act, been unconstitutionally applied so as to deprive the members of Stop the Beach Renourishment, Inc. of their riparian rights without just compensation for the property taken, so that the exception provided in Florida Administrative Code Rule 18-21.004(3), exempting satisfactory evidence of sufficient upland interest if the activities do not unreasonably infringe on riparian rights, does not apply?

Id. The Florida Supreme Court further noted that the district court "should have refrained from considering what is essentially a facial challenge since Stop the Beach Renourishment (STBR) acknowledged that it was a party in circuit court to a facial challenge of the same act." *Id.* at 1105 n.1. (citation omitted).

178. *Id*. at 1105 (citations omitted). Interestingly, neither the district court nor the Florida Supreme Court discussed whether the constitutional challenge and analyses were under the Federal or the Florida Constitution.

179. *Id*. at 1109.

180. *Id.* (citing Fla. Dep't of Revenue v. City of Gainesville, 918 So. 2d 250, 256 (Fla. 2005)). In federal constitutional analysis, this proposition was set out in *United States v. Salerno*, 481 U.S. 739, 746 (1987). Professor Adler describes the *Salerno* Doctrine, as follows:

> There are two types of constitutional challenges, 'as-applied' challenges and 'facial' challenges. As-applied challenges are the standard kind of constitutional challenge,

The Florida Supreme Court's analysis proceeded by reviewing the common law relationship of upland owners and the public in regard to the state's beaches and the impact of the BSPA on the common law, and then by addressing the lower court's decision.[181] While not further providing an explanation of its standard of review, the court put particular emphasis on "how the Act effectuates the State's constitutional duty to protect Florida's beaches in a way that facially balances public and private interests."[182] The court emphasized "that littoral rights are [not] subordinate to public rights" in Florida,[183] but the analysis also reflected that the rights of the public and the constitutional obligations and interests of the State must be appropriately balanced with private property rights.[184]

a. The Common Law's Balancing of Public and Private Right in the Shore and Waters

In Florida, public rights in the lands and waters seaward of the MHWL have been recognized under both the common law and the Florida Constitution.[185] Florida's public trust doctrine is derived from the English common law and state courts have adopted a traditional view of the doctrine, holding that "[t]he state holds the fore-shore in trust for its people for the purposes of navigation, fishing and bathing."[186] The trust is governmental in nature, and title is held by the state "not for purposes of disposition to individual ownerships, but . . . in trust for all the people."[187]

The public trust doctrine as applied to Florida's beaches also has constitutional aspects. The Florida Constitution provides that "title to lands under navigable waters, within the boundaries of the state, which have not been alienated, including beaches below mean high water lines, is held by the state, by virtue of its sovereignty, in trust

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> while facial challenges are unusual. A facial challenge to a rule should succeed only if (I) there exists no set of circumstances under which the rule could be constitutionally applied, or (2) the facial invalidation of the rule is warranted by the "overbreadth" doctrine, a special doctrine limited to the First Amendment.

Matthew D. Adler, *Rights, Rules, and the Structure of Constitutional Adjudication: A Response to Professor Fallon*, 113 HARV. L. REV. 1371, 1386-87 (2000) (citation omitted).

181. *STBR*, 998 So. 2d at 1109.

182. *Id.* at 1109.

183. *Id*. at 1111. The court compared Florida law to North Carolina's law which has established "that littoral rights are subordinate to public trust rights." *Id.* at 1111 n.9.

184. *See id*. at 1115.

185. *Id*. at 1109.

186. *Id*. at 1109 (quoting White v. Hughes, 139 Fla. 54, 59, 190 So. 446, 449 (1939)); *see also* Brickell v. Trammell, 77 Fla. 544, 558-59, 82 So. 221, 226 (1919); Clement v. Watson, 63 Fla. 109, 112, 58 So. 25, 26 (1912); Hayes v. Bowman, 91 So. 2d 795, 799 (Fla. 1957); *and* State v. Gerbing, 56 Fla. 603, 609, 47 So. 353, 355-56 (1908).

187. *STBR*, 998 So. 2d at 1110 *(*quoting *Brickell*, 77 Fla. 544, 558-59, 82 So. 221, 226 (1919)).

for all the people."[188] The Florida Supreme Court also pointed out that article II, section 7, subsection (a) further obligates the State "to conserve and protect Florida's beaches as important natural resources."[189] In summary, the court concluded that "the State has a constitutional duty to protect Florida's beaches, part of which it holds 'in trust for all the people.'"[190]

Littoral owners in Florida hold certain rights—bathing, fishing, and navigation—in common with the public, but those rights are not superior to the rights of other members of the public.[191] The court identified "special or exclusive common law littoral rights" that are "'necessary for the use and enjoyment' of the upland property"[192] as "(1) the right to have access to the water; (2) the right to reasonably use the water; (3) the right to accretion and reliction; and (4) the right to the unobstructed view of the water."[193] The court confirmed that littoral rights are property rights, subject to regulation, but requiring compensation if taken.[194] The court emphasized, however, that a compensatory taking must involve a substantial impairment of riparian rights.[195]

While littoral rights have been identified in numerous cases and defined as property rights, the court noted that they have been "broadly and inexactly stated"[196] and observed that the "nature of these rights rarely has been described in detail."[197] The court proceeded to explain that the rights to access, use, and view are fundamentally easements based on the present use of the shore and water by the littoral owner; the right to accretion is distinct from these rights in that it is "a contingent, future interest that only becomes a possessory interest if and when land is added to the upland by accretion or reliction."[198] The doctrine of avulsion mitigates the hardship

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188. FLA. CONST. art. X, § 11.

189. *STBR*, 998 So. 2d at 1110. Specifically, Article II, section 7(a) of the Florida Constitution states that "[i]t shall be the policy of the state to conserve and protect its natural resources and scenic beauty. Adequate provision shall be made by law for the abatement of air and water pollution and of excessive and unnecessary noise and for the conservation and protection of natural resources."

190. *Id*. at 1110-11 (quoting FLA. CONST. art. X, § 11).

191. *Id*. at 1111.

192. *Id*. (quoting Ferry Pass Inspectors' & Shippers' Ass'n v. White's River Inspectors' & Shippers' Ass'n, 57 Fla. 399, 403, 48 So. 643, 645 (1909)).

193. *STBR,* 998 So. 2d at 1111.

194. *Id*.

195. *Id*. (citing "Game & Fresh Water Fish Comm'n v. Lake Islands, Ltd., 407 So. 2d 189 (Fla. 1981) (holding that boating regulation was unconstitutional as to littoral owner because it substantially denied the right of access)); *see also* Webb v. Giddens, 82 So. 2d 743 (Fla. 1955) (finding that culvert substantially impaired littoral owner's right of access); *cf*. Duval Eng'g & Contracting Co. v. Sales, 77 So. 2d 431 (Fla. 1954) (holding that upland owners had no right to compensation when there was only a slight impairment of littoral rights and owners did not show a material disturbance of the littoral rights to access and view)").

196. *STBR*, 998 So. 2d at 1111 (citing Webb v. Giddens, 82 So. 2d 743, 745 (Fla. 1955)).

197. *Id.*

198. *Id*. at 1112.

caused by applying the doctrines of accretion or erosion to sudden, perceptible changes in the water line.[199] These common law doctrines of accretion, erosion, and avulsion, relating to the dynamic littoral boundaries, were characterized by the court as a balancing of the public and private interests in the dynamic shoreline.[200] The common law has not, however, addressed the issue of how public and private interests in the shoreline are affected by public beach restoration projects.[201]

b. The BSPA's Balancing of Public and Private Interests

The legislature enacted the BSPA to effectuate its "constitutional duty to protect Florida's beaches."[202] The Florida Supreme Court found that the Act continues to strike a careful balance between public and private interests by preserving the public's "vital economic and natural resources[ ]" while protecting upland property from future damage and preserving the littoral owner's rights to access, use, and view.[203] The court concluded that "just as with the common law, the Act facially achieves a reasonable balance of interests and rights to uniquely valuable and volatile property interests."[204]

c. The Doctrine of Avulsion

The Florida Supreme Court found that the lower court had inappropriately found that beach restoration would normally result in the MHWL moving seaward and the accreted beach accruing to the ownership of the upland owner because the District Court of Appeal had failed to take into account the doctrine of avulsion.[205] The Florida Supreme Court was not, however, referring to the artificial addition of sand to the beach as a relevant avulsive event. Instead, the court identified the 1995 hurricane that contributed to the designation of the area as a critically eroded beach as a relevant avulsive event.[206] The court found that "when the shoreline is impacted by an avulsive event, the boundary . . . remains the pre-avulsive event MHWL[,]" and that the state, like other littoral owners, "has the right to restore

199. *Id.* at 1114. The doctrine of avulsion may also create hardship for the upland owner if the avulsive event creates land seaward of the pre-avulsive MHWL. *See id.* at 1114, 1116. The upland owner is no longer the owner to the MHWL and not a littoral owner entitled to common law littoral rights. *See id.* at 1116.

200. *Id.* at 1112.

201. *Id.* at 1114.

202. *Id.* at 1114-15.

203. *Id.* at 1115.

204. *Id.*

205. *Id.* at 1116.

206. *Id.*

its shoreline up to that MHWL."[207] Consequently, the court concluded that the Act is facially constitutional because it does no more than what would be allowed under the common law.[208]

The Florida Supreme Court's interpretation seems to create an inverse application of a right to reclaim land after an avulsive event. Because the State's submerged land *is* bounded by the MHWL, however, one might analogize that the State has the same rights to reclaim its land as an upland littoral owner. But since the State's ownership is of land that was already submerged, what *land* does the state have to *reclaim*? While it is not immediately obvious, the state does have crucially important *land* to reclaim between the pre-avulsive low and high water lines. These tidelands are the critical link for the public in their access to beaches. An avulsive event that submerges the MHWL far seaward of the ocean's current reach potentially leaves the public with no guaranteed access to the sea or use of the beaches. In addition, if the public had created rights to use the beach above the MHWL, these lands, too, may be submerged and inaccessible to the public.[209]

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207. *Id*. at 1117.

208. *Id*. at 1117-18.

209. Texas deals with this issue by characterizing a public easement on the dry sand above the MHWL as a "rolling easement" which follows the actual movement of the dry sand beach. *See* Severance v. Patterson, 566 F.3d 490, 493 (5th Cir. 2009). In *Matcha v. Mattox*, the Texas Court of Appeals explained as follows:

> Indeed, the theory of a migratory public easement is compatible with the doctrine of custom and the situations that often give rise to a custom. A public easement on a beach cannot have been established with reference to a set of static lines on the beach, since the beach itself, and hence the public use of it, surely fluctuated landward and seaward over time. The public easement, if it is to reflect the reality of the public's actual use of the beach, must migrate as did the customary use from which it arose. The law cannot freeze such an easement at one place any more than the law can freeze the beach itself.

711 S.W.2d 95, 100 (Tex. App. 1986), *cert. denied* 481 U.S. 1024 (1987). *But see Severance,* in which the Federal Court of Appeals certified the question of the existence, nature and effect of the "rolling easement" doctrine to the Supreme Court of Texas. *Severance*, 566 F.3d 490. The court also recognized a unique application of the Fourth Amendment ripe and that Severance had a claim for "seizure" of her property. *Id*. at 500. In Florida, however, one appellate court, in *Trepanier v. County of Volusia*, has rejected the logic of the "rolling easement:"

> There is no doubt that if the mean high water line moves onto private property, the right of the public up to the mean high water line does migrate because of the constitutional reservation of title to all land seaward of the mean high water line. However, the right to use privately-owned land based on custom is on an entirely different footing. First, reading the facts in the light most favorable to Appellants, it appears that avulsion, rather than erosion was the source of the loss of the dry sand beach where the public's undisputed customary right to recreational use, including driving, has historically been exercised. If land is lost by avulsion, boundaries do not change. *See* Siesta Props[, Inc., v. Hart, 122 So. 2d 218, 224, (Fla. 2d DCA 1960)]. Certainly, if it can be shown that, by custom, use of the beach by the public as a thoroughfare has moved seaward and landward onto Appellant's property with the movement of the mean high water line, that public right is inviolate. However, it is not evident, if customary use of a beach is made impossible by the landward shift of the mean high water line, that the areas subject to the public right by custom would move landward with it to preserve public use on private property that previously was not subject to the public's customary right of use.

d. The Right to Accretion

The Florida Supreme Court additionally rejected the district court's conclusion that the BSPA was facially unconstitutional because it constituted a taking of the littoral right to accretions.[210] By categorizing the right to accretion as a contingent right and "a rule of convenience intended to balance public and private interests by automatically allocating small amounts of gradually accreted lands to the upland owner without resort to legal proceedings and without disturbing the upland owner's rights to access to and use of the water[,]" the court could determine that the doctrine of accretion had no application in the context of the BSPA.[211] The court explained that the reasons for the law to recognize a littoral right to accretions identified in *Medeira Beach*[212] were irrelevant to the application of the BSPA.[213] Neither the amount of land concerned nor the legal principles involved can be categorized as *de minimus*. Further, the BSPA absolves the littoral owner of the risk of loss from erosion by creating state responsibility for maintenance of the beach. Consequently, there is no need to balance that risk with a right to accreted land. The land created is not without an owner, and the ECL clearly establishes the boundary between the state and upland owner. Finally, the most important attribute of littoral ownership, the right of access, is preserved.[214]

e. Other Issues

The court quickly dismissed the final arguments in the case. The court found that, in Florida, there is no independent littoral right to have contact with the water's edge.[215] The MHWL that marks the littoral boundary does not coincide with the water's edge, but is the average of the high tides over a nineteen-year period.[216] The fact that there are periods when the state-owned foreshore separates the littoral owner from the water "has never been considered to infringe upon the upland owner's littoral right of access, which the ancillary right to contact is meant to preserve."[217] Because any right of contact is merely ancillary to the right of access and the BSPA preserves the rights of

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965 So. 2d 276, 292-93 (Fla. 5th DCA 2007).

210. *STBR*, 998 So. 2d at 1118.

211. *Id.* (citations omitted).

212. *See Medeira Beach Nominee*, 272 So. 2d 209, 212-13 (Fla. 2d DCA 1973), *and* text accompanying note 55.

213. *STBR*, 998 So. 2d at 1118.

214. *Id.*

215. *Id*. at 1119.

216. *Id.*

217. *Id.* at 1119.

ingress and egress, the right of contact with the water is not unconstitutionally taken.[218]

The final issue involved the question of whether the proposition announced by the Florida Supreme Court in *Belvedere Development Corp.*,[219] i.e., that riparian rights cannot be severed from riparian property, applied to the BSPA.[220] Noting that the rule in *Belvedere* was limited to condemnation of riparian lands, the court found the case clearly distinguishable because it did not involve condemnation of upland and because, unlike the parties in *Belvedere*, "upland owners under the Act continue to have the ability to exercise their littoral rights to access, use, and view."[221]

D. Beach Restoration and the BSPA After STBR

The U.S. Supreme Court has granted *certiorari* in the Florida Supreme Court's STBR decision,[222] continuing to leave the future of boundaries and beach restoration in Florida in a state of limbo. Even if the Florida court's opinion is not found to be a taking requiring compensation, the case leaves serious questions about the future of beach restoration in Florida. This section will discuss the issues raised by the *STBR* case and then address the challenges raised by the U.S. Supreme Court case.

1. Sorting Through the Florida Supreme Court's Interpretation of the BSPA

While the Florida Supreme Court found the BSPA to be facially constitutional, the court left many questions unanswered by its apparent misunderstanding of the causes of critical erosion of Florida's beaches and its somewhat unorthodox analysis of the issues relating to avulsion. First, the court found the state had the right to reclaim the beach and retain ownership of the created land based on the proposition that littoral owners have the right to reclaim land lost after an avulsive event.[223] The court summarized as follows:

> In the context of restoring storm-ravaged public lands, the State would not be doing anything under the Act that it would not be entitled to accomplish under Florida's common law.

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218. *Id.* at 1120.
219. Belvedere Dev. Corp. v. Dep't of Transp., 476 So. 2d 649 (Fla. 1985).
220. *STBR*, 998 So. 2d at 1120.
221. *Id.*
222. Stop the Beach Renourishment, Inc. v. Fla. Dep't of Envtl. Prot., 129 S. Ct. 2792 (2009).
223. *STBR*, 998 So. 2d at 1117-18.

> Like the common law doctrine of avulsion, the Act authorizes the State to reclaim its storm-damaged shoreline by adding sand to submerged sovereignty lands.[224]

The court noted as factual background that the beach at issue was damaged by Hurricane Opal in 1995 and subsequently by Hurricane Georges (1998), Tropical Storm Isidore (2002), and Hurricane Ivan (2004).[225] The court further observed that as a matter of state common law, "hurricanes, such as Hurricane Opal in 1995, are generally considered avulsive events that cause avulsion."[226] The court made no specific finding, however, that the landward migration of the beach in the case was caused exclusively by avulsive events. To sustain the Act against a facial challenge, such a finding was irrelevant—the court had only to identify a single set of circumstances in which the statute would be valid.[227] In fact, although hurricanes may exacerbate the landward migration of a beach, the avulsive event is rarely the only cause for erosion to reach "critical" stages.[228] The court's holding, consequently, bases the facial constitutionality of the BSPA on circumstances that may rarely, if ever, exist. The actual circumstances will usually involve difficult evidentiary issues in determining the degree of migration of the beach due to avulsion or erosion and determination of the substantive effect of multiple causes.[229]

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224. *Id.* at 1117.

225. *Id.* at 1106 & n.4.

226. *Id.* at 1116 (citing *Bryant v. Peppe*, 238 So. 2d 836, 838 (Fla. 1970)); *see also* Ford v. Turner, 142 So. 2d 335, 339 (Fla. 2d DCA 1962), *and* Siesta Props., Inc. v. Hart, 122 So. 2d 218, 222-23 (Fla. 2d DCA 1960).

227. *STBR*, 998 So. 2d at 1109 (citing Fla. Dep't of Revenue v. City of Gainesville, 918 So. 2d 250, 256 (Fla. 2005)).

228. Beaches that are impacted by storms and hurricanes, but are not subject to additional stresses due, for example, to depletion of sand supply by other actions, sometimes have the ability to recover to a certain extent naturally. This can only happen when the beaches are healthy in terms of their coastal processes. Telephone Interview with Paden Woodruff, Environmental Administrator, Beach Erosion Control Program, Bureau of Beaches and Coastal Systems, Department of Environmental Protection (Sept. 14, 2009). *See generally* Robert A. Morton et al., *Stages and Durations of Post-Storm Beach Recovery, Southeastern Texas Coast, U.S.A.*, 10 J. COASTAL RES. 884 (1994), *and* A.O. Gabriel & R.D. Kreutzwiser, *Conceptualizing Environmental Stress: A Stress-Response Model of Coastal Sandy Barriers*, 25 ENVTL MGMT. 53 (2000).

229. In a Texas case involving the beach restoration at Corpus Christi, the court held that in order for the littoral owners to claim that the boundary had not moved prior to the renourishment, they had to show that all the loss of the disputed land was due to avulsion. In *City of Corpus Christi v. Davis*, the court held:

> It is undisputed that not all the shoreline loss was attributable to sudden and obvious causes, although it is true that hurricanes and northers have been responsible for a substantial part of the total loss of the shoreline. Nevertheless, the evidence is that forces other than hurricanes and northers, such as summertime night winds and quick water action, are at work slowly shifting away the sands of North Beach. Such forces are classically erosive, not avulsive. The Davises failed to overcome the presumption that the State held title to the disputed acreage by proving that the total loss of the shoreline resulted from avulsive action.

622 S.W.2d 640, 646 (Tex. App. 1981).

a. Applying STBR in the Case of Critical Erosion Due Entirely to Avulsion

Applying the BSPA as though critical erosion is due exclusively to avulsion would potentially provide a windfall for littoral owners. The court stated that "when restoring storm-ravaged shoreline, the boundary under the Act should remain the pre-avulsive event boundary."[230] The BSPA provides that setting of the ECL "shall be guided by the existing line of mean high water, bearing in mind the requirements of proper engineering in the beach restoration project, the extent to which erosion or avulsion has occurred, and the need to protect existing ownership of as much upland as is reasonably possible."[231] In the case of an avulsive event, the pre-avulsive boundary may be far seaward of the current MHWL. Reclamation of state-owned former tideland would require the restoration of a significant amount of privately-owned beach, and the ECL would likely be located nearer the current MHWL than the boundary line prior to the avulsive event. The *STBR* court noted that "if the ECL does not represent the pre-hurricane MHWL, the resulting boundary between sovereignty and private property might result in the State laying claim to a portion of land that, under the common law, would typically remain with the private owner."[232] In such a situation, the court's implication is that land between the pre-avulsive MHWL and the ECL might be acquired by eminent domain.[233] The littoral owner could potentially receive the benefit of the protection provided by the newly-restored, publicly-funded beach and increased property value afforded by the proximity to a wide, healthy beach, as well as a payment for the submerged land "taken" between the ECL, and pre-avulsive MHWL.[234] Beach restora-

230. *STBR*, 998 So. 2d at 1117.

231. FLA. STAT. § 161.161(5) (2009).

232. *STBR*, 998 So. 2d at 1117 n.15 (stating that "because STBR alleges what is essentially a facial challenge, it is unnecessary for this Court to address this as-applied issue.").

233. *See id.* at 1117 n.15; *see also id.* at 1126 (Lewis, J., dissenting).

234. An alternative, proposed by Justice Lewis in his dissent in *STBR*, would be setting the ECL at the pre-avulsive MHWL. *Id.* at 1112. The littoral owners would then have title to the dry sand area of the restored beach. Great expense to the public would be incurred primarily for the benefit of the upland owners. Such a result would presumably be precluded by Article VII, section 10, of the Florida Constitution prohibiting the appropriation of public money for a private purpose where the public benefit is only incidental. FLA. CONST. art. VII, § 10. In a Florida Attorney General Opinion specifically addressing the issue of improvements to private beach areas in the context of beach maintenance, the Attorney General explained:

> The expenditure of public funds is limited by the provisions of s. 10, Art. VII, State Const., prohibiting the state or counties or municipalities or any agency thereof from using, giving, or lending its taxing power or credit to aid any private interest or individual. It is only when there is some clearly identified and concrete public purpose as the primary objective and a reasonable expectation that such purpose will be substantially and effectively accomplished, that the state or its subdivisions may disburse, loan or pledge public funds or property to a nongovernmental entity. O'Neill v. Burns, 198 So. 2d 1 (Fla. 1967). The Florida Supreme Court in Orange County Industrial Development Authority v. State, 427 So. 2d 174 (Fla. 1983), reaffirmed its test that the

tion would remain subject to controversy, but the debate would shift its focus to the setting of the ECL and subsequently, the value of the littoral land to be taken by eminent domain.[235]

There are some hurdles for the littoral owner, however, in establishing that the pre-avulsive MHWL lies seaward of the ECL. In a challenge to the location of the boundary between the state and upland property owner, the party claiming avulsion normally has the burden of proof. In *Municipal Liquidators, Inc. v. Tench*,[236] for example, the Florida District Court of Appeals stated that "the law seems clear as to these principles of law: in the event of erosion or submergence, the title to the land covered by water reverts to the State; erosion is presumed over avulsion; and the burden of proof is upon the party alleging avulsion."[237] Further, because of the complexity of coastal processes and the intervention of human activities and structures, the determination of the ECL and the MHWL may involve complex technical and scientific issues and a high degree of scientific uncertainty. In such situations, the court will give great deference to agency determinations.[238]

> purpose served in the proposed expenditure must be paramountly a public one. If, however, the benefits to a private party are the paramount purpose of a project, then the expenditure is not constitutionally valid even if the public derives some benefit therefrom.

86-68 Fla. Op. Att'y Gen. 4 (1986). Although restoration of the public trust tidelands after an avulsive event may be an important public purpose, it is difficult to rationalize that the public purpose is paramount when up to two hundred feet of private beach may be created to accomplish the preservation of perhaps a few yards of public tidelands. Section 161.088, Florida Statutes, also requires that projects "must have a clearly identifiable beach management benefit consistent with the state's beach management plan[,]" and "shall be funded in a manner that encourages all cost-saving strategies[.]" § 161.088. The defining of "beach restoration" in Section 161.021(4), Florida Statues (2009), as "the placement of sand on an eroded beach for the purposes of *restoring it as a recreational beach* and providing storm protection for upland properties" also precludes a project that has results in overwhelming benefits only to upland owners. *Id.* § 161.021 (emphasis added).

235. In such a circumstance, the state will have to revisit the question of whether beach restoration continues to be economically justifiable.

236. Mun. Liquidators, Inc. v. Tench, 153 So. 2d 728 (Fla. 2d DCA 1963).

237. *Id.* at 731; *see also* Kissinger v. Adams, 466 So. 2d 1250, 1252 (Fla. 2d DCA 1985), *and* City of Corpus Christi v. Davis, 622 S.W.2d 640, 644 (Tex. App. 1981) (explaining "[b]ecause the acreage in question was covered by the sea at the time of the commencement of the reclamation project, it is presumed that title is in the State. This Court has concluded that the Davises failed to overcome that presumption by proving that the disputed acreage submerged as the result of avulsion."). Moreover, 93 C.J.S. *Waters* § 187 states that:

> One claiming that the change in a bed or stream was by avulsion rather than by accretion has the burden of showing the avulsion, by showing a sudden change, or by a preponderance of the evidence by showing that the changes were violent and subject to being perceived while they were going on.

93 C.J.S. *Waters* § 187 (citations omitted).

238. The circumstances are analogous to the technical and scientific complexity of setting the coastal construction control line (CCCL). In reviewing the establishment of a CCCL, a Florida District Court held that:

> [t]he complexity of the scientific and technical issues in this case and the consequent deference necessarily given to DNR's expertise vividly illustrate the limited role an appellate court can play in resolving disputes arising out of an administrative agency's

Additional questions arise from the Florida Supreme Court's discussion of a right of littoral owners to reclaim land lost to avulsion within a "reasonable time."[239] Most fundamentally, what constitutes a reasonable time for an upland owner to reclaim? If land that is subject to avulsion is not reclaimed within a reasonable time by the upland owner, littoral owners may argue that the public may not use the current foreshore because public rights only attach to the pre-avulsive foreshore.[240] Further, if the public makes use of the navigable waters over the land lost to avulsion, unreasonable delay in reclaiming the land could lead to conflict between public and private interests.[241] Finally, reclamation beyond the time when the shoreline ecosystems have established a new equilibrium would disrupt the environment of the shoreline area. While a reasonable time may vary somewhat with particular circumstances, leaving the determination to ad hoc analyses leaves this area of property law unreasonably unclear and should be addressed by the legislature.[242]

The court relied on scant authority in recognizing the right to reclaim, but Farnham, the court's primary authority, seems to go further than simply limit the time to reclaim and to preclude continued private ownership of submerged land if it is not reclaimed within a reasonable time. He states that "the sudden submergence of a parcel of land on the foreshore does not destroy the title of the private owner *if* within a reasonable time it can be reclaimed and the former boundaries established."[243] There are strong policy justifications for recognizing this as a limitation not only on the right to reclaim the submerged land, but also on the right to reclaim the title to the submerged land. First, there is a presumption that the submerged lands belong to the state.[244] The failure of the upland owner to prove avulsive loss and

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> exercise of delegated discretion in respect to technical matters requiring substantial expertise and 'making predictions . . . at the frontiers of science.'

Island Harbor Beach Club, Ltd. v. Dep't of Natural Res., 495 So. 2d 209, 223 (Fla. 1st DCA 1986), *review denied* 503 So. 2d 327 (Fla. 1987).

239. *See STBR*, 998 So. 2d at 1117.

240. The fact that the party claiming avulsion has the burden of proof to establish that the change in the water's reach was avulsive and did not change the boundary means that the current MHWL is the presumptive property boundary between upland and state lands. The public would consequently have a presumptive right to use the foreshore. *See infra* text accompanying notes 243-45.

241. *See, e.g.*, Coastal Indus. Water Auth. v. York, 532 S.W.2d 949 (Tex. 1976). Texas recognizes that subsidence of land "does not necessarily destroy the title of the owner" and recognizes the right in some instances for the owner to reclaim the land, "[s]o long as the general public or a public body has not come to use the site for navigation, thereby raising a conflict between private and public interests[.]" *Id.* at 954.

242. *See, e.g.*, CAL. CIV. CODE §§ 1014, 1015 (2009) (requiring reclamation within one year).

243. FARNHAM, *supra* note 60, at § 848 (emphasis added). Farnham also states: "If a portion of the land of the riparian [or littoral] owner is suddenly engulfed, and the former boundary can be determined or *[if] the land reclaimed within a reasonable time, he does not lose his title to it*." *Id*. § 74 (emphasis added).

244. *See* Mun. Liquidators, Inc. v. Tench, 153 So. 2d 728, 731 (Fla. 2d DCA 1963) (stating that "the law seems clear as to these principles of law: in the event of erosion or submergence,

the boundary prior to the avulsion within a reasonable time unduly leaves ownership in limbo leading to controversy over public use of the foreshore.[245] In addition, the submerged land provides no continuing benefit to the owner who does not reclaim, because the navigable waters above the land continue to be subject to public use.[246] Because submerged land is presumed to belong to the state, the concept of a *reasonable time* should serve the purpose of a statute of limitations on the right to reassert title based on proof that the change of the MHWL was avulsive, establishment of the pre-avulsive MHWL, and restoration of the submerged beach by the littoral owner.[247]

Further issues arise if the State or another governmental entity decides to reclaim a critically eroded beach that has been lost solely due to an avulsive event before the upland owner has a reasonable time to reclaim her land. If the ECL is set at or near the post-event MHWL, the pre-avulsion property boundary may be seaward of the ECL, and the *STBR* case suggests that the governmental authority must institute eminent domain proceedings and compensate for land taken seaward of the ECL.[248] If the right to ownership of the lost land is based on the reclamation within a reasonable time, however, must

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the title to the land covered by water reverts to the State; erosion is presumed over avulsion; and the burden of proof is upon the party alleging avulsion."), Kissinger v. Adams, 466 So. 2d 1250, 1251-52 (Fla. 2d DCA 1985) (appellants did not refute the presumption of erosion created by competent testimony and corroborated by a survey, and did not present conclusive evidence that the location of the mean high water mark was caused by avulsion), *and* City of Corpus Christi v. Davis, 622 S.W.2d 640, 644 (Tex. Ct. App. 1981) (explaining that "[b]ecause the acreage in question was covered by the sea at the time of the commencement of the reclamation project, it is presumed that title is in the State.").

245. *C.f.* FLA. ADMIN. CODE. r.18-21.019(4)(a) (1998) (stipulating that an application for a disclaimer from the Board of Trustees for up to an acre of land submerged by an avulsive event requires proof of avulsion and must be applied for within five years). This rule creates a time certain, but one that is perhaps unduly long. It should be noted also that this rule has rarely been applied to tidally influenced lands.

246. *See* Silver Springs Paradise Co. v. Ray, 50 F.2d 356 (5th Cir. 1931), *cert. denied*, 284 U.S. 649 (1931) (holding that glass-bottomed boats could operate in Silver Springs even if the land beneath the water is privately owned). The court stated:

> The public right of navigation entitles the public generally to the reasonable use of navigable waters for all legitimate purposes of travel or transportation, for boating or sailing for pleasure, . . . and in any kind of water craft the use of which is consistent with others also enjoying the right possessed in common. As to that right a riparian owner, though he also has a qualified or bare technical title to the soil covered by the navigable water opposite his upland, is entitled to no preference or priority, his right in that regard being only concurrent with that of other members of the public, and to be exercised in a way not inconsistent with the enjoyment of the same right by others. He cannot, any more than can one who has no title to riparian or submerged land, acquire an exclusive right to use navigable water opposite his upland for travel or navigation for purposes of business or of pleasure or v diversion.

Id. at 359 (citations omitted).

247. Note that this analysis is not based on the failure to reclaim within a *reasonable time* as an argument for abandonment of submerged land by the upland owner, but on the presumption that submerged land belongs to the state and that other claims to such land should be asserted within a reasonable time. *Cf.* City of New York v. Realty Assocs., 176 N.E. 171 (N.Y. 1931).

248. *See supra* notes 230-33 and accompanying text.

an upland owner show both the intent and means to reclaim before he is entitled to compensation under the BSPA? If one assumes that even an owner with no intent or means to reclaim the beach must be compensated in the scenario described, then there is potential for anomalous results depending on whether the government brings an eminent domain action or if the land owner sues for inverse condemnation. In an eminent domain action, the upland owner is entitled to the market value of the land,[249] which, although submerged, could still have significant value because of the right to reclaim it.

If the government does not bring an eminent domain action, however, and the littoral owner must bring an inverse condemnation action to press the claim of an uncompensated taking, a different provision of the BSPA applies. In 2007, in response to the district court's decision in *Save Our Beaches,*[250] the Florida legislature amended the BSPA to provide that:

> [i]n any action alleging a taking of all or part of a property or property right as a result of a beach restoration project, in determining whether such taking has occurred or the value of any damage alleged with respect to the owner's remaining upland property adjoining the beach restoration project, the enhancement, if any, in value of the owner's remaining adjoining property of the upland property owner by reason of the beach restoration project shall be considered. If a taking is judicially determined to have occurred as a result of a beach restoration project, the enhancement in value to the owner's remaining adjoining property by reason of the beach restoration project shall be offset against the value of the damage, if any, resulting to such remaining adjoining property of the upland property owner by reason of the beach restoration project, but such enhancement in the value shall not be offset against the value of the property or property right alleged to have been taken. If the enhancement in value shall exceed the value of the damage, if any, to the remaining adjoining property, there shall be no recovery over against the property owner for such excess.[251]

The intent of the legislature is clear. In determining whether compensation is due (*i.e.*, has there been a taking?) or determining the compensation if a taking is found, the enhanced value of the upland owner's property due to the restoration project must be taken into

249. *See, e.g.*, United States v. 564.54 Acres of Land, 441 U.S. 506, 511 (1979) (noting that the Court has used the concept of fair market value to determine a condemnee's loss).

250. *Save Our Beaches*, 31 Fla. L. Weekly D1173 (1st DCA 2006).

251. FLA. STAT. § 161.141 (2009).

account. This means unless a physical taking is established, an extremely substantial impairment of rights and property value would need to be shown to offset the enhanced property value to make a case for a taking. Further, even if a taking is found to have occurred, damages will be nominal at best. The Legislature could not have intended the result to turn on whether the recovery by the landowner was in eminent domain or inverse condemnation. When public funds are spent for the public purposes that are served by beach restoration, adjacent upland property owners are the recipients of substantial "giving"[252] to their property's value as well as any potential "taking," and any compensation to upland littoral owners should reflect that reality.

b. Applying STBR in the Case of Critical Erosion Due Entirely to Erosion or to Combined Forces of Erosion and Avulsion

The narrowness of the Florida Supreme Court holding leaves the BSPA open to continued "as applied" challenges. The application of the Act that the Florida Supreme Court finds constitutional is simply the restoring of the beach to the pre-avulsion *status quo* based on a common law right to reclaim land after an avulsive event. This rationale does not apply for restoration projects where the damage to the beach is the result of erosion or, arguably, where the beach is damaged by combined forces of erosion and avulsion,[253] rather than by damage that is caused solely by avulsion. If damage is due solely to erosion, there will be no dispute that the current MHWL and the

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252. *See generally* Daniel D. Barnhizer, *Givings Recapture: Funding Public Acquisition of Private Property Interests on the Coasts*, 27 HARV. ENVTL. L. REV. 295 (2003).

253. When the damage to the shoreline is caused by both avulsion and erosion, the relative amount of loss attributable to each source may be impossible to determine. In addition, the causes of erosion may be responsible for not allowing natural processes to restore a beach after a hurricane. Under such circumstances, it may be impossible for the upland owner to establish with any certainty that the current MHWL does not represent the boundary. *See* FLA. ADMIN. CODE r. 18-21.019(5) (1998) (presuming ownership by the state in the case of land submerged by a combination of avulsion and artificial erosion). A quitclaim deed from the Trustees to reclaim such submerged land may only be issued in limited circumstances, i.e.:

> 1. The area adjacent to the eroded lands is already substantially bulkheaded or armored;
> 2. The toe of the reclaimed land or associated armoring extends no further waterward than adjacent properties;
> 3. The reclamation will not, on the average, relocate the line of mean or ordinary high water more than 30 feet waterward of the current line;
> 4. The land to be reclaimed does not exceed one-half acre in size;
> 5. The land to be reclaimed is not located within an aquatic preserve; and
> 6. The sale is in the public interest.

Id. r. 18-21.019(5)(a). Further, the littoral owner must pay for the land, and any quitclaim deed issued must "contain a reverter which requires the deeded property to be reclaimed within one year of the date of issuance of the quitclaim deed" and "reserve lateral public access across the land to be deeded when the area has historically been used by the public for access." *Id*. r. 18-21.019(5)(d)-(e).

property boundary will coincide, as will—generally—the ECL. The restoration project is not reclaiming land lost to avulsion, but adding sand to submerged, state lands seaward of the common law and statutory property boundary, creating new land seaward of the ECL. To be constitutional as applied to this circumstance, must the state be doing no more than what is allowed under the common law? What background principles are applicable? What is the legal character of adding sand to the beach under these circumstances?

The turbulent and very perceptible process of pumping tons of sand onto a beach for twenty-four hours a day described earlier in this article[254] cannot by any stretch of legal terminology or the imagination be considered gradual and imperceptible[255] allowing the process to be categorized as accretion and granting ownership to the littoral owner under common law principles.[256] This does not necessarily mean, though, that the process is avulsion. Avulsion is often defined as "sudden or perceptible loss of or addition to land *by the action of the water*"[257] suggesting that the avulsion doctrine applies only to natural avulsive events.[258] Numerous courts that have addressed this issue, including the U.S. Supreme Court,[259] have found that direct filling of submerged land is an avulsive event.[260] In *Bryant v. Peppe,*[261] the

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254. *See supra* notes 130-31 and accompanying text.

255. In *Sand Key Associates*, *Ltd.*, the Florida Supreme Court stated that "'[g]radual and imperceptible' means that, although witnesses may periodically perceive changes in the waterfront, they could not observe them occurring." 512 So. 2d 934, 936 (Fla. 1987). The court further favorably cited the United States Supreme Court in, defining the phrase:

> [For the change to be perceptible, it] is not enough that the change may be discerned by comparison at two distinct points of time. It must be perceptible when it takes place. "The test as to what is gradual and imperceptible . . . is, that though the witnesses may see from time to time that progress has been made, they could not perceive it while the process was going on.

Id. at 936 (quoting Philadelphia Co. v. Stimson, 223 U.S. 605, 624 (1912)).

256. The Florida Supreme Court has held that if *accretion* is not caused by littoral owner, it is irrelevant whether the accretion is natural or caused by human action, usually referred to as artificial accretion. *Id*. at 937. Florida courts have also recognized, however, that if an owner fills adjacent submerged land or causes the accretion, the created land does not belong to the riparian owner and the boundary does not change. *See Medeira Beach Nominee*, 272 So. 2d 209, 212 (Fla. 2d DCA 1973). The rationale is not that the filling of adjacent submerged land is avulsive, but "that since land below the ordinary high water mark is sovereignty land of the state, to permit the riparian owner to cause accretion himself would be tantamount to allowing him to take state land." *Id*.

257. *Sand Key Assocs.*, 512 So. 2d at 936 (emphasis added); *see also* Siesta Props., Inc. v. Hart, 122 So. 2d 218, 224 (Fla. 2d DCA 1960) (stating "avulsion [is] defined as the sudden or violent *action of the elements*, the effect and extent of which is perceptible while it is in progress.") (emphasis added).

258. The notion is that a littoral owner accepts the risk of natural avulsive changes to property, but not to intervention by the state that denies littoral rights.

259. New Jersey v. New York, 523 U.S. 767, 784 (1998) (recognizing the filling of submerged land around Ellis Island as an "avulsive" change under the common law).

260. *See* City of Waukegan, Ill. v. Nat'l Gypsum Co., 587 F. Supp. 2d 997, 1005 (N.D. Ill. 2008) (explaining that "[t]he same rules apply both to natural avulsions (e.g., a sudden storm or flood) and artificial avulsions (e.g., excavation along waterfront property). *E.g., J.P. Furlong Enters., Inc. v. Sun Exploration & Prod. Co.,* 423 N.W.2d 130, 134 (N.D.1988); *Cinque Bambini P'ship v. State,* 491 So. 2d 508, 520 (Miss.1986).").

261. Bryant v. Peppe, 238 So. 2d 836 (Fla. 1970).

Florida Supreme Court left room for broader interpretation in stating that avulsion is "a sudden change in the land formation resulting *usually* from the elements[,]"[262] and its analysis focused not on whether the additions to the shoreline are created naturally or artificially, but whether the change in the shoreline was gradual and imperceptible or sudden and perceptible.[263] The court held that "[t]he particular parcel here in question was originally sovereignty land; and it did not lose that character merely because, by avulsion, it became dry land."[264] In support of its conclusion, the court relied upon a case that involved "artificial avulsion" through a state drainage project.[265] The court did not find the distinction between natural and artificial avulsion relevant to the issue of the ownership of previously submerged state lands.[266]

If beach restoration is avulsion, the BSPA does no more than reflect common law principles that strip an upland owner of littoral status when an avulsive event adds land seaward of the former MHWL.[267] Indeed, the statute seems to be written based on that assumption and reflects common law principles. Finding that beach restoration by pumping tons of sand onto the beach is avulsion is a straightforward way of applying common law principles to carry out the intent of legislature to continue state ownership of the land created seaward of ECL.[268] This result, which deprives the upland owner of littoral status and rights, may seem harsh, but it is the same result that would be achieved through application of the state's background common law principles concerning avulsion.[269] As a policy

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262. *Id.* at 837 (emphasis added).

263. *Id.* at 838-39.

264. *Id.* at 838 (citation omitted).

265. The *Bryant* Court favorably cited *Martin v. Busch*, 93 Fla. 535, 112 So. 274 (1927), which involved the artificial lowering of a lake by a State drainage project, finding it "somewhat similar" to the avusive change *in Bryant*. *Id.* at 838. The court stated that "[t]here, the avulsion resulting in the water bottom becoming dry was artificially rather than naturally created, resulting from a drainage project undertaken by the state." *Id.* at 838-39. The *Bryant* court remarked that in *Martin*, "[t]he court noted that, when the water receded suddenly, the 'title to such lands, which remained in the state just as it was when covered by the lake' [and that the] 'riparian rights doctrine of accretion and reliction does not apply to such lands.'" *Id.* at 839 (quoting *Martin*, 93 Fla. at 578, 112 So. at 288 (Brown, J., concurring)).

266. *See Bryant*, 238 So. 2d at 838-39.

267. In *Bryant*, the Florida Supreme Court found that "it must be held that plaintiff-respondents were charged with notice that the sudden avulsion of the parcel in controversy gave them no more title to it than they had to the water bottom before its emergence as dry land." *Id.* at 839.

268. Statutes that apply background principles of property law will not be considered a taking of private property. *See* Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1029 (1992) (explaining that even in the case of a regulation that prohibits all beneficial use or removes all economic value of property, no unconstitutional, compensable taking of property has occurred if the regulation reflects limitations that "inhere in the title itself, in the restrictions that background principles of the State's law of property and nuisance already place upon land ownership.").

269. *See Bryant*, 238 So. 2d at 836; *Martin*, 93 Fla. at 540, 112 So. at 276; Mun. Liquidators, Inc. v. Tench, 153 So. 2d 728 (Fla. 2d DCA 1963); *and* Siesta Props., Inc. v. Hart, 122 So. 2d 218 (Fla. 2d DCA 1960). Littoral or riparian owners are charged with the knowledge that avulsive changes can fix their boundaries, even to the extent that their land is no longer bounded by the

matter, however, adopting this analysis may be unnecessarily broad. Although the BSPA does not have such draconian consequences, justifying the consequences of the Act by categorizing the restoration as an avulsive change leaves upland property owners vulnerable to the government's exclusive discretion in using adjacent sovereignty land[270] and contributes strong fuel for property rights advocates.

An alternative analysis could recognize that restoring beaches to deal with modern day problems caused by erosion and sea level rise simply does not neatly fit into common law categories of accretion or avulsion—it is *sui generis*. New legal principles are necessary to address the public interests and effect on private property rights. The legislature and the courts have the ability to fill in gaps in the common law that fail to address these modern day problems and issues adequately. The Florida Supreme Court's analysis in *STBR* recognizes that the Act applies only in the limited situation of restoration or renourishment of critically eroding beaches[271] and fully explains how the Act balances property rights and public interests and distributes the benefits and burdens of the state's projects.[272] Significantly, the BSPA goes beyond what would be allowed by applying principles of common law avulsion by restoring the former littoral owners' access-related rights and assuring that no structures will be built on the beach between the upland owner and the water.[273] The Act further protects the upland owner from uses of the beach inconsistent with littoral rights by providing that the state not permit uses that "may be injurious to the person, business, or property of the upland owner or lessee[ ]" and that local governments and "special districts are authorized and directed to enforce this provision through the exercise of their respective police powers."[274] There is no substantial impairment of rights because "upland owners may continue to access, use, and

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MHWL, and result in the extinguishment of riparian rights.

270. The Florida Supreme Court's reasoning in *Thiesen v. Gulf, Florida & Alabama Railway Co.*, should also be taken into account. 75 Fla. 28, 78 So. 491 (1918). There the railroad company filled in lands adjacent to the riparian's upland and built and operated docks, piers, and terminals, abrogating all of the upland owner's littoral rights. *Id.* at 492. The submerged lands had been transferred by the Florida legislature to the City of Pensacola and, subsequently, to the railway authority. *Id.* at 491, 492-93. The question was whether the upland owner could maintain an action against the railroad for deprivation of riparian rights. *Id.* at 491. The court held that the private company, acting for private gain, could not claim immunity for damages to riparian rights because of incidental benefits to commerce and navigation. *Id.* at 507. The court intimated that a state-sponsored project to improve navigation may not be required to compensate the landowner, presumably because of the navigation servitude or the public trust doctrine. *Id.* at 491-94. Arguments could be made that government-sponsored beach restoration does benefit commerce and the public trust uses of the shoreline, but does not substantially impair any riparian rights as in *Thiesen*. *Id.* at 501-507.

271. *STBR*, 998 So. 2d 1102, 1107-08 (2008).

272. *Id.* at 1115.

273. FLA. STAT. § 161.201 (2009).

274. *Id.*

view the beach and water as they did prior to beach restoration."[275] The preservation of these common law littoral rights under the BSPA provides a result far more fair than simply applying the common law of avulsion and concluding that the now land-locked upland owners have no littoral rights. The loss of the right to accretions is not a compelling reason for arguing that lands created seaward of the ECL should not continue to be owned by the state. In balancing the public and private interests, the equity of continued ownership of state-owned lands created by a state-funded project which not only preserves vital riparian rights related to access, but also provides protection of upland and enhances land values seems unquestionable.[276] Borrowing Justice Ehrlich's words in *Sand Key Associates, Ltd.*:

> [w]hen the state attempts to provide a public benefit, title to the sovereignty lands exposed in the process continue to belong to the state. Any other holding would lead to the absurd result that a state sponsored and approved project, undertaken to create a public benefit, would divest the state of its sovereignty lands and grant a private landowner a windfall at the expense of the public.[277]

Florida Supreme Court precedent also supports the constitutionality of the BSPA in the case of restoring eroded beaches. In *Bryant v. Peppe,* the court upheld state title of previously submerged sovereignty lands that emerged due to a natural avulsive event, a hurricane.[278] The court supported its finding by comparing the case to the "somewhat similar"[279] case of *Martin v. Busch,*[280] where the state caused the emergence of submerged sovereignty lands through artificial avulsion—the lowering of the water level of a lake.[281] *Martin* is even more on point for analysis of the BSPA, which, like *Martin,* involves *both*

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275. *STBR*, 998 So. 2d at 1115.

276. Even if upland owners add beach sand seaward of the MHWL at their own expense to enhance an *eroded* beach, the created beach continues to belong to the state. This long-accepted common law principle denies upland owners the right to appropriate state lands to their own use by filling. In *Sand Key Associates, Ltd.*, the Florida Supreme Court noted:

> that the common law has never allowed a waterfront owner to receive title to artificially created accretions when he caused those additions to his land by improvements. In this circumstance, title to the accreted land remains with the sovereign. The district court in *Medeira Beach* explains: "[S]ince land below the ordinary high water mark is sovereignty land of the state, to permit the riparian owner to cause accretion himself would be tantamount to allowing him to take state land." 272 So. 2d at 212.

512 So. 2d 934, 938 (Fla. 1987).

277. *Id.* at 946 (Ehrlich, J., dissenting).

278. Bryant v. Peppe, 238 So. 2d 836 (Fla. 1970).

279. *Id.* at 838.

280. Martin v. Busch, 93 Fla. 535, 112 So. 274 (1927).

281. *Bryant*, 238 So. 2d at 838-39.

artificial avulsion[282] and a state project to protect upland owners from property damage. *Martin* held that "[i]f to serve a public purpose, the state, . . . lowers the level of navigable waters so as to make the water recede and uncover lands below the original high-water mark, the lands so uncovered below such high-water mark, continue to belong to the state."[283] Although beach restoration projects cause the water to recede by raising the land, these projects along a critically eroded shoreline are clearly analogous to the circumstances in *Martin*. The court has held that the principle does not apply where a public project to reclaim eroded beaches causes "artificial accretion" to occur to off-site littoral lands.[284] But in the case of most current beach restoration projects, sand is pumped directly on the site, and the government action meets the criteria suggested by the district court of appeal in *Medeira Beach* that the emergence of submerged state lands must both be the intent of the project and the cause of the created beach to be analogous to *Martin*.[285]

In the circumstances of restoring a beach that is critically eroded due to erosion, application of the BSPA would be constitutional under general state common law principles as well as Florida Supreme Court precedent. Further, beach restoration under these circumstances may legitimately be considered *sui generis*, and the BSPA provides an appropriate balancing of the public interest and private property rights.

2. The Future of Beach Restoration and *STBR* in the U.S. Supreme Court

The U.S. Supreme Court has granted certiorari in *Stop the Beach Renourishment, Inc. v. Florida Department of Environmental Protection*[286] to address three questions. As presented, the first question accepted by the Court asks whether "[t]he Florida Supreme Court invoked 'nonexistent rules of state substantive law' to reverse 100 years of uniform holdings that littoral rights are constitutionally protected. In doing so, did the Florida Court's decision cause a 'judicial taking'

282. In his dissent in *Sand Key Associates, Ltd*., Justice Ehrlich did not agree that the artificial lowering of the lake level in *Martin* could be categorized as avulsion, but this conclusion led him to read the case more broadly than the majority, rather than restricting its application. 512 So. 2d at 946 n.6 (Ehrlich, J., dissenting).

283. *Martin*, 93 Fla. at 574, 112 So. at 287.

284. *Sand Key Assocs.*, 512 So. 2d at 941.

285. *See Medeira Beach Nominee*, 272 So. 2d 209, 212 (1973) (finding that accretion caused by a remote government project was not controlled by *Martin*, and asserting that "[i]n order for the instant case to be analogous, the groin project of the City of Madeira Beach would have had to be intended to produce the accretion which occurred and the groin system would have to be in fact the cause of the accretion.").

286. Stop the Beach Renourishment, Inc. v. Fla. Dep't of Envtl. Prot., 129 S. Ct. 2792 (2009).

proscribed by the Fifth and Fourteenth Amendments to the U.S. Constitution?"[287] The answer to this first question is likely to have the most effect on beach restoration, boundaries, and public access, and will be the focus of this discussion.[288]

a. The Concept of Judicial Taking

It is clearly resolved that the legislative and executive branches fall within the scope of the Fifth and Fourteenth Amendments of the Constitution requiring due process and just compensation for the "taking" of property. Less clear is whether courts are subject to the Constitution's taking provisions and whether decisions of state courts are subject to review by federal courts to determine whether their decisions are within these constitutional bounds.[289] In particular, can a court ruling "go too far" in reinterpreting state property law so that compensation is due? [290]

In the 1897 case, *Chicago, Burlington & Quincy Railroad v. City of Chicago*, the Supreme Court held that Fourteenth Amendment due process provisions make the takings and compensation protections of the Constitution applicable to the states[291] and announced that state court judgments could "take" property.[292] By the 1930s, however, the "concept of judicial takings seemed dead."[293]

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287. Brief of Petitioner at i, Stop the Beach Renourishment, Inc. v. Fla. Dep't of Envtl. Prot., No. 08-1151, 2009 WL 2509219 (U.S. 2009) [hereinafter Petitioner's Brief].

288. The latter two questions in the case will not be addressed in the scope of this section's discussion. Question two asks whether "the Florida Supreme Court's approval of a scheme that eliminates constitutional littoral rights and replaces them with statutory rights [is] a violation of the Due Process and Takings Clauses of the Fifth and Fourteenth Amendments to the U.S. Constitution?" *Id.* This issue seems to be a *red herring* and it is unlikely that a viable issue is presented. Littoral rights are not created by the Constitution. *See* Bd. of Regents of State Colls. v. Roth, 408 U.S. 564, 577 (1972). They exist as background principles of state property law. *Id.* Legislatures can always codify common law property rights or even create new statutory property rights. The fact that property rights exist as a matter of statutory law, rather than common law, makes them no less subject to the protections of the Constitution.

Question three asks whether "the Florida Supreme Court's approval of a scheme that allows an executive agency to unilaterally modify a private landowner's property boundary without . . . a judicial hearing, or the payment of just compensation [is] a violation of the Due Process [and Takings] Clauses of the Fifth and Fourteenth Amendments to the U.S. Constitution?" Petitioner's Brief, *supra* note 287, at i. If the BSPA provisions do not meet due process requirements, the Act can simply be amended to meet necessary requirements. Additional requirements may, however, substantially affect the timeline and cost when beach restoration is several miles long and involves potentially hundreds of owners.

289. *See generally* Barton H. Thompson, Jr., *Judicial Takings*, 76 VA. L. REV. 1449 (1990). Thompson's article is considered the seminal article on this subject.

290. *See* Pa. Coal Co. v. Mahon, 260 U.S. 393, 415 (1922) (announcing the principle that a non-confiscatory government regulation of property "goes too far" in diminishing the value of property and can constitute a taking requiring just compensation under the Fifth Amendment). Justice Holmes' conclusion was that a regulation could amount to the equivalent of an act of eminent domain. *Id.*

291. Chi., Burlington, & Quincy R.R. Co. v. City of Chi., 166 U.S. 226, 235-37 (1897).

292. *Id.* at 241.

293. Thompson, *supra* note 289, at 1467.

The modern reincarnation of the doctrine appeared in the concurring opinion of Justice Stewart in *Hughes v. Washington* in 1967.[294] The case involved the Washington Supreme Court's finding that the state's 1889 constitution fixed the littoral boundary at the MHWL at the time of its adoption, cutting off the littoral rights of Mrs. Hughes, oceanfront property owner.[295] The majority held that federal law must be applied to interpret Mrs. Hughes' title, which was derived from a federal grant.[296] Federal law recognized her right to the substantial beach that had accreted to her littoral property.[297] Justice Stewart argued that the case should be decided under state law,[298] and that:

> [t]o the extent that the decision of the Supreme Court of Washington . . . arguably conforms to reasonable expectations, [it should be accepted] as conclusive. But to the extent that it constitutes *a sudden change in state law, unpredictable in terms of the relevant precedents*, no such deference would be appropriate."[299]

He went on to conclude that the "Due Process Clause of the Fourteenth Amendment forbids such confiscation by a State, no less through its courts than through its legislature . . . ."[300]

More recently, Justice Scalia has expressed his openness to consideration of the judicial takings concept in the context of state courts' use of background principles of law to insulate regulations from takings claims. Justice Scalia authored the majority opinion in *Lucas v. South Carolina Coastal Council*, which held that a regulation that takes all value of land is a categorical taking unless the prohibited use of the property did not inhere in the owner's title based on background principles of state property law.[301] In his scathing dissent to the denial of certiorari in *Stevens v. City of Cannon Beach,* Justice Scalia clearly accepted the proposition that a cause of action for taking could arise from the Oregon court's invoking a "new-found 'doc-

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294. Hughes v. Washington, 389 U.S. 290, 298 (1967).
295. *Id.* at 291.
296. *Id.* at 292.
297. *Id.* at 292-94.
298. *Id.* at 296-97 (Stewart, J., concurring).
299. *Id.* at 296 (Stewart, J., concurring) (emphasis added).
300. *Id.* at 298 (Stewart, J., concurring).
301. Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1029 (1992).; *see also* W. David Sarratt, *Judicial Takings and the Course Pursued*, 90 VA. L. REV. 1487, 1494 n.31 (2004). Sarratt explains as follows:

> For the *Lucas* loophole to be implicated, the state court must at least purport to be applying an old, background principle of property law. For the judicial takings problem to arise, the rule, whether claimed to be new or old, must simply originate from the state courts and somehow upset settled expectations in property rights.

Id.

trine of custom'" to prohibit an owner's construction project that would interfere with the public's use of the beach.[302] He stated that

> . . . a State may not deny rights protected under the Federal Constitution . . . by invoking nonexistent rules of state substantive law. Our opinion in *Lucas,* for example, would be a nullity if anything that a state court chooses to denominate 'background law'— regardless of whether it is really such— could eliminate property rights.[303]

As explained in the next section, *STBR* may not be the most appropriate case, however, for further development of this principle.

The argument for recognizing a court's decision reinterpreting property to the extent that it constitutes a taking is straightforward: "[J]udicial changes in property law raise the same concerns as legislative and executive takings[,]"[304] so courts should be subject to the same constitutional restrictions as the other branches of government. But although Barton Thompson's seminal article on judicial takings proposed that courts should not be exempt from constitutional takings requirements,[305] most commentators[306] and courts[307] reject the argu-

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302. Stevens v. City of Cannon Beach, 510 U.S. 1207, 114 S. Ct. 1332, 1335 (1994) (Scalia, J., dissenting from denial of certiorari).

303. *Id.* (stating "a State cannot be permitted to defeat the constitutional prohibition against taking property without due process of law by the simple device of asserting retroactively that the property it has taken never existed at all.") (quoting Hughes v. Washington, 389 U.S. 290, 296-97 (1967) (Stewart, J., concurring)).

304. Thompson, *supra* note 289, at 1544.

305. *See id.*

306. Sarratt's review of the literature cites, *e.g.*, Williamson B.C. Chang, *Unraveling* Robinson v. Ariyoshi*: Can Courts "Take" Property?*, 2 U. HAW. L. REV. 57, 90-91 (1979), Bradford H. Lamb, Robinson v. Ariyoshi*: A Federal Intrusion Upon State Water Law*, 17 ENVTL. L. 325, 353 (1987), and Roderick E. Walston, *The Constitution and Property: Due Process, Regulatory Takings, and Judicial Takings*, 2001 UTAH L. REV. 379, 381 (2001). Sarratt, *supra* note 301, at 1495 n.33. He also points out Louis Kaplow, *An Economic Analysis of Legal Transitions*, 99 HARV. L. REV. 511, 517 n.10 (1986) and Joseph L. Sax, *Takings and the Police Power*, 74 YALE L.J. 36, 51-52 (1964), as assuming that the takings doctrine does not apply to the judiciary. *Id.* In addition to Thompson and Sarratt, other commentators arguing the existence of a judicial takings doctrine include David J. Bederman, *The Curious Resurrection of Custom: Beach Access and Judicial Takings*, 96 COLUM. L. REV. 1375, 1378-79 (1996), and John Martinez, *Taking Time Seriously: The Federal Constitutional Right to be Free from "Startling" State Court Overrulings*, 11 HARV. J.L. & PUB. POL'Y 297, 299 (1988).

307. *See* Sarratt, *supra* note 301, at 1510 (noting that Justice Stewart's concurrence "has never been followed by a majority of the Court, and the Court has since declined offers to take up the issue again"), *and* J. Nicholas Bunch, *Takings, Judicial Takings, and Patent Law*, 83 TEX. L. REV. 1747, 1754 (2005) (remarking "[a]lthough the argument [in favor of judicial takings] has been raised in the courts, it has been rejected time and time again.") (citations omitted). In a recent Federal Claims Court case, the court stated:

> [r]esearch reveals only one case holding that a judicial decision that overturned prior case law could be considered a taking, *Robinson v. Ariyoshi*, 753 F.2d 1468, 1474 (9th Cir. 1985). That case, however, was subsequently vacated by the Supreme Court on other grounds, 477 U.S. 902, 902, 106 S.Ct. 3269, 91 L.Ed.2d 560 (1986), and eventually dismissed as unripe, 887 F.2d 215, 219 (9th Cir. 1989).

ments for recognition of a judicial takings concept. The arguments for rejecting the concept are more nuanced, but a fundamental issue is simply that the courts do have eminent domain power and the logic for extending the compensation requirement to regulatory taking does not exist.[308] A complete discussion is beyond the scope of this article, but a recent Federal Claims Court case summarized the concerns of federal courts about recognizing the concept of a judicial taking, as follows:

> As Justice Brandeis said famously in *Brinkerhoff-Faris Trust & Sav. Co. v. Hill*, 281 U.S. 673, 680, 50 S.Ct. 451, 74 L.Ed. 1107 (1930), 'the mere fact that a state court has rendered an erroneous decision on a question of state law, or has overruled principles or doctrines established by previous decision on which a party relied, does not give rise to a [takings] claim under the Fourteenth Amendment . . . .' This rule has been applied to both state and federal judgments and orders. At least at one level of abstraction, these decisions proceed from the theory that courts do not create or change the law, but merely interpret and administer the Constitution, the law as declared by the legislature, and the common law. As such, 'the constitutional obligation not to 'take' property does not fall equally on all branches.' Roderick E. Watson, 'The Constitution and Property: Due Process, Regulatory Takings, and Judicial Takings,' 2001 Utah L.Rev. 379, 438 (2001). Indeed, were the court to accept plaintiff's syllogism, it would constantly be called upon by disappointed litigants to act as a super appellate tribunal reviewing the decisions of other courts to determine whether they represented substantial departures from prior decisional law. *See* Reynolds [v. Georgia], 640 F.2d at 703 (rejecting claim that a decision of the Georgia Supreme Court effectuated a taking, noting that federal courts are not 'designed to serve as additional appellate reviewers of state court judgments') . . . Such an approach, fortunately, is untenable.[309]

b. Is There a "Taking"?

In order to apply the concept of a judicial taking, there must first be a taking of property that falls within the prohibitions of the Fifth

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Brace v. United States, 72 Fed. Cl. 337, 359 n.35 (2006), *aff'd per curiam*, 250 F. App'x. 359 (2007), *cert. denied*, 128 S. Ct. 1658 (2008).

308. *See* DAVID A. DANA & THOMAS W. MERRILL, PROPERTY TAKINGS 229-30 (Foundation Press 2002).

309. Brace, 72 Fed. Cl. at 359 (citations omitted).

and Fourteenth Amendments. But "[s]urely it must be conceded as a general proposition that the law of real property is, under our Constitution, left to the individual States to develop and administer."[310] If the Supreme Court is to take the extreme step of declaring that a state supreme court's interpretation of state property law is a constitutional taking, such an action would seem to be appropriate only in cases where the state court has made extremely startling pronouncements that both egregiously deviate from expectations of property rights created by previous law *and* that substantially affect the value of the property or authorize state action that would fall into a category recognized as a *per se* taking.[311] In *Hughes v. Washington*, Justice Stewart's concurrence argued that a physical appropriation of a large expanse of beach that had accreted over almost a century would have been a taking.[312] In *City of Cannon Beach*, Justice Scalia argued that the Oregon Supreme Court's decision "open[ed] private property to public use [which] constitutes a taking[.]"[313] The *STBR* case does not involve the acquisition or physical occupation by the state of any land[314] nor does it open up private property to the public.

If the Florida Supreme Court's determinations—that the right to accretion is not relevant in the context of beach restoration and that

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310. Hughes v. Washington, 389 U.S. 290,, 295 (1967) (Stewart, J., concurring).

311. In *Lingle v. Chevron U.S.A., Inc.*, Justice O'Connor explained the scope of categorical or *per se* takings as follows:

> Our precedents stake out two categories of regulatory action that generally will be deemed *per se* takings for Fifth Amendment purposes. First, where government requires an owner to suffer a permanent physical invasion of her property—however minor—it must provide just compensation. A second categorical rule applies to regulations that completely deprive an owner of '*all* economically beneficial us[e]' of her property.

544 U.S. 528, 538 (2005) (citations omitted). Justice Rehnquist and Justice Scalia have also included the right to exclude (perhaps a subcategory of a "permanent physical invasion" or including an affirmative public easement as a permanent physical invasion) in the scope of *per se* takings. *See* Kaiser Aetna v. United States, 444 U.S. 164, 176, 179-80 (1979), *and* Nollan v. Cal. Coastal Comm'n, 483 U.S. 825, 831-32 (1987).

312. Hughes v. Washington, 389 U.S. at 294-98.

313. Stevens v. City of Cannon Beach, 510 U.S. 1207, 1207 (1994) (citations omitted).

314. Although, the petitioners argue the "changing of the property boundary from the MHWL to the ECL is a physical taking [and that] recording of the ECL change[s] the legal descriptions in STBR's members' deeds and physically divests them of all littoral rights." Petitioner's Brief, *supra* note 287, at 18. Because the appeal is of an "on its face" challenge to the BSPA, the Florida Supreme Court's analysis was based on the circumstance of the ECL being set at the pre-avulsive MHWL and not changing the boundary in a manner that would divest the upland owner of any land. There is no record to support an "as applied" claim that the ECL is landward of the petitoners' boundaries and that the state is physically occupying private land. Florida Supreme Court precedent clearly provides that littoral rights "give no title to the land under navigable waters" that could be implicated. Brickell v. Trammell, 77 Fla. 544, 561, 82 So. 221, 227 (1919). The idea of *physical* divestment of intangible rights simply has no precedent; a taking by permanent physical occupation requires that the government "directly invade[ ] and occup[y] the owner's property." Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419, 436 (1982). For reasons of history and tradition, the Court has found this sort of actual, physical and permanent intrusion on private land a "special kind of injury" to owner, warranting protection under a categorical rule. *Id.*

the right to touch the water is merely a corollary of the right of access, which is preserved by the BSPA—do not involve the kind of changes in the law that fall into any category of *per se* taking, what kind of takings analysis should the Supreme Court apply to the question of whether there has been a judicial taking?[315] Should the analysis be based on the degree of interference with expectations or the amount of the property's diminution of value? Or should the U.S. Supreme Court simply continue to defer to state supreme courts when their judgments are even arguably within the legitimate scope of application and interpretation of state property law principles entrusted to those courts? If the Supreme Court wishes to carve out an exception in the case of dramatic changes in property law that amount to *per se* takings, this hardly seems to be the appropriate case.

STBR was the Florida Supreme Court's first opportunity to analyze riparian rights in the context of beach restoration under the BSPA. It was entirely appropriate for the court in this matter of first impression[316] to do what courts do in applying and interpreting the law to determine whether the common law right of accretion, the only right not specifically preserved by the Act, had any relevance in the context of the BSPA. The court applied a reasoned analysis of why the concerns that lead to the application of the doctrine were not present in the state's beach restoration scheme and found that the right was not implicated.[317] Justice Stewart stated that a state court decision is entitled to deference so long as it "conforms to reasonable expectations."[318] Do upland owners seriously expect state and federal taxpayers to spend millions of dollars to restore beaches primarily for their exclusive benefit? Several facts lead to the conclusion that there is nothing startling in the court's determination that the right to accretions was not taken. Such facts include: that the Florida Court could have used other analyses based on traditional legal principles to reach the same conclusion concerning the effect of the BSPA on litto-

315. In *STBR*, the Court could possibly base a *taking* on a determination that the Florida Court had previously said (albeit in dicta) that the right to future accretions is a vested interest and that the BSPA and the court's decision takes away that individually identified vested right. But an approach that does not look at the significance of the diminution of property rights on the whole of the property or consider the policies furthered by the change seems inconsistent with both takings jurisprudence and the analysis courts traditionally use in overruling precedent. *See, e.g.*, Oregon v. Corvallis Sand & Gravel Co., 429 U.S. 363, 381-82 (1977) (overruling Bonnelli Cattle Co. v. Arizona, 414 U.S. 313 (1973), in which the Supreme Court overruled its prior decision that federal law, rather than state law, applied to determine ownership of accreted property along inland waters). The Court took into account "institutional considerations," including the degree of interference with the expectations of property owners, the extent to which it would interfere with settled titles, and that the constitutional sovereignty of states was involved. *Id.*

316. One commentator has noted that "before a judicial decision can raise Takings Clause concerns, it must affect property interests founded upon settled precedent. No one reasonably expects the first interpretation of a statute to be definitive or conclusive." Bunch, *supra* note 307, at 1755.

317. *See supra* notes 210-14 and accompanying text.

318. Hughes v. Washington, 389 U.S. 290, 296 (1967) (Stewart, J., concurring).

ral rights,[319] that the BSPA had embodied the principle since 1986 without challenge on the issue,[320] and that courts in other states have decided beach restoration cases to have the same effect.[321]

Undoubtedly, the Florida Supreme Court has stated in *dicta* that the right to accretions includes the right to future alluvion. *State v. Florida National Properties,* the case relied upon by *STBR* for this position, based that conclusion in important aspects, however, on the mistaken conclusion that "Federal, not State, law governs the resolution of boundary line disputes between the sovereign and private owners whose lands border navigable bodies of water."[322] Reliance on this case is consequently problematic. Because all of Florida's cases involving the right to accretion have involved the ownership of actually accreted land, the language concerning future alluvion as a vested right is *dicta*.

The right of contact with the water[323] has been sporadically mentioned as a riparian or littoral right in Florida Supreme Court cases in connection with the right of access.[324] Even a cursory analysis of this statement demonstrates that it cannot be taken literally. Tidal waters will reach the MHWL boundary of littoral land only half of the time daily, at best, and on a seasonal basis, waters may not reach the MHWL for months at a time. Since the MHWL is based on a nineteen-year average, there can actually be years when the littoral owner

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319. For example, the court could have based the determination that the right to accretion is not implicated because the process of restoration is avulsion and cuts off the littoral right to accretions.

320. It is clear that mere enactment of a law does not make it a "background principle" as the concept is used in Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1029 (1992). *See* Palazzolo v. Rhode Island, 533 U.S. 606 (2001). The *Palazzolo* Court did not decide that a legislative enactment could not become a background principle. *Id.* at 630 (stating "[w]e have no occasion to consider the precise circumstances when a legislative enactment can be deemed a background principle of state law . . . .").

321. For example, in Mississippi State Highway Commission v. Gilich, the Mississippi Supreme Court held that when the government artificially recovers public trust lands to build beaches, it does not "render lands once a part of the public trust, the property of private land owners." 609 So. 2d 367, 375 (Miss. 1992). By confirming state ownership of beach created between the upland and the sea, the court cut off any right to accretion. The Mississippi Supreme Court also noted, however, that because the shoreline was still there, the Giliches could continue to exercise their littoral rights and "are not entitled to compensation for any loss of littoral rights." *Id.* at 375-76. *See also* Slavin v. Town of Oak Island, 584 S.E.2d 100 (N.C. Ct. App. 2003) (renourished beach created by the Corps of Engineers vested in the state [leaving no waterfront for accretions to occur]), *cert. denied* 590 S.E.2d 271 (N.C. 2003).

322. State v. Fla. Nat'l Props., 338 So. 2d 13, 16-17 (Fla. 1976). The court in *Florida National Properties* applied *Bonelli Cattle Co. v. Arizona*, 414 U.S. 313 (1973). However, *Bonelli* was subsequently overruled to re-establish state law as controlling in the case of interpreting fresh water boundaries of a federal land grant. Oregon v. Corvallis Sand & Gravel Co., 429 U.S. 363, 371-72 (1977). There was also no indication in *Florida National Properties* that land traced to a federal grant was involved. 338 So. 2d at 16.

323. In the brief for the Supreme Court, *STBR* restated its claim as the littoral right to contact with the MHWL. Petitioner's Brief, *supra* note 287, at 24.

324. *See Sand Key Assocs.*, 512 So. 2d 934, 936 (Fla. 1987) (stating that riparian rights include "the right of access to the water, including the right to have the property's contact with the water remain intact . . . .").

must cross sovereignty lands to reach the sea. The BSPA specifically provides that the beach created seaward of the ECL is also held as sovereignty lands,[325] and as the Florida Supreme Court pointed out in *STBR*, "the renourished beach may be wider than the typical foreshore, but the ultimate result is the same."[326] The right to contact relates to protection of access by prohibiting intervening ownership between upland property and sovereignty lands. This is not an issue under the BSPA.

c. The Consequences of Finding a Judicial Taking

Oddly enough, a finding by the Supreme Court that the BSPA constitutes a taking of the right to accretions or other riparian rights will likely have little effect on beach restoration in the state. The "recapture" provisions that the Florida legislature passed in 2007 as an amendment to the BSPA require that compensation for a taking in connection with a beach restoration project must include consideration of the enhanced value of the upland property.[327] As a general proposition, the increase in value of property that was previously endangered by erosion and that would be protected and enhanced by a two-hundred-foot wide beach will offset the value of the right to accretions for property on a critically eroding beach. Reminiscent of the Supreme Court's decision in *Loretto v. Teleprompter Manhattan CATV Corp.*,[328] a far-reaching principle could be established in a case where application of the principle has little practical effect on the case at hand.[329]

There are much broader consequences for the coasts, however, than just the effect of such a finding on Florida's BSPA. Statutes and court decisions in other states will find the determination of state ownership of restored beaches subject to review as regulatory or judicial takings, potentially upsetting state policies on beach management[330] and leading to the need to reassess responses to climate

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325. Title to all land seaward of the ECL is "deemed to be vested in the state by right of its sovereignty . . . ." FLA. STAT. § 161.191 (2009).

326. *STBR*, 998 So. 2d 1102, 1119-20 (2008).

327. FLA. STAT. § 161.141 (2009). *See supra* note 251 and accompanying text.

328. Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419 (1982).

329. In *Loretto*, the Supreme Court established the principle that any government-authorized permanent physical intrusion, no matter how insignificant, is a taking. *Id.* at 434-35. After the case was remanded, the Commission on Cable Television set the compensation at $1 as sufficient because it concluded that the value of the access to cable television actually increased the building's value. The New York Court of Appeals sustained statutory provisions allowing the Commission to set the compensation. Loretto v. Teleprompter Manhattan CATV Corp., 446 N.E.2d 428, 432 (N.Y. 1983).

330. A 2000 NOAA study found that all of the Atlantic and Gulf states, except Maine and Maryland, and California on the West coast have beach nourishment policies. *See* CASEY HEDRICK, NAT'L OCEANIC & ATMOSPHERIC ADMIN., TECHNICAL DOCUMENT NO. 00-01, STATE,

change and sea-level rise. The independence of state courts in defining the law of their coasts will be at issue at a time when the law needs to be able to respond to these new challenges of the twenty-first century.

Of particular importance to the coast is judge-made law related to the public trust doctrine. Its evolution is dependent on the ability of state courts to respond to the needs of society in relation to the use, enjoyment, and protection of the seas and shores. Additionally, public beach access, too, has depended on the courts to "find" law that can protect the public's right to use the shore. Commentators have often cited these particular issues as areas where state courts need to be constrained,[331] and use by courts of doctrines like custom are likely targets for judicial takings challenges. The coasts are clearly identified targets of proponents of the concept of judicial taking.

VI. CONCLUSION

Henry David Thoreau once said, "The sea-shore is a sort of neutral ground, a most advantageous point from which to contemplate this world."[332] No more a *neutral ground*, the coasts are the venue for the drama of property law that has been playing out for the last few decades. From *Nollan v. California Coastal Commission*[333] to the acceptance of certiorari in *Stop the Beach Renourishment, Inc. v. Florida Department of Environmental Protection*,[334] the Supreme Court has chosen the nation's increasingly scarce sandy beaches as the stage for defining the constitutional limits of private property protection. For the most part, the majority of the Court has disregarded the fact that coastal land has special characteristics in that its shores are unstable and dynamic;[335] because its ocean boundaries are indeterminable to laymen–both littoral owners and beach users; because public interests play a more important role in defining the rights of littoral owners due to the interface with public trust lands and waters; and because the rights of both the littoral owner and the public are as fragile as the shoreline and the beaches when the ocean encroaches on the shore. Of the justices finding a categorical taking in *Lucas*, only Justice Kennedy, in his concurring opinion, seemed to intimate a sensi-

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TERRITORY, AND COMMONWEALTH BEACH NOURISHMENT PROGRAMS: A NATIONAL OVERVIEW, Table 1 at 7 (OCRM Program Policy Series, March 2000).

331. *See, e.g.*, Thompson, *supra* note 289, at 1480 n.125 and 1507-08; and Sarratt, *supra* note 301, at 1487-88, 1492, 1511-12.

332. HENRY DAVID THOREAU, CAPE COD 131 (Dover Publications 2004).

333. Nollan v. Cal. Coastal Comm'n, 483 U.S. 825 (1987).

334. Stop the Beach Renourishment, Inc. v. Fla. Dep't of Envtl. Prot., 129 S. Ct. 2792 (2009).

335. In fact, it is hard to even characterize barrier islands and spits as *land* since they are primarily unaggregated piles of sand that are constantly moving.

bility to the differences of coastal property.[336] In *STBR*, it is important for the U.S. Supreme Court to recall, however, that the Florida Supreme Court has not ignored the unique nature of the coasts: "The beaches of Florida are of such a character as to use and potential development as to require separate consideration from other lands with respect to the elements and consequences of title."[337] It is not "startling" that the Florida court carefully balanced the rights of private property owners and the public in analyzing the effect of the BSPA on common law rights.

Florida's Beach and Shore Preservation Act[338] addresses the problem of critically eroded beaches that have reached emergency proportions in the state.[339] The Act does not deviate substantially from common law principles relating to littoral rights and completely protects the right of access that all other littoral rights are recognized to protect. The Act even promotes peaceful use of beaches by providing the upland owner and beach user some degree of certainty as to the boundary between private lands and sovereignty lands open to public use. Unless millions of dollars per mile of public funds are to be expended to build private beaches, as a simply practical matter, the right to accretions is abrogated because the upland owner will no longer have land periodically inundated by water to which accretions can attach.[340] Is this result *startling*?

The response of government to manage beaches by restoration cannot be addressed as fully and fairly[341] by common law principles concerning littoral rights as it is through the BSPA. High rates of unabating, background beach erosion, coastal storms, sea-level rise, the concentration and vulnerability of coastal populations, and the importance of beaches to the public trust and the state's economy have led

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336. Justice Kennedy stated:

> In my view, reasonable expectations must be understood in light of the whole of our legal tradition. The common law of nuisance is too narrow a confine for the exercise of regulatory power in a complex and interdependent society. The State should not be prevented from enacting new regulatory initiatives in response to changing conditions, and courts must consider all reasonable expectations whatever their source. The Takings Clause does not require a static body of state property law; it protects private expectations to ensure private investment. I agree with the Court that nuisance prevention accords with the most common expectations of property owners who face regulation, but I do not believe this can be the sole source of state authority to impose severe restrictions. *Coastal property may present such unique concerns for a fragile land system that the State can go further in regulating* its development and use than the common law of nuisance might otherwise permit.

Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1035 (1992) (Kennedy, J., concurring) (citation omitted) (emphasis added).

337. City of Daytona Beach v. Tona-Rama, Inc., 294 So. 2d 73, 77 (Fla. 1974).

338. FLA. STAT. §§ 161.011-161.45 (2009).

339. *Id.* § 161.088.

340. As an even more practical matter, a critically eroding beach facing a century of sea-level rise is unlikely to have prospects of any land accreting to its boundaries in any event.

341. Recall that traditional application of the doctrine of avulsion could cut off all littoral rights.

the state to its current policy on beach restoration and management. The BSPA was enacted to address issues affecting littoral owners that are not directly addressed by common law principles and provides benefits to littoral owners of critically eroding beaches that neither nature nor the common law would provide. State courts must have the independence to interpret whether and how common law property rights apply to government responses and adaptations, like the BSPA, that will be essential to the future of the coasts as landward migration of the shores continues and accelerates with sea-level rise. What is "startling" is that the future of the coasts, the rights of the public to use beaches, and even the continued existence of the current shoreline properties could potentially be affected by the claims of a few littoral owners whose primary complaint purports to be that they are deprived of a right to accretions on a critically eroding beach and who are unlikely to receive more than nominal compensation if declared winners in the case.[342]

The fixing of an established boundary on restored beaches between private and sovereignty land by the BSPA is not a panacea that will relieve all controversy. It will, however, unequivocally establish areas where the public may use the beach without interference. It should be noted, though, that littoral property owners are not always acting unreasonably, especially when members of the public abuse the right to use the beaches. The sense of stewardship that private ownership encourages must also be part of the ethic of use of public trust lands. Local governments must also accept responsibility for regulating and managing the use of beaches and access issues *before* conflicts arise. Beaches, like the boundaries discussed early in this

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342. In a recent case, dissenting Judge Wiener described the context of a Texas property rights case with similar implications, as follows:

> Although undoubtedly unintentionally, the panel majority today aids and abets the quixotic adventure of a California resident who is here represented by counsel furnished *gratis* by the Pacific Legal Foundation. (That non-profit's published mission statement declares that its raison *d'être* includes 'defend[ing] the fundamental human right of private property,' noting that such defense is part of each generation's obligation to guard 'against government encroachment.') The real *alignment* between Severance and the Pacific Legal Foundation is not discernable from the record on appeal, but the real *object* of these Californians' Cervantian tilting at Texas's Open Beaches Act ('OBA') is clearly not to obtain reasonable compensation for a taking of properties either actually or nominally purchased by Severance, but is to eviscerate the OBA, precisely the kind of legislation that, by its own declaration, the Foundation targets. And it matters not whether Ms. Severance's role in this litigation is genuinely that of the fair Dulcinea whose distress the Foundation *cum* knight errant would alleviate or, instead, is truly that of squire Sancho Panza assisting the Foundation *cum* Don Quixote to achieve its goal: Either way, the panel majority's reversal of the district court (whose rulings against Severance I would affirm) has the unintentional effect of enlisting the federal courts and, via certification, the Supreme Court of Texas, as unwitting foot-soldiers in this thinly veiled Libertarian crusade.

Severance v. Patterson, 566 F.3d 490, 504 (5th Cir. 2009) (Wiener, J., dissenting).

paper, can be part of what creates a sense of community, rather than a source of controversy.

AN ALTERNATIVE STRATEGY FOR WATER SUPPLY AND WATER RESOURCE DEVELOPMENT IN FLORIDA

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Preliminary Statement and Disclaimer:

This paper is presented solely as the ideas, suggestions and opinions of the author. It does not, nor does it intend to, portray any positions or policies of the Southwest Florida Water Management District or any of its employees or board members. It is not a definitive legal memorandum of statutory interpretation but merely an informal analysis used as a guide to suggest a direction for water supply and water resource development. It does not represent any policy or direction of the State Department of Environmental Protection or any other executive branch entity.

It is also not intended to be a rigid or formulaic approach to new water supply or resource development. It is intended to initiate a meaningful discourse that may lead to a vision for Florida's future water supply development. No approach or suggestion is intended to be an exhaustive discourse on the subject, nor is it suggested as the optimal solution.

Finally, this paper is not intended as a guide to retail water rate setting. All ideas and suggestions concerning rate design and rate setting are directed toward wholesale rates. All socially engineered and lifeline rates at the retail level are not affected, constrained or designed in this paper.

I. STATEWIDE PLANNING AND IMPLEMENTATION OF WATER SUPPLIES?

Recommendations have been made regarding the need to centralize and administer water supply development on a statewide basis.[1] The argument discounts the existing statewide water policy found in Section 62-40.310 Florida Administrative Code and minimalizes the state's five water management districts' role in the development of water resources.[2] The Department of Environmental Protection (DEP) is the statewide agency charged with "the administration of this chapter (373) at the state level."[3] The Secretary, the Executive Directors, and Chairpersons of each water management district meet regularly and have conference calls to coordinate the state's efforts at water management. The Department has the exclusive authority to ensure that rules of the water management districts are consistent with the state water policy.[4]

To fund these contemplated statewide programs, it has been suggested that special taxing districts be created.[5] Water management districts are special districts authorized to levy ad valorem taxes pursuant to article VII, section 9 of the Florida Constitution. Viewed objectively, this suggestion–to create new special districts with taxing authority–would remove a significant funding source from the water management districts, take the districts out of their current statutory role of developing water resources, and place the oversight and planning function within a statewide agency other than the DEP. The purpose of this paper is to explore an alternative that meets state and local needs for constructing, funding, and administering the water resource and water supply development on a regional basis.

A. Water Supply Should Be Treated As a Utility Service

The provision of potable water and the collection of wastewater are utility services. As such, the price paid for the services should place the cost of providing those services upon the source of the costs, traditionally the end user. Florida local jurisdictions seek to subsidize the construction of utility infrastructure through the re-

1. FLA. S. COMM. ON ENVTL. PRESERVATION & CONSER., INTERIM REPORT 2010-114, 10 (Sept. 2009), *available at* http://www.flsenate.gov/data/Publications/2010/Senate/reports/interim_reports/pdf/2010-114ep.pdf; Charles Fletcher, *Florida Water Resource Development: A Call for Statewide Leadership*, 18 J. LAND USE & ENVTL. L. 113, 141 (2002).

2. FLA. STAT. § 373.026(1) (2009).

3. *Id.*

4. Southwest Fla. Water Mgmt. Dist. v. Charlotte County, 774 So. 2d 903, 910 (Fla. 2d DCA 2001).

5. Fletcher, *supra* note 1, at 143.

ceipt of federal grants, cooperative funding, and subsidies from federal, state, and local sources. In light of the proposed federal bailout plans, federal funding may be forthcoming for the development of water supply projects on some significant short-term basis for economic stimulus purposes.[6] The Governor's office is accordingly projecting $22.3 million as "Enhanced Funding for Drinking Water" under the DEP's State Revolving Fund for fiscal year (FY) 2008–2009, $65.77 million for FY 2009–2010, and for FY 2010–2011 the amount is yet to be determined.[7] Certainly these funds should be used to reduce the local and state governmental outlays for capital projects.

Nevertheless, the rates set for wholesale supplies should recover the total costs, on a life-cycle basis, including all subsidies, and those funds should be retained in reserves for future capital outlays.[8] Establishing rates below full cost recovery over the life cycle of the capital projects will likely cause long-term system failures due to inadequate maintenance and replacement practices and all of the environmental compliance costs of new water supplies. For example, if priced to reflect the full cost of production, water usage for lawn watering from potable supplies would be less pervasive[9] and the rate of growth for new water supplies should slow. There are also minimal feedback mechanisms for wastewater charges since wastewater typically is not metered.[10] As a further source of funding to meet future wastewater treatment facility charges and to construct additional tertiary treatment facilities, the full cost recovery of collection, treatment, disposal, maintenance, replacement, and environmental compliance costs should be included in all wastewater charges.

Local government should strive to establish rates that accurately reflect total costs for wastewater treatment and disposal. Statewide planning for water supply and water resource development is impractical in that it cannot reflect the complex local na-

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6. Florida's DEP received more than $850 million in requests for $85 million of American Recovery and Reinvestment Act of 2009 (ARRA) drinking water project funds and more than $1.5 billion in requests competing for $132.3 million in ARRA wastewater and stormwater funding. Florida Department of Environmental Protection, *DEP Awards City of Oldsmar $3 Million for Water Supply Project*, http://www.dep.state.fl.us/secretary/news/2009/09/0903_02.htm (last visited Mar. 15, 2010).

7. The Florida Office of Economic Recovery, State & Local Projects: Clean Water State Revolving Fund (Enhanced Funding), http://flarecovery.com/about/state-and-local-projects/infrastructure/drinking-water-state-revolving-fund-enhanced-funding (last visited Mar. 15, 2010).

8. *See* Marc Santora & Rande Wilson, *Water Infrastructure in Crisis,* PUB. MGMT., Dec. 2008, at 17.

9. To truly protect the resource, use of private irrigation wells as a source substitution for lawn watering has to be restricted when appropriate.

10. Charges are generally calculated as a percentage of total potable water metered times a rate per thousand.

ture of the resource constraints incurred by individual utilities.[11] For instance, each of the 419 watershed basins in the Southwest Florida Water Management District (SWFWMD) alone has different retention and runoff characteristics, confining layers, water tables, sinkhole frequencies, transmissivity coefficients, and other hydrologic and geologic features. Such factors affect the ability of an area to sustain various water supply development projects.

Given that a water management district must balance the needs of consumers and the natural systems, developing water resources at just the regional level is a difficult task. Such a task only becomes more complicated when it is undertaken by a statewide entity with no reliable revenue source, especially in Tallahassee where predatory competition between regional entities can be expected. State agencies such as DEP and the Department of Transportation have regional offices to decentralize the oversight responsibility, allowing decisions regarding local projects to be made in the area where the projects are to be undertaken. Regional water supply planning and development in an authority made up of local entities, coordinated with water management districts, is thus the better alternative. If the goal is further improvements, efficiencies can be realized with some of the following suggested refinements to the current system.

B. Authority for Regional Water Supply Authorities

Section 373.1962, Florida Statutes (2009)[12] provides for the creation of regional wholesale water supply authorities; these entities are then responsible for "developing, recovering, storing, and supplying water for county or municipal purposes in such a manner as will give priority to reducing adverse environmental effects of excessive or improper withdrawals of water from concentrated areas."[13] Regional water supply authorities are created through "interlocal agreement between counties, municipalities, or special districts."[14] These agreements have to both be approved by DEP's Secretary and be consistent with the provisions of the Florida Interlocal Cooperation Act of 1969, Section 163.01,[15] DEP's approval recognizes the existing statewide oversight of new water supply development and use.[16]

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11. Each utility must justify its withdrawals based upon local permitting constraints. *See generally* FLA. STAT. § 373.223 (2009).

12. Unless stated otherwise, all statutory references are to the 2009 edition of Florida Statutes.

13. § 373.1962(1).

14. *Id.*

15. *Id.*

16. *Id.* § 373.1962(1)(a)-(f).

The geographic territory of a proposed authority should be of sufficient size so as to distribute the sources of water for consumptive use in a way that reduces the environmental effects of improper or excessive withdrawals from any concentrated areas. It should encompass a dedicated territory in which the authority can maximize the cost effective development of the resource. Theoretically, developing water over a larger area, should produce water supplies that are dependable, environmentally sustainable, and adequate to meet long term needs.[17]

Section 373.1962, provides two mechanisms for raising the local and regional capital needed to own and operate a regional system. First, an authority can levy an ad valorem tax of up to "0.5 mill" in counties and municipalities within its service territory.[18] However, authorizing the levy requires an affirmative vote of the electorate within those affected counties or cities.[19] The second method is through the issuance of revenue bonds.[20] Revenue bonds "may be issued to finance the cost of acquiring properties and facilities for the production and transmission of water by the authority to any county or municipality,"[21] and may include the acquisition of needed real property and easements.[22]

II. THE REGIONAL WATER SUPPLY MODEL

The proposed regional water supply model proffered recognizes that the provisions of water and wastewater services are monopolistic utility services. As monopolies, without any overriding rate-setting regulatory system, these regional water supply authorities must internally self-regulate to take advantage of the benefits of a monopoly-operated business, while protecting against the abuses arising from an absence of market-driven constraints. Certain constraints that apply to constructing electric utility services are similar to those used to develop regional water supply authorities.

A. Siting

The siting of water supply projects is similar to the siting for electrical power plants. Power plants require three essential elements: (1) long-term reliable water supply for process, makeup and

17. Regional authorities, by consolidating demand, can also take advantage of the economies of scale for production facilities and thus reduce per unit cost.

18. § 373.1962(2)(a).

19. *Id.*; FLA. CONST. art. VII, § 9(b).

20. § 373.1962(2)(f); *see also* FLA. STAT. ch. 159.01-.19.

21. *Id.* § 373.1962(f).

22. *Id.* § 373.1962(2)(e).

cooling; (2) a fuel source delivered by rail or pipeline; and (3) proximity to transmission capacity for the transmission of the bulk electric power. Siting a water supply facility is similarly affected by location. The site must be capable of generating a long-term sustainable supply of water but also be one where water withdrawals will not cause adverse environmental consequences. Further, in order to minimize the cost of construction and maintenance of transmission and pumping facilities, the site must be close to the demand center.

Regional water supply authorities are the solution for future water supplies for a number of practical reasons. The hard reality is that "cheap water" is no longer an option. Development of large-scale potable water supplies is expensive, highly complex and difficult to sustainably operate. There is a natural economy of scale associated with the development, treatment, storage and transmission of water for consumptive uses on a regional basis, but there is no uniform scientifically based, long-term reliable source of supply throughout the state. Instead, diverse and disbursed supplies, though limited by environmental and other constraints, are available. Groundwater supplies, for example, are limited by aquifer draw downs, surficial impacts, impacts to other existing legal users, and saltwater intrusion.[23] Similarly, surface water availability is impacted by long and short-term cyclical climatic events and to be effective, often requires extremely expensive large-scale reservoirs and infrastructure development. Reverse osmosis (RO) facilities, meanwhile, require significant capital investments to construct and have high operational costs.[24] These factors lend themselves to regional authorities and work well with public private partnerships (PPPs).[25]

B. Pressures Created by Legislative Policy

The Legislature's Declaration of Policy found in Section 373.016 (3)(d), for water management states, in part, that "It is further declared to be the policy of the Legislature: . . . [t]o promote the availability of sufficient water for all existing and future reasonable-beneficial uses and natural systems." Satisfying the competing interests of providing sufficient water for all existing and future reasonable beneficial uses and maintaining adequate re-

23. FLA. ADMIN. CODE. r. 40D-2.301 (2009).

24. *See* Hunting Beach Seawater Desalination Facility—Project Facts, Facility Facts: Environmental Stewardship and Water Reliability . . . For Today and Tomorrow, http://www.hbfreshwater.com/index.php?p=2 (last visited Mar. 15, 2010).

25. Regional authorities can use tax advantage financing to fund project construction and private partners can assume a greater share of the risk of construction and operation of the facilities. *See* § 373.1962(2)(i) (permitting and authorizing public private partnerships).

sources for natural systems is difficult.[26] Annual and multi-year hydrologic cycles further complicate the process. For example, in periods of low rainfall, other adequate supplies must be available to alleviate the stress to natural systems from excessive ground and surface water withdrawals.

In the past, heavy reliance upon groundwater by water supply utilities[27] and other significant groundwater users[28] has caused negative environmental consequences. To mitigate against negative impacts, regional authorities must look to sustainable, diverse and ecologically friendly water supply alternatives.

C. Ownership and Treatment of Wastewater to Drinking Water Standards

Regional water supply utilities should obtain ownership or control of wastewater generating facilities within their service territories.[29] All wastewater facilities should be improved to tertiary treated wastewater standards and some of that water should be further treated, as needed, to drinking water standards. The use of RO processed wastewater to drinking water standards is absolutely essential to meeting future water supply needs.[30] Using the cost of desalination of seawater as a base, the cost of RO processing of wastewater to drinking water standards is approximately 70% of the cost of desalination of saltwater.[31] The RO treatment of wastewater[32] is more cost efficient than the RO treatment of saltwater[33]

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26. New water supplies of 409 million gallons per day (mgd) are projected to be needed to meet future demands for both consumptive use or environmental recovery by 2025, in the ten counties evaluated. SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT, REGIONAL WATER SUPPLY PLAN xvi (2006), *available at* http://www.swfwmd.state.fl.us/documents/plans/RWSP/rwsp.pdf.

27. West Coast Reg'l Water Supply Auth. v. Southwest Fla. Water Mgmt. Dist., Nos. 95-1520, 95-1521, 95-1522, 95-1523, 95-1525, 95-1526, 95-1527, and 95-1528, 1997 WL 1052355 (DOAH May 29, 1997). Northern Tampa Bay Water Use Caution Area, FLA. ADMIN. CODE. r. 40D-2.301.

28. Charlotte County v. Southwest Fla. Water Mgmt. Dist., No. 94-5742RP, 1997 WL 1052343 (DOAH Mar. 26, 1997). Southern Water Use Caution Area (SWUCA), FLA. ADMIN. CODE. r. 40D-2.301; Kissingen Springs in Polk County that once flowed at the rate of 20 mgd completely dried up in the early 1960s.

29. *See generally* § 373.1962(2)(c) (authorizing regional water supply authorities to collect and treat wastewater).

30. There is no drought resistant sustainable water supply except the Tampa Bay Water desalination facility, which has been plagued with problems since 2003.

31. For Tampa Bay Water's desalination water – approximately $3.38 per thousand gallons, and for Orange County, California, processing wastewater to drinking water standards for recharge into the drinking water aquifer is $2.39 per thousand gallons.

32. When referring to RO treatment of wastewater, the process includes necessary disinfectant with ultraviolet light and hydrogen peroxide and the cost is inclusive of these treatments. Groundwater Replenishment System, Question and Answers, http://www.gwrsystem.com/qanda/index.html (last visited Mar. 15, 2010); *Orange County's GWR System Receives International Award for UV Technology*. WATER EFFICIENCY: J. FOR WATER RESOURCE MGMT., Oct. 1, 2009, http://www.waterefficiency.net/the-latest/gwr-iuva-award.aspx.

33. The approximate recovery efficiencies are: saltwater RO - 50%; brackish water RO - 60% and wastewater RO - 85%. SOURCE BOOK OF ALTERNATIVE TECHNOLOGIES FOR

for a number of reasons: (1) Wastewater RO treatment does not require the extensive pre-treatment that saltwater requires; (2) RO facilities treating wastewater demand less electrical power per unit than facilities treating seawater since seawater contains thirty times the impurities of wastewater and wastewater is not as hard on equipment; (3) tertiary treated wastewater is more uniform in chemical composition than seawater, brackish water, and even surface water; and (4) unlike the costly dilution of seawater concentrate after RO treatment, the optimal solution to the backwash from treating wastewater is simply to return it to the wastewater treatment plant, where it is combined with and disposed of as part of the plant's other effluent.[34]

RO treated wastewater should be produced in the wet periods, stored, and made available to utilize in the dry seasons. The aquifer is the most efficient reservoir for the storage of water and is generally free of pathogens and evaporative losses.[35]

The regional water supply authority does not necessarily have to own the facilities that treat wastewater,[36] but in order to best meet potable demands, it must have control of the water produced. Two acceptable exceptions to complete RO treatment of the treated wastewater by the water supply authority are to make that water available for use by wholesale users such as agriculture and industrial customers and for recreational irrigation purposes, through long-term wholesale contracts when it offsets potable demand. To encourage these uses, a volumetric rate that reflects the cost of producing treated water should be set through a long-term contract.

FRESHWATER AUGMENTATION IN LATIN AMERICA AND THE CARIBBEAN 2.1 (1997), *available at* http:www.oas.org/usde/publications/unit/oea59e/ch20.htm; Penelope B. Grenoble, *Toilet to Tap: Once Again*, WATER EFFICIENCY: J. FOR WATER RESOURCE MGMT., Jan.-Feb. 2009, http://www.waterefficiency.net/january-february-2009/toilet-to-tap-3.aspx.

34. To minimize costs, siting should consider collocating the plant at or near the tertiary treatment facility.

35. There have been issues with the release of arsenic as a result of groundwater aquifer storage and recovery systems, but that is a chemical process that is well understood and ongoing research will overcome that impediment to the more extensive use of the aquifer as a storage vehicle. RO treated wastewater has very low concentrations of dissolved oxygen and may not liberate arsenic.

36. Such development, upgrading of existing facilities to tertiary treatment and the construction of new facilities, may be accomplished through the mechanism of PPPs as earlier described.

D. Rate Structures for Potable Supply

Because seasonality impacts production costs,[37] rate structures should be established by the regional water supply authorities to reflect the temporal cost of water production. Regional water supply authorities, like electric utilities, generally dispatch sources of production in ascending order of the cost. To meet demand as it peaks, smaller, high-cost units are brought online. If a utility can reduce just the peak demand–"shaving the peak"–it would delay the regional water supply utility's need to ramp up more costly units, such as its desalination facility, and thereby reduce its average cost of production. In the case of electricity, smart meters are being designed to give customers direct feedback on their daily consumption. The information is provided over the customer's computer and identifies the usages that give rise to the monthly charges. From the electric utility's perspective, this allows for the imposition of time-of-day rates to customers at the retail level. It is projected that a small *shift in the time of consumption* of electricity of only 7.0% in homeowners' usage would result in a $23 billion dollar annual savings for consumers.[38]

Water supply utilities similarly face seasonal fluctuations in demand. Currently, some regional water supply authorities establish a unitary rate for the provision of water regardless of the time of year the water is produced. This approach, however, does not synchronize its revenues and costs. Customer dissatisfaction with changes to retail rates is expected, so changes in wholesale rates could be used as the justification to support time-of-year changes in retail rates. With this, the customers are made aware of the increased costs the utility is incurring during peak demand and higher cost periods.[39] In Exhibit 1, a hypothetical regional water supply utility[40] is confronted with three source options: (1) groundwater with permitted capacity of ninety million-gallons-per-day (mgd) and a production cost of $1.00 per thousand gallons; (2)

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37. During rainy seasons, utilities generally reduce their reliance upon higher cost supply sources and, as a result, consumer demand declines because of the availability of rain for outside irrigation. The reverse happens during dry periods.

38. Scott Woolley, *Ohm Economics*, FORBES, Feb. 2, 2009, *available at* http://www.forbes.com/forbes/2009/0202/034_print.html (last visited Mar. 15, 2010). The annual projected savings is easy to accomplish without affecting lifestyle changes by shifting the time of day that an individual washes and dries clothes or operates his or her dish washer or by placing timers on hot-water heaters.

39. Nothing herein should be construed as limiting a local government or retail utility from providing rate relief for the elderly or low-income customers who have life sustaining demands.

40. The example is generally based upon Tampa Bay Water's sources. This simplistic model is not intended to replicate the actual operations of this facility since TBW has far more complex operational constraints.

surface water with capacity of sixty mgd and a production cost of $2.00 per thousand gallons; and (3) desalination water with a capacity of twenty-five mgd and a production cost of $3.00 per thousand gallons.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Demand (mgd)	175	175	175	160	150	140	130	130	140	150	160	175
Cost / Month	$1.63	$1.63	$1.63	$1.50	$1.40	$1.36	$1.31	$1.31	$1.36	$1.40	$1.50	$1.63

Exhibit 1

Under this hypothetical, the authority realizes the highest production cost per thousand when it operates all of its facilities and the lowest costs when it can back off reliance on its high cost units. Here, the monthly costs fluctuate between a low of $1.31 to a high of $1.63 per thousand gallons. A unitary rate designed to recover the total cost of production for the year would be $1.49 per thousand.[41]

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Demand (mgd)	175	175	175	160	150	140	130	130	140	150	160	175
Cost / (K gal.)	1.63	1.63	1.63	1.50	1.40	1.36	1.31	1.31	1.36	1.40	1.50	1.63
In K Dollars	285.25	285.25	285.25	240	210	190.4	170.3	170.3	190.4	210	240	285.25
Under/Over Recovery	-25.35	-25.35	-25.35	-2.37	12.77	7.52	22.77	22.77	17.52	12.77	-2.37	-25.35
Net K$	-25.35	-50.69	-76.04	-78.41	-65.64	-48.12	-25.35	-2.58	14.95	27.72	25.35	0

Exhibit 2

In Exhibit 2, starting in January, the authority accumulates a revenue deficit of over $25.35 million to meet current operating expenses[42] by May first. An under-recovery continues into September when the authority's cumulative revenues catch up to its cumulative costs. The authority has a positive cash flow from September until November and breaks even by year end. The annual-

41. The $1.49 per thousand is calculated by determining the weighted average cost of water for the year. It is the quotient of the sum of the quantity times the monthly cost, summed over the year, divided by the total quantity for the year.

42. That number is arrived at by multiplying the cumulative daily revenue shortfall, by thirty days. The sum of the January through April under recovery from Exhibit 2 is $78,410 per day times 30 days.

ized carrying cost of that shortfall is approximately $141,434 using a carrying cost of 3.0% for short-term debt service.[43]

A rate structure that would better synchronize revenues and costs would have separate rates for the period December through May and June through November (see Exhibit 3). Under the two-rate period year, from December through May, the utility would charge $1.65 per thousand and for the period June through November, the utility would charge $1.29 per thousand. Under this model, the utility would only have one month in which it fails to cover all of its operating expenses. In November, the utility would experience a slight deficit that is eliminated in the next month. There is a small over-collection at year end, but this over-collection results from rounding the rate to the nearest cent.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Demand (mgd)	175	175	175	160	150	140	130	130	140	150	160	175
Cost / Mon. $	1.63	1.63	1.63	1.50	1.40	1.36	1.31	1.31	1.36	1.40	1.50	1.63
Total Cost $	285.25	285.25	285.25	240.00	210.00	190.40	170.30	170.30	190.40	210.00	240.00	285.25
Rate / 1000 gal.	1.65	1.65	1.65	1.65	1.65	1.29	1.29	1.29	1.29	1.29	1.29	1.65
Recover ± $	3.50	3.50	3.50	24.00	37.50	(9.80)	(2.60)	(2.60)	(9.80)	(16.50)	(33.60)	3.50
Cumul. ± $	3.50	7.00	10.50	34.50	72.00	62.20	59.60	57.00	47.20	30.70	(2.90)	0.60

Exhibit 3

The real advantage of this two-rate period approach is that it sends the appropriate seasonal cost information to members. The higher rate reflects the higher cost of production during the dry period when more expensive production facilities have to be operated to meet demand; this information should then act as an incentive for conservation. It also places the higher costs of production on those seasonal residents who partially contribute to the sharply increased demand during the dry period.[44] Additionally, it

43. This number is arrived at by accumulating the total annual interest on the under-recovery, which is calculated by multiplying the monthly over or under recovery by the interest rate per month (3.0% per twelve months–this interest rate is just a plugged number used to estimate a reasonable cost of capital) times the number of months the under or over recovery is carried during the period.

44. It is during Florida's dry season, September 16 through June 14, that seasonal tourism increases and greater demands are placed upon utilities to meet those demands.

reduces the need for short-term borrowing and the associated carrying costs.[45]

E. Service Territories, Self Supply, and Capacity Charges

An ideal element for the provision of utility services is that the utility has an exclusive service territory with no member having the ability to self-supply.[46] Allowing for significant self-supply by a member undermines the reliability of the income stream and negatively impacts the ability of the authority to properly plan for future supply. A self-supplier generally constructs and operates its own base-load units and only requires peaking capacity when demand exceeds its base capacity. A self-supplier can also unfairly take advantage of an authority, causing the other members of the regional water supply authority to subsidize the self-supply member. In Exhibit 4, the hypothetical is changed to demonstrate that the self-supply member meets all its base demands but then requests the regional authority to meet five mgd of peak demand. Under the unitary rate model, the regional utility expects 160 mgd of demand in April and targets cost accordingly at $1.50 per thousand. To meet the self-supplier's demand, the regional utility must ramp up its peaking unit, the desalination facility, incurring costs of $3.00 per thousand, while the self-supplier is charged the unitary rate of $1.50 per thousand.

	Ground Water	**Surface Water**	**Desalinated Water**	**Total**
Source	90 mgd	60 mgd	10 mgd	160
Cost / 1000 gal.	$1.00	$2.00	$3.00	$1.50
Self Supply			5 mgd	165 mgd
Cost / 1000 gal. to produce additional 5 mgd				$1.55

Exhibit 4

Each day, this demand adds $15,000 in costs for the five mgd that is required and the self-supplier only pays half the incremen-

45. During any period in which a utility's revenues do not meet or exceed its costs, it must use short term funding sources, which necessarily incur costs. It is reasonable to approximate those costs using short-term borrowing rates.

46. *See* FLA. STAT. §§ 366.03, 336.04(2)-(3) (2009).

tal costs of the production, or $7,500 per day.[47] The utility must absorb the additional costs or anticipate the demand when setting rates. There are many methods that can be employed to ensure that the authority is made whole, such as the recovery of the additional expenses through marginal cost pricing for self-supply members. Such methods should be explored when establishing the authority.

An additional element of cost that may be assessed to the self-supply member is a capacity charge. Capacity charges should not exceed the estimated reasonable cost of reserving capacity to meet the anticipated future demand. Typically, capacity charges are one-time fees levied on new customers as they connect to municipal water system facilities or contract to reserve the service.[48] Capacity charges recover revenues for capital investments in future projects to serve growth as well as to compensate for the excess capacity in existing facilities that will benefit and serve new customers. The charges must be reasonable, non-arbitrary, and based on facility capital costs, user loads, and system capacity.[49]

Utilities adjoining or in-holding the exclusive service territory of the regional water supply authority should be treated as customers.[50] Their rate for supply should be based upon the incremental cost of providing that service and they should pay a capacity charge for the service they receive.[51]

F. Governance

It is difficult to reach consensus on an effective model for governance of the regional water supply authority. It is suggested herein that governance be composed of an appointed oversight board and be run by an executive director hired by the board.[52] The executive director should have the authority to hire professional

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47. The water authority has to produce an additional 5 mgd of supply. Since it has to produce that 5 mgd using its most costly supply option, the desalination facility, it costs $3.00 per thousand to produce. For a month, the regional authority could incur an additional unrecovered cost of $225,000 under this example.

48. Capacity charges may be capitalized and recovered over fixed terms as a component of wholesale rates.

49. Regional water supply authorities have the authority to discriminate between members and non-members in setting rates for water services. § 373.1962(2)(b).

50. Utilities typically recover their investment in utility investments through several vehicles, which include depreciation charges, service availability charges, capacity charges, and other similar recovery mechanisms.

51. Unlike authority members, non-member customers have not contributed to the construction or purchase of plant necessary to meet the incremental demand they place upon the system. When the authority is created, a local government effectively pays its capacity charge when it pays part of the acquisition costs of the other members' production facilities.

52. A similar design is used for Water Management Districts.

and legal staff to operate the regional authority on a day-to-day basis.[53]

The regional authority should have the power of eminent domain and be able to sue and be sued, to raise money through the issuance of revenue bonds, to contract with other entities, and to do all the things necessary to carry out the function of providing potable water at reasonable rates to wholesale customers.[54] The authority should have the exclusive right to develop new water supplies for public supply purposes, within its certificated service territory. Additionally, it should be the sole and exclusive provider of water to its members.[55] It should be free from being taxed or having any service charge imposed on it by any locality, municipality, or county for the services it provides. No local authority should be allowed to restrict the land use of properties in conjunction with the production, storage, or transmission of water.[56] The authority should own or operate wastewater treatment facilities either separately, in partnership with other governments, or in PPPs. However, the authority should own or control all facilities used in the processing and transmission of all wholesale potable water supplies.[57]

Elected officials are the preferred constituency for a board of a regional water supply authority. If a board is composed of county commissioners and city mayors, the advantage is that its members have been elected to their respective positions and thus they are accountable to the authority's customers. Membership should be fairly apportioned among members, but the total number of board members should be a minimum of five and no more than seven.[58] Elected officials should resist the pressure to keep water rates below the full cost of production.

A less desirable alternative board could be composed of operational representatives of the various wholesale utility members of the regional water supply authority. While this board would have more operational knowledge of utility systems and could thus bring institutional knowledge to the decision making process, it lacks representative capacity of the rate-paying constituency and

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53. *See* § 373.079(5).

54. *See id.* § 373.083.

55. *See id.* §§ 366.03, 366.04(2) (describing provisions similar to those recommended above); *see also id.* § 373.1963(1) (authorizing Tampa Bay Water).

56. *See id.* § 373.1963(1)(b)(4).

57. The Authority's ownership or control is always subject to agreements for contracting with PPPs and other entities for various components of the development of supplies.

58. It is recognized that in certain situations, more than seven member governments may constitute the authority. Rather than increase the number of members, membership participation should be rotational. Boards are designed with no more than seven members to make the board workable and not be unduly cumbersome.

may second guess the decision of the authority's professional staff. A hybrid composed of elected officials, water utility directors, and a public member may also be considered, but that composition also has limitations.

Regardless of the governance structure, disputes between member governments[59] and the authority should be handled through mandatory binding arbitration before litigation is initiated or through the provisions of the "Florida Governmental Conflict Resolution Act."[60] Decisions over rates and the budget should be the areas where member governments may seek review. No member should be allowed to withdraw from the authority except in the case of the dissolution of the authority.

G. How Is a Local Government Compensated for Relinquishing its Investment?

Forming a regional water supply authority carries its own challenges. Those challenges arise from asking local governments to relinquish ownership and control of their water production and, in the recommendation being made here, ownership or control of their treated wastewater facilities.[61]

Thus, the regional authority should endeavor to acquire all of the production and transmission facilities of its participating governments within its exclusive service territory.[62] The members should retain the right to set retail rates and charges and maintain ownership and operational authority for the distribution of potable, reclaimed,[63] and wastewater collection facilities. The overriding consideration in the transfer of assets to the regional entity is the recognition that the regional authority is formed to reduce operating costs by taking advantage of economies of scale through the merger of assets and by providing reliable, environmentally sustainable supplies.

Acquisition should be funded by debt financing raised by the authority through the sale of revenue bonds[64] and local governments should be compensated for the assets they transfer to the

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59. § 373.1962(1).

60. *Id.* § 164.101.

61. Relinquishing the control of treated water is a recommendation being made in this article. Relinquishment of water production facilities is not a new concept and is a condition found in Tampa Bay Water's enabling legislation. *Id.* § 373.1963(1)(b)(1).

62. *See id.*

63. If the retail distribution utility is allowed to retain the right to distribute tertiary treated wastewater, it should be conditioned to restrict the sale of reclaimed water to customers where there is a 100% offset of potable demand and sell only to existing reclaimed distribution systems.

64. The option of repayment through taxation is available but in most instances it is not practical because it may levy taxes against some non-customers.

regional utility. There are two frequently used methodologies to establish value. The first method uses the discounted cash flow (DCF) model which capitalizes the infinite income stream produced through rates for services at a discount rate to determine the net present value (NPV).[65] While the model itself is relatively straightforward, as in all valuation matters, the difficulty is in the selection of the elements to input into the model. Income stream quantities have to be estimated over the life of the project and a capitalization rate must be estimated as well. Both of these are difficult to estimate and depending upon the values selected, the present values can vary significantly. Use of the NPV model may tend to overvalue the assets in the acquisition because there is no adjustment for aging assets and infrastructure.[66]

The other methodology involves recognizing the replacement costs for the assets discounted by the age of each asset. Again, the purpose of reaching a reasonable accommodation on the value of the assets acquired by the regional authority is not to use the creation of the regional authority as an opportunity to solve the local governments' capital budget crisis. Setting a reasonable asset value fairly establishes the asset base so that the ultimate rate-payers are charged rates that reflect the actual cost of service. As long as the process is perceived to produce a fair evaluation, any acceptable method may be used.

Regardless of the valuation method selected, there will always be the probability of rate shock. Some rate-payers may see significant increases in their bills while others may see decreases. Typically, newer systems would demand a higher market value in an acquisition, whereas older systems would have higher operation costs. These factors should be carefully reviewed when the acquisition valuations are established.

H. Summary: "What's in it for me?"

A local government should consider whether membership in a regional water supply authority is in the best interest of its constituents. Supplying water and the handling and disposal of wastewater may not continue to be economically viable on a small scale or local basis. A local government may not be able to continue to obtain increasing quantities of groundwater in its geographic areas

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65. Ben McClure, DCF Analysis: Introduction, http://www.investopedia.com/university/dcf/ (last visited Mar. 15, 2010); *see generally* STEPHEN A. ROSS ET AL., CORPORATE FINANCE (8th ed. 2006).

66. If the construction costs of capital assets, the use of utility revenues, or a source of governmental operating revenues are subsidized, then this model may give an overestimated measure of value.

as populations grow and environmental impacts limit ground and surface water withdrawals. Local governments will not be able to continue to discharge treated effluent into water bodies as total daily maximum loads are implemented and enforced.[67] Additional costs will be incurred as numerical nutrient standards are imposed upon all rivers, lakes, and estuaries, and discharges will have to comply with federally imposed standards. Diverse alternative water supplies, when used with other sources, are the only method for ensuring drought-proof supplies. As demand grows, local governments may not have the fiscal ability or other necessary resources to construct alternative water supplies that take advantage of the economies of scale offered to regional water supply authorities. Finally, the regional authority offers a politically acceptable reason to support the unpopular decision to raise rates to meet any increase in the cost of providing service.

III. TREATMENT OF WASTEWATER

Coastal utilities have the advantage of being able to construct drought resistant desalination facilities, although the cost is significant in areas where they can collocate with coastal electric power plants. As a result, those utilities are able to construct drought-resistant supply sources that have not been available to interior water supply utilities.

In a 2009 study published by the WateReuse Foundation,[68] the authors concluded that many of the pharmaceuticals, hormones and steroids, volatile organics, semi-volatile organics, nutrients, microbiologicals, and synthetic organic chemical constituents not only have multiple pathways into water sources but are "ubiquitous in the environment."[69] These microconstituents come from a variety of sources and are released into the environment via direct human interaction, farming, industry, and recreational activities.[70] The prevalence of these residual microconstituents is more similar in reclaimed, surface, and ground water than dissimilar. The study concluded that there were no significant differences in health risks between reclaimed water and other water types;[71] the difference in

67. *See* Letter from Benjamin H. Grumbles, Ass't Adm'r, Envtl. Prot. Ag., to Michael Sole, Sec'y, Fla. DEP (Jan. 14, 2009) (on file with the SWFWMD) ("EPA expects to propose numeric nutrient criteria for lakes and flowing waters within 12 months, and for estuaries and coastal waters, within 24 months [in Florida].").

68. Tom Helgeson & Mark McNeal, *A Reconnaissance-Level Quantitative Comparison of Reclaimed Water, Surface Water, and Groundwater*, WATEREUSE FOUND., *available at* http://www.watereuse.org/node/729 (last visited Mar. 15, 2010).

69. *Id.* at 121.

70. *Id.* at 3-4.

71. *Id.* at 125.

concentrations of constituents in treated wastewater were found to be residual byproducts of the disinfection process.[72]

Enhanced RO treatment of tertiary treated wastewater offers regional water supply authorities an alternative potable water supply comparable in cost to surface water projects anywhere in the state.[73] The cost of RO treatment on drinking water quality is only two-thirds the cost of RO treatment on seawater or brackish water because of the high quality of the tertiary treated wastewater. The process of raising the quality of tertiary treated wastewater to drinking water quality, while practical, has not been approved for use in Florida. However, this process is not untested ground. For instance, in January 2008, Orange County, California approved the construction of a 70 mgd RO facility.[74] This facility's capital cost is $486.9 million with operating and maintenance costs totaling $26.7 million per year.[75] The system will produce high quality water by purifying wastewater for $476 per acre foot.[76] The capital cost of the Orange County facility was co-funded and utilized some low interest state funding.[77]

RO treated wastewater can be deep-well-injected into the aquifer as is done in Orange County[78] or pumped into rapid infiltration basins.[79] Another potential option is the direct blending of this water with other waters generated from ground and surface water sources[80] as is done in Singapore and New Mexico.[81] The aquifer

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72. *Id.* at 121. In some respects, wastewater is of better quality than other naturally occurring sources used for potable water supplies. For example, ground water contained the highest concentrations of arsenic and ammonia, and surface water had the most mercury, atrazine (a common pesticide), and Bisphenol A (an endocrine disruptor). *Id.* at 121-23.

73. The comparison is based upon the reported cost of the Orange County GWR project and the approximate surface water treatment costs for Tampa Bay Water.

74. Groundwater Replenishment System, *supra* note 32.

75. *Id.* This equates to a capacity cost of approximately $6.95 per gallon, which is well below the $10 to $15 per gallon projected by the Southwest Florida Water Management District for new capacity from traditional alternative water supplies. Examining the Cost of Building and Operating a Water Purification System to Provide a New Source of Water for an Arid Region, Groundwater Replenishment System: A Pure Solution to Orange County's Water Needs, http:www.gwrsystem.com/about/pdf/0503gwrs_cost_paper.pdf (last visited Mar. 15, 2010) [hereinafter Examining the Cost].

76. Examining the Cost, *supra* note 75.

77. The comparison is based upon the reported cost of the Orange County GWR project and the approximate surface water treatment costs for Tampa Bay Water.

78. Groundwater Replenishment System, *supra* note 32.

79. D.M. SUMNER & L.A. BRADNER, U.S. GEOLOGICAL SURVEY, WATER-RESOURCES INVESTIGATIONS REPORT 95-4281, HYDRAULIC CHARACTERISTICS AND NUTRIENT TRANSPORT AND TRANSFORMATION BENEATH A RAPID INFILTRATION BASIN, REEDY CREEK IMPROVEMENT DISTRICT, ORANGE COUNTY, FLORIDA (1996), *available at* http://fl.water.usgs.gov/PDF_files/wri95_4281_sumner.pdf.

80. Groundwater Replenishment System, *supra* note 32.

81. PUB, Singapore's National Water Agency, *NEWater: Overview*, www.pub.gov.sg/newater/Pages/default.aspx (last visited Mar. 15, 2010); *see also New Mexico Town Tries Toilet to Tap*, CONTRACTORMAG.COM, http://contractormag.com/green-contracting/new_mexico_town/ (last visited Mar. 15, 2010).

injection, being suggested here, adds one additional purification process to the treated water[82] and helps in overcoming the "yuck" factor that has plagued the acceptance of this source in the past.[83] Neither the introduction of treated wastewater into potable supplies nor the significant use of this water is unprecedented. For example, the Virginia Occoquan Plant in Fairfax, Virginia, which has been in operation since 1978, measures inputs from the Upper Occoquan Service Authority (UOSA) and supplies about 50% of the population's water supply from treated wastewater. "During drought periods recycled water provides up to 90% of the reservoir inflow."[84]

It is further noteworthy that this source is not RO treated before introduction into the potable treatment processing.[85] Similarly, Cloudcroft, New Mexico, augments up to 50% of its potable supply with advanced treated wastewater.[86] The City disinfects this water via a membrane bioreactor RO and advanced oxidation process (using ultraviolet light and peroxide).[87] It then pumps up to 100,000 gallons per day of wastewater into a reservoir where it is mixed with the ground and springs water.[88] The blended water is allowed to remain in the reservoir for approximately thirty days of natural treatment by diffusion and sunlight; it is then

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82. In Florida, there is concern about liberation of arsenic in aquifer storage and recovery wells. There are studies underway on methods to minimize the arsenic problem. Sinkhole pumping, rapid infiltration basins, and wetland rehydration may be alternatives. Some of these solutions may reduce the yield potentials for this process and thus may raise the cost per thousand gallons. Jonathan D. Arthur et al., *Mobilization ofArsenic and Other Trace Elements During Aquifer Storage and Recovery, Southwest Florida*, *in* UNITED STATES GEOLOGICAL SURVEY: ARTIFICIAL RECHARGE WORKSHOP PROCEEDINGS 47 (George R. Aiken & Eve L. Kuniansky eds., 2002), *available at* http://water.usgs.gov/ogw/pubs/ofr0289/jda_mobilization.htm.

83. The Tampa Water Resource Recovery Project (TWRRP) was recommended as a potential water source in the late 1990's and was defeated by an organized campaign on emotional, and not scientific, grounds. MINUTES, TAMPA BAY REGIONAL PLANNING COUNCIL CLEARINGHOUSE REVIEW COMMITTEE 11 (Apr. 27, 2009); *see also* SOUTHWEST FLORIDA WATER MGMT. DISTRICT, HILLSBOROUGH RIVER WATERSHED MGMT. PLAN (2000), *available at* http://www.swfwmd.state.fl.us/documents/plans/cwm/cwm-hillsboroughriver.pdf.

84. Clemencia Rodriguez et al., Indirect Potable Reuse: A Sustainable Water Supply Alternative T.1, http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2672392/#ta1-ijerph-06-01174 (last visited Mar. 15, 2010). For a discussion on public acceptance see Pioneering Water Reuse in the Old West, WATERWORLD, www.waterworld.com/index/display/article-display/361962/s-articles/s-water-wastewater-international/volume-24/issue-2/editorial-focus/pioneering-water-reuse-in-the-old-west.html (last visited Mar. 15, 2010).

85. Most riverine watersheds receive treated wastewater discharges upstream of withdrawals for water supply purposes.

86. *It Is No Secret Where This Small Town's Water Comes From*, AMERICAN CITY & COUNTY, Feb. 1, 2009, http://americancityandcounty.com/water/treatment/cloudcroft-wastewater-reuse-system-200902/index.html.

87. *Id.*

88. *Id.*

injected into the potable water system where it is treated like surface water.[89]

The water produced through the RO process is free of bacteria, viruses, carcinogens, hormones, chemicals, toxic heavy metals, fertilizers, pesticides, and dissolved pharmaceuticals. Orange County recognized the public acceptance impediment and obtained public buy-in before the project was formally undertaken.

It was earlier suggested that the regional water supply authority own or operate the wastewater treatment facilities used as source water for potable supply. While absolute ownership of the wastewater facilities is not necessary, such ownership would provide a simpler method of project operations, which can also be efficiently collocated with the RO facility. Nevertheless, the Orange County model was a partnership with the Orange County Sanitation District.[90] It thus represents an acceptable option to direct ownership. Other arrangements can work within the framework of intergovernmental arrangements, special taxing districts, and PPPs.

Projects similar to Orange County's are under study in Texas, Australia, Singapore.[91] In Singapore, for instance, more than 300 companies have started using this RO processed wastewater. About eighty of them, "including fabrication plants, electronics, and petrochemical companies, use new water for industrial processes because it is ultraclean and the companies have substituted new water for potable water."[92] In addition to commercial and industrial needs, Singapore now uses "new water for drinking by mixing small quantities of it with reservoir water. . . . [B]y 2011, Singapore's new water plants will have the combined capacity to meet 30 percent of the country's water needs, double the original target."[93] The price of new water is expected to be about $0.65 per cubic meter.[94]

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89. *Id.*

90. Studies Conclude Water Produced by Groundwater Replenishment System Will Be Safe, Improve Basin's Quality, Groundwater Replenishment System, http://www.gwrsystem.com/about/pdf/04gwrsystem_white_paper.pdf (last visited Mar. 15, 2010).

91. In Singapore, a high percentage (15%) of its water comes from this process and is called "NEWater." Australia has placed in service the largest recycled water project in the southern hemisphere producing 232,000 cubic meters of processed reclaimed water per day. *Singapore Opens Largest Recycle Water Plant*, PEOPLE'S DAILY ONLINE, http://english.people.com.cn/200703/15/eng20070315_358011.html (last visited Mar. 15, 2010); PUB, Singapore's National Water Agency, *NEWater: Overview*, www.pub.gov.sg/newater (last visited Mar. 15, 2010).

92. *Singapore Opens Largest Recycle Water Plant.*

93. *Id.*

94. *Id.* (This equates to approximately $2.46 per thousand gallons, which is comparable to Orange County, California's, costs of $2.39 per thousand gallons. This is not intended to be a one-to-one comparison since the costs which are included in the comparison are unknown.)

As a final step in the process of gaining acceptance for this source of water, DEP[95] and the departments of health have to be active partners in accepting this process. Politically, the decision to use RO treated wastewater can be presented to the public when local governmental leaders realize the process is the only cost-effective, environmentally sound, and technologically efficient source of drought-proof new water available.

IV. WHO OWNS THE WATER?

Lawyers and governments will argue that water bottlers will compare themselves to orange growers, and ultimately, Florida's citizens have a right to use the waters of the state, but they have no ownership interest in the water.[96] The underlying water is still owned by the citizenry. While a regional water supply authority or any water provider is entitled to recover its costs for collecting, treating, storing, and delivering potable water, it never acquires title to the water nor do the revenues received by the utility reflect any cost for the severance of the water.[97] The same holds true for wastewater treatment providers. The title to the underlying water remains with Florida's citizens. Wastewater in its untreated condition is hazardous and consequently cannot be discharged or disposed of in its raw state. Wastewater treatment utilities may therefore charge a fee for collection, processing, treatment, and disposal of the water.

Over the next twenty-four months as the DEP adopts rules to implement the EPA's numeric standards for all water bodies, the discharge of tertiary treated wastewater at the current treatment levels to water bodies will likely become a liability. If a wastewater utility recovers all of its treatment costs and investments (as recommended herein) it may have to invest additional funds to further improve treatment to remove nutrients to meet the new discharge standards. To avoid incurring these additional treatment costs, tertiary treated wastewater should be made available at no cost to regional water supply authorities for RO treatment to potable quality because both the disposal entity and the environment

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95. Staff at the DEP have indicated in informal discussions their belief that RO treated wastewater is the alternative water supply of the future for many areas of the state.

96. *See* Village of Tequesta v. Jupiter Inlet Corp., 371 So.2d 663, 667 (Fla. 1979) ("There is a right of use as it [the water] passes, but there is no ownership in the absolute sense."). Florida recognizes the right to "beneficial use," not title to water. *See* FLA. STAT. § 373.223 (2009). Title to the river water is not vested in the surface water treatment plant (SWTP) owner just because a SWTP removes constituents that prevent river water from being potable.

97. If someone asserted title through some "right of capture" argument, the State might consider the imposition of a severance fee as it does for other mineral withdrawals.

would benefit. A wastewater utility, for instance, would eliminate a liability and realize the actual cost avoidance of additional treatment. The water supply authority would subsequently receive a reliable, high quality, year-round raw water supply to meet potable demand. The environment then benefits as well because additional nutrients are eliminated from discharges to water bodies.

Water management districts have the authority to require the use of reclaimed water under certain circumstances. "SWUCA (Southern Water Use Caution Area)-Investigation of the feasibility of the use of reclaimed water (reuse) shall be required within the SWUCA for all . . . and reuse shall be required where economically, environmentally and technically feasible."[98] The court in *Southwest Florida Water Management District v. Charlotte County*, 774 So.2d 903, 910 (Fla. 2d DCA 2001), affirmed the administrative law judge's finding that the District's exercise of the above policy was consistent with the State Water Policy. When the District determines that the use of reclaimed water is a reasonable-beneficial use and in the public interest under the three-prong test in Section 373.223, it can be treated exactly as other water withdrawals, in that its use can be conditioned.[99] This approach is consistent with the concept that treated wastewater is a water resource of the state available for use by the citizenry when it is economically, technologically, and environmentally feasible. The *Charlotte County* court found:

> We conclude that the proposed portion of BOR 3.1 requiring reuse is authorized under the three-prong test of *section 373.223(1)* that requires that a use be reasonable-beneficial and in the public interest. Reasonable-beneficial is defined as 'the use of water in such quantity as is necessary for economic and efficient utilization for a purpose and in a manner which is both reasonable and consistent with the public interest.' *§ 373.019(4), Fla. Stat.* (1995*)*.[100]

The court also determined that the terms, "economically, environmentally and technically feasible" were not vague.[101] It stated that for a project to be economically feasible it had to be "financial-

98. SOUTHWEST FLORIDA WATER MGMT. DISTRICT, WATER USE PERMIT INFO. MANUAL, PART B: BASIS OF REVIEW B3-2 (2009), *available at* http://www.swfwmd.state.fl.us/files/database/site_file_sets/14/11-WUP_Manual_Notebook_BOR_102609-old_format_w_mining_form.pdf.

99. *Id.* (In the SWFWMD's Basis of Review 3.1, the District enumerated those uses that it considered, among others, as the beneficial use of treated domestic wastewater.)

100. *Southwest Fla. Water Mgmt. District v. Charlotte County*, 774 So. 2d 903, 914 (Fla. 2d DCA.2001).

101. *Id.* at 916.

ly doable."[102] It found that the terms were common in many statutory sections and that they were "easily understood."[103]

Under the SWFWMD's rules, the District has the authority to reopen an existing water use permit and require an adjustment to the quantities to reflect the offset of use in the event that quantities of reclaimed water are available to offset potable demand.[104] The District may then consider the availability of treatable and treated wastewater to drinking water quality when evaluating a regional water supply authority's water demand and require its use.[105]

V. THE ROLE OF WATER MANAGEMENT DISTRICTS

Water management districts would have a necessary and supporting role to play in the development and operation of regional water supply authorities. While that role has taken various forms, districts should fund those elements that assist in the development of water supply projects *and* are consistent with their statutory core functions.[106] The districts are excellent at flood control management, environmental restorations, improving water quality, and implementing strategies for the recovery of minimum flows and levels (MFL). They are good managers of public lands and infrastructure.

Chapter 373, Florida Statutes, discusses two areas for the development of water projects: "water resource" and "water supply." Water management districts have become of two minds in their relationship with regional water supply authorities. Part of the difficulty in clearly defining respective roles of water management districts and water supply authorities is a result of the complexity and number of the statutory directives concerning the distinction between water resource and water supply projects. However, when dissected, the statutes give more direction than a cursory analysis might suggest.

The legislature intended that water resource development and water supply development be two separate and distinct functions. In Section 259.105(6), the Legislature recognized that there are two separate functions that may be funded.

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102. *Id.*

103. *Id.*, at 916–17.

104. FLA. ADMIN CODE. r. 40D-2.301(1)(e)(l).

105. *Charlotte County*, 774 So. 2d at 918 ("As noted above, *section 403.064(5)* contemplates that water management districts may require reuse feasibility studies and it would be illogical for a water management district to have the authority to require such a study but not have the authority to require reuse.").

106. *See* FLA. STAT. §§ 373.036(1)(a)-(d), (2)(a) (2009) .

> As provided in this section, *a water resource or water supply development project* may be allowed only if the following conditions are met: minimum flows and levels have been established for those waters, if any, which may reasonably be expected to experience significant harm to water resources as a result of the project; the project complies with all applicable permitting requirements; and the project is consistent with the regional water supply plan, if any, of the water management district and with relevant recovery or prevention strategies if required pursuant to s. 373.0421(2). (emphasis added).

In Section 373.019(12), the roles of utilities and local governments are defined as pursuing water supply development:

> 'Multijurisdictional water supply entity' means *two or more water utilities or local governments that have organized* into a larger entity, or entered into an interlocal agreement or contract, *for the purpose of more efficiently pursuing water supply development or alternative water supply development projects* listed pursuant to a regional water supply plan. (emphasis added).

In preparing their Regional Water Supply Plans, the districts must identify those projects related to water supply development on a list from which water supply utilities may undertake to meet demand. Section 373.0361(2)(a)(2), states:

> *A list of water supply development project options*, including traditional and alternative water supply project options, *from which local government, government-owned and privately owned utilities, regional water supply authorities*, multijurisdictional water supply entities, self-suppliers, and others *may choose for water supply development*. In addition to projects listed by the district, such users may propose specific projects for inclusion in the list of alternative water supply projects. (emphasis added).

The responsibility of local governments and water supply utilities to construct and be responsible for the cost of water supply projects is set out in Section 373.0831(2)(c), which provides:

> Local governments, regional water supply authorities, and government-owned and privately owned water utilities take

> the lead in securing funds for and implementing water supply development projects. *Generally, direct beneficiaries of water supply development projects should pay the costs of the projects from which they benefit, and water supply development projects should continue to be paid for through local funding sources.* (emphasis added).

Local governments are directed to pay for water supply projects from local funds. The districts' role is different. Section 373.139(2) states:

> *The governing board of the district is empowered and authorized to acquire in fee or less than fee title to real property*, easements and other interests or rights therein, by purchase, gift, devise, lease, eminent domain, or otherwise *for flood control, water storage, water management, conservation and protection of water resources, aquifer recharge, water resource and water supply development, and preservation of wetlands, streams, and lakes.* (emphasis added).

When acquiring lands from funds other than under the Florida Forever, the District is constrained by statute in the use of those lands. The limitation is expressed in Section 373.1391(5), wherein it states: "[t]he following additional uses of lands acquired pursuant to the Florida Forever program and other state-funded land purchase programs shall be authorized, upon a finding by the governing board, if they meet the criteria specified in paragraphs (a)-(e): water resource development projects, water supply development projects, stormwater management projects . . . ."; *see also* § 373.1961(2).

A role of water management districts' authority is to engage in activities that are *supportive* of water supply development undertaken by local governments, regional authorities, and utilities. That role is defined in Section 373.196(3), wherein it states:

> *The primary roles of the water management districts in water resource development as it relates to supporting alternative water supply development are*: . . .
>
> (c) *The construction, operation, and maintenance of major public works facilities for flood control, surface and underground water storage, and groundwater recharge augmenta-*

> *tion to support alternative water supply development*[.] (emphasis added).[107]

The Legislature dictated a supporting role in the development of water supply sources through the districts' core functions associated with water resource development. Part (3)(c) of this Section is particularly on point in that the districts are given authority other than the authority to design, construct, operate, or maintain any water supply development project.

Subsection (4) of Section 373.196, designates the *primary role* of local governments, regional authorities, and utilities in water supply development. It states:

> (4) The primary roles of local government, regional water supply authorities, multijurisdictional water supply entities, special districts, and publicly owned and privately owned water utilities in alternative water supply development shall be:
>
> (a) *The planning, design, construction, operation, and maintenance of alternative water supply development projects*; . . .
>
> (c) *The planning, design, construction, operation, and maintenance of facilities to collect, divert, produce, treat, transmit, and distribute water for sale, resale, or end use*[.] (emphasis added).

Water supply utilities and authorities are thus clearly directed to engage in the design, construction, and operation of water supply development projects.

The limitation on districts investing in the design, construction, and operation of water supply development projects is less clear in subsection 373.1961(3)(f)–(h). Subsection 373.1961(3)(f)(1)-(4) still supports the districts' funding of elements of the projects that are consistent with its core functions. The districts are to consider:

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107. This is a specific limitation of the expenditure of district funds for water supply development.

> 1. Whether the project provides substantial environmental benefits by preventing or limiting adverse water resource impacts.
>
> 2. Whether the project reduces competition for water supplies.
>
> 3. Whether the project brings about replacement of traditional sources in order to help implement a minimum flow or level or a reservation.
>
> 4. Whether the project will be implemented by a consumptive use permittee that has achieved the targets contained in a goal-based water conservation program approved pursuant to *s. 373.227*.

One provision in the subsection seems to imply that the districts may go beyond the mere purchase of land to support the construction of alternative water supply projects. It should not be read in that manner. Subsection 373.1961(3)(h) provides:

> (h) The governing board may select a project identified or listed as an alternative water supply development project in the regional water supply plan, or allocate up to 20 percent of the funding for alternative water supply projects that are not identified or listed in the regional water supply plan but are consistent with the goals of the plan.

This subsection limits the amount of funds that districts can provide for water supply projects. The Legislature has given a general grant of authority to the districts to participate in funding water resource development projects that *support* alternative water supply projects under the Water Protection and Sustainability Program.[108] It provides, in pertinent part, that:

> The statewide funds provided pursuant to the Water Protection and Sustainability Program serve to supplement existing water management district or basin board funding for alternative water supply development assistance and should not result in a reduction of such funding. *Therefore, the water management districts shall include in the annual tentative and adopted budget submittals* required under this chapter *the amount of funds allocated for water re-*

108. § 373.196(6)(a).

> *source development that supports alternative water supply development* and the funds allocated for alternative water supply projects selected for inclusion in the Water Protection and Sustainability Program.[109]

There are policy reasons behind the argument that districts should not directly fund the design, construction, or operation of water supply projects. When a water management district directly invests in the means of water supply production, such as the construction of a desalination facility, a reservoir, or a surface water treatment facility, it rightfully believes that it should have some say in the facility's operations and minimum operational levels. A district owes a fiduciary duty to its taxpayers. Logically, this duty extends to ensure that the facilities paid for with taxpayer funds are operated so as to maximize the benefit of the taxpayers.[110] Regional supply authorities have other criteria upon which they base production priorities,[111] and those criteria can conflict with the objective of ensuring at least a minimal usage level and more likely will conflict with the highest level of usage for facilities constructed with taxpayer funds. Another reason the conflict exists is that the areas over which taxes are raised by the districts to fund water supply development generally extend well beyond the areas served by the water supply authority. Therefore, utility services are subsidized by extra-territorial taxpayers.[112]

There are plenty of opportunities for districts to participate fiscally beyond mere land acquisition for water supply projects without placing themselves in the position of having conflicting interests. Districts should build upon their strength and local knowledge by acquiring land for large scale wetland restorations to improve dry weather surface water flows which would assist in the provision of water supply. They should fund major acquisitions for the restoration of minimum flows and levels and, in that way, make available surface water flows in drier periods for water sup-

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109. *Id*. (emphasis added).

110. This became evident when the SWFWMD and Tampa Bay Water attempted to resolve the payment criteria for the construction of the desalination facility. The negotiations centered on objective performance measures acceptable to the District before it would pay the $85 million dollars it was contributing to the construct costs. The negotiations took several months to reach an agreement.

111. Regional authorities often base source utilization criteria on factors in addition to the cost of production. For example, an authority may decide to run a desalination facility in periods of high surface water flows to allow it to strip surface water for reservoir replenishment. In the short term, it might not be the most cost efficient strategy, but it may be the cheapest long-term alternative.

112. When a water management district funds a regional water supply authority's project, these ad valorem taxes generally come from all of the counties within the district or all or part of several basins.

plies. In the event the districts acquire land for reservoir construction, it should be their goal to set aside a portion of the acquisition for mitigation and, where practical, for wildlife sanctuaries and corridors.[113]

The investment in capital projects associated with the conversion of tertiary treated wastewater into potable supplies is the final area in which it is recommended that districts fund water resource development. These projects are consistent with both of the water management districts' core functions,[114] and are consistent with meeting the dual statutory directives of promoting "the availability of sufficient water for all existing and future reasonable-beneficial uses and natural systems[.]"[115] The benefits are many: Reusing wastewater treated to potable water quality, for instance, provides a new, renewable, drought-proof resource for consumptive use. It improves water quality by removing nitrates from discharges in order to impair water bodies and outstanding Florida waters, assisting in meeting both total minimum daily loads (TMDLs) and MFLs. It provides a water source for aquifer recharge, wetland rehydration, and supplementing river and stream flows. It will also assist in meeting the anticipated numerical nutrient standards scheduled to be implemented over the next two years. The recent decreases in the rate of growth in projected demand as a result of the economic downturn offers an opportunity for water supply authorities to take a breath and undertake an evaluation of these alternatives. It would also offer the opportunity to start a process of public information and discourse to achieve public acceptance of the process.

Constructing a facility at the Curren facility to treat the effluent with an RO system, ultraviolet light, and peroxide processes could be a possible model. After constructing a short interconnection between the Curren plant and Tampa Bay Water's pumping facility, the higher quality effluent could be pumped to its reservoir through existing infrastructure where it would be combined with waters that are pumped from the Alafia and Hillsborough rivers. It would remain there, being treated by diffusion and sunlight, until the dry season, when it could be passed through the surface water treatment facilities to provide drinking water. A quarter of the fifteen billion-gallon reservoir could be filled with treated Curren water in approximately six months at a rate of twenty mgd while

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113. This was precisely the role the district undertook in funding the purchase of land for the Tampa Bay Water C. W. "Bill" Young reservoir. Memorandum from Charles H. Carden, Dir. of Operations and Facilities, Tampa Bay Water, to Gerald J. Seeber, Gen. Manager, Tampa Bay Water (Aug. 3, 2009) (on file with the District).

114. §§ 373.036(1)(a)-(d), (2)(a).

115. § 373.016(3)(d).

additional treated Curren water could also be used for augmentation of the City of Tampa's reservoir or released in the upper Hillsborough River's or Bypass Canal's watersheds. When a second reservoir is built, alternating between reservoirs would allow for filling the reservoir and letting it rest for a year before use. It seems appropriate to investigate integrating the drought-proof output of the Curren wastewater effluent into the potable system using this and other models to determine if it is economically, technologically, and environmentally feasible. The same model would be applicable to the Peace River Regional Water Supply Authority and any regional water supply authority that has a reservoir that can serve to allow the treated waste water to blend with surface water captured during high-flow periods.

Water management districts should have an interest in the operation of these facilities at capacity even in wet periods. No processed water should be allowed to go to tide and every drop of water in excess of demand should be used, stored in reservoirs, or placed in aquifer storage as a last resort. Aquifer storage, either at the point of injection or down gradient, has limitless capacity, experiences little or no evaporation or leakage, and has a very high recovery potential. Moreover, excess deposition in the aquifer that is not recovered through pumping helps to slow additional saltwater intrusion.

It is a better public policy for the districts to justify projects that are consistent with their core mandates when those projects have benefits that may extend beyond the certificated service territories of regional water supply authorities. When the operation and control of water supply facilities is left to the professional management of the authorities, without production oversight and second-guessing of the authorities, significantly less consternation is caused between the management of regional water supply authorities and district management. However, continuous operation of RO treatment of wastewater is consistent with the objects of both regional water supply authorities and the districts.

VI. CONCLUSION

Regional planning, financing, and operation of water supply authorities are the most efficient and sustainable methods for the development and provision of water supplies to customers of multiple jurisdictions. Regional authorities benefit from the economies of scale for new water supplies and those economies produce the lowest retail rates for customers. Because of these low rates, authorities can take on larger projects and develop diverse sources,

including alternative supplies such as RO treatment of wastewater. The biggest impediment to utilizing RO treated wastewater for potable consumption in Florida will be public acceptance. However, this source would be renewable, drought resistant, and cost competitive with treated surface water.

No additional state oversight or planning is appropriate above that currently authorized by statute. The current system with minor adjustments is more than adequate to meet future water supply development, rather than majorly altering the present system.

TWO SIDES OF THE SAME COIN: CONSIDERING HUMAN RIGHTS WHEN DESIGNING ENVIRONMENTAL POLICY

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I. INTRODUCTION

Through a multitude of international declarations, a majority of the global community has committed itself to the protection of the environment.[1] Although many disagree as to which policy reasons and tools to implement when protecting the environment—such as population control, the polluter pays principle, or modification of property rights—the general desire to improve the environment is universal.[2] This desire extends to both developed and developing nations.[3] There is also little doubt that there is an abundance of support for the furtherance and maintenance of human rights around the globe.[4] Although it is generally true that both environmental law and human rights complement each other and concurrently further the betterment of humanity,[5] such symbiosis does not always occur. In fact, during the process of repairing the environment, it is possible to deprive individuals of the same basic human rights that global initiatives are simultaneously attempting to develop.

This problem is especially true when environmental change is implemented through policies and tools. Although there is a wide selection of means available to accomplish environmental objectives, it is not true that each choice is designed for use in every situation. In some developing countries, for example, certain policies and tools might in fact violate the human rights of the citizens. This dichotomy primarily occurs because certain categories of environmental policies require digressing with regards to human rights before moving forward with regards to both. As a result, certain susceptible groups—such as indigenous peoples or the impoverished in underdeveloped countries—must suffer in the short-

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1. *See, e.g.,* U.N. Conference on Environment and Development, June 3-14, 1992, *Rio Declaration on Environment and Development*, U.N. Doc. A/CONF.151/26 (Vol. 1) (Aug. 12, 1992) [hereinafter Rio Declaration].

2. At the Earth Summit of 1992, 172 governments and 108 heads of state attended. *See, e.g.,* The Earth Summit, U.N. Conference on Environment and Development (1992), http://www.un.org/geninfo/bp/enviro.html, (last visited Mar. 15, 2010). These numbers represent a significant increase from previous conferences and demonstrate the growth in universal concern. *Id.*

3. *See* William P. Alford & Benjamin L. Liebman, *Clean Air, Clear Processes? The Struggle Over Air Pollution Law in the People's Republic of China*, 52 HASTINGS L.J. 703, 714 (2001) (describing China's increasing role in environmental affairs).

4. *See, e.g.,* Universal Declaration of Human Rights, G.A. Res. 217A, at 71, U.N. GAOR, 3d Sess., 1st plen. mtg., U.N. Doc. A/810 (Dec. 12, 1948) [hereinafter Declaration of Human Rights]. Adopted in 1948 by the United Nations, this treaty demonstrates that the global concern for human rights had become such an important issue that action was required. *Id.*

5. Neil A.F. Popović, *In Pursuit of Environmental Human Rights: Commentary on the Draft Declaration of Principles on Human Rights and the Environment*, 27 COLUM. HUM. RTS. L. REV. 487, 494 (1996) (stating that "human rights provide a complementary alternative to traditional international environmental law.").

term in order to achieve long-term success. This set-back becomes an issue when attempting to solve environmental problems.

The intention of this Note is to introduce a four-step process that analyzes environmental policies and tools and attempts to reconcile them with human rights, thus avoiding conflicts between the two disciplines. This Note will then test this process using a selection of environmental policies and tools highly likely to implicate serious human rights concerns. The four steps of the process are to: (1) describe the desired environmental objective, (2) examine the offered policy or tool used to achieve that objective, (3) analyze the human rights issues, and (4) offer changes or alternatives. The purpose is to discover effective ways in which environmental law and human rights can work together by creating policies that match their mutual objectives instead of the goals of just one. The four-step process can then be reproduced when modifying the existing, or designing future, environmental policies and tools to better achieve the objectives of both disciplines.

This Note is divided into four sections. Section II will discuss the ways in which environmental law interacts with human rights. This section will first examine the individual and then the mutual objectives of both disciplines. Subsequently, it will provide an introduction into the methods nations use to integrate both disciplines into international and national law. Section III will briefly discuss why human rights are sacrificed when a choice between furthering human rights and furthering the protection of the environment arises. Section IV will discuss three environmental situations where significant human rights are implicated—population control, the polluter pays principle, and the modification of property rights. This Note will analyze each policy or tool using the four-step process previously described. Finally, Section V will conclude the Note with a short summary of the issues discussed and offer a suggestion for utilizing the conclusion of this Note.

II. HOW DOES ENVIRONMENTAL LAW INTERACT WITH HUMAN RIGHTS?

A. What Are the Individual Goals of Environmental Law and Human Rights?

Before it is possible to understand how environmental law and human rights can function together, it is necessary to understand the individual objectives of each. After analyzing both environmental goals and human rights objectives separately, it is then possible

to establish a common ground from which to build policy and tools that incorporate both.

In analyzing environmental law, it cannot be said that there is one overarching goal. In fact, environmental law is better described as a collection of different objectives.[6] This plethora of objectives has led to serious debate over the means used to achieve environmental goals. One of the most important of these debates concerns whether environmental law should be anthropocentric (human-centered) or bio-centric (environmentally-centered).[7] Although there have been strong arguments for bio-centric policy,[8] it appears that the international community has chosen to take an anthropocentric view of environmental law. While this approach may not remain the status quo indefinitely, for now, anthropocentrism is the accepted view. An early example of a document incorporating an anthropocentric view is the 1902 Convention for the Protection of Birds Useful to Agriculture.[9] This convention was designed solely to provide protection to birds useful to humans and simultaneously offered no protection to non-useful birds.[10] This trend continued into the latter half of the century with the Stockholm Declaration and twenty years later with the Rio Declaration, both of which describe goals in terms of anthropocentric views.[11] As will be demonstrated, anthropocentric views are not without problems. By adopting a human-centered approach, countries in which economic and social development is a priority will inevitably

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6. Celia Campbell-Mohn, *Objectives and Tools of Environmental Law*, *in* ENVIRONMENTAL LAW: FROM RESOURCES TO RECOVERY 107, 107-129 (1993).

7. Annecoos Wiersema, *A Train Without Tracks: Rethinking the Place of Law and Goals in Environmental and Natural Resources Law*, 38 ENVTL. L. 1239, 1263 (2008) (stating that "[v]alue debates in environmental law have most frequently fallen somewhere along the spectrum between ecocentric or biocentric approaches and anthropocentric approaches.").

8. *See generally,* Joshua J. Bruckerhoff, *Giving Nature Constitutional Protection: A Less Anthropocentric Interpretation of Environmental Rights,* 86 TEX. L. REV. 615 (2008) (explaining that environmental rights should be less anthropocentric and have more biodiversity considerations).

9. Convention for the Protection of Birds Useful to Agriculture, Mar. 19, 1902, 30 Martens Nouveau Recueil (ser. 2) 686, http://www.ecolex.org/server2.php/libcat/docs/multilateral/en/TRE000067.txt.

10. *Id.*

11. Rio Declaration, *supra* note 1 (stating in Principle 1 that "[h]uman beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature."); Report of the United Nations Conference on the Human Environment, June 5-16, 1972, *Stockholm Declaration on the Human Environment,* U.N. Doc. A/CONF.48/14/Rev.1 (1973) [hereinafter *Stockholm Declaration*] (stating in its preamble that "[b]oth aspects of man's environment, the natural and the man-made, are essential to his well-being and to the enjoyment of basic human rights—even the right to life itself.").

choose short-term human gain over long-term goals imperative to environmental well-being.[12]

In addition to the view that environmental law should remain human-centered, there are numerous other objectives that proponents of environmental law strive to achieve. Some of the most important are "protection of human health, efficiency, national security, preservation for aesthetics or recreation, sustainability, intergenerational equity, community stability, biocentrism, and pursuit of scientific knowledge and technology."[13] These goals are not exclusive; achieving one usually results in the achievement of others. For example, by maintaining a policy of environmental preservation in order to protect human health, one is also contributing to community stability. Thus, it is apparent that environmental protection is driven by a myriad of factors and not a solitary goal.

Much like environmental law, human rights preservation is a global goal that a majority of the world seeks to enhance. The most respected and widely cited source of human rights is the Universal Declaration of Human Rights (UDHR).[14] Adopted by the United Nations General Assembly on December 10, 1948, the UDHR contains a preamble and thirty articles that have been used around the globe as a model for international treaties and national constitutions.[15] The preamble of the UDHR states that "recognition of the inherent dignity and of the equal and inalienable rights of all members of the human family is the foundation of freedom, justice and peace in the world . . . ."[16]

Perhaps the most critical element of human rights is that they are considered "inalienable."[17] Although no definition of "inalienable" is provided within the UDHR, it is possible to look elsewhere to determine its meaning. For instance, the German philosopher Georg Hegel has analyzed the distinction between alienable and inalienable rights.[18] Hegel stated that:

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12. For example, "[e]arly in negotiations [of the Rio Declaration], the G-77 and China identified the concept of the 'right to development' as an emotional touchstone for their approach." Jeffrey D. Kovar, *A Short Guide to the Rio Declaration*, 4 COLO. J. INT'L ENVTL. L. & POL'Y 119, 125 (1993) (discussing the conference history of the Rio Declaration).

13. Campbell-Mohn, *supra* note 6, at 111.

14. *See* Office of the High Commissioner for Human Rights, United Nations: Human Rights, World Record, http://www.ohchr.org/EN/UDHR/Pages/WorldRecord.aspx (last visited Mar. 15, 2010) (stating that the Declaration of Human Rights is the most translated document in the world).

15. Declaration of Human Rights, *supra* note 4.

16. *Id.* at preamble.

17. Eric Engle, *Knight's Gambit to Fool's Mate: Beyond Legal Realism*, 41 VAL. U. L. REV. 1633, 1669 (2007) ("Basic human rights are inalienable.").

18. GEORG W. F. HEGEL, HEGEL'S PHILOSOPHY OF RIGHT, 52-53 (T.M. Knox, trans., Oxford University Press 1942) (1821).

> The right to what is in essence inalienable is imprescriptible, since the act whereby I take possession of my personality, of my substantive essence, and make myself a responsible being, capable of possessing rights and with a moral and religious life, takes away from these characteristics of mine just that externality which alone made them capable of passing into the possession of someone else. When I have thus annulled their externality, I cannot lose them through lapse of time or from any other reason drawn from my prior consent or willingness to alienate them.[19]

Hegel's analysis indicates that in order to maintain our standing as unique beings, certain rights cannot be surrendered, regardless of consent. This fact is of utmost importance when conducting an analysis of human rights precisely because it implies that there is no room for negotiation when discussing the weakening of human rights in order to strengthen other policies. Even if a democratic majority desires to achieve a widely popular policy goal, such as environmental protection, inalienability acts as an absolute limitation on diminishing any human rights whatsoever. Since human rights are inalienable, it also logically follows that no human can be superior to any another. Therefore, even the most obscure human right must be upheld against other law.

In addition to the preamble, the UDHR outlines a series of rights and duties that describe the objectives of the document. The declaration is divided into four columns, each dealing with a certain category of rights and duties. The first column pertains to the rights of the individual and includes rights such as the right to life, equality, security of person, freedom from torture, and the right to not be kept in slavery.[20] The second column concerns individual rights in civil and political society. This category includes rights such as the right to freedom of movement within borders, nationality, marriage, and the right to privacy.[21] The third column refers to spiritual, public, and political freedom and includes rights such as the right to property, peaceful assembly, freedom of expression, and the right to have elections.[22] Finally, the last column addresses social, economic, and cultural rights. It includes rights such as the right to education, standard of living adequate for health and well-being, and the right to motherhood.[23]

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19. *Id.* at 53.
20. Declaration of Human Rights, *supra* note 4, at arts. 3, 4, 9.
21. *Id.* at arts. 12-16.
22. *Id.* at arts. 17-21.
23. *Id.* at arts. 25, 26.

B. Where Do Both Theories Meet?

After examining the individual goals of both fields of law, the next step is to determine where they share common objectives. It is apparent from the above discussion that environmental law, in its current anthropocentric form,[24] and human rights, with its inalienable rights, both agree that human rights cannot be sacrificed for the sake of environmental protection. By adopting an anthropomorphic view, the international community has effectively adopted the position that environmental law is a method to further the interests of mankind instead of a sacrifice that humans must undertake to protect something greater. This conclusion is one that proponents of human rights would find satisfying.

In addition to agreement over prioritizing human rights above objectives that have little or no human benefit, environmental law and human rights have a significant number of objectives that are complementary and in many instances identical. For example, one major objective of environmental law is the protection of human health.[25] One way in which the United States has attempted to achieve this objective is through the Safe Drinking Water Act (SDWA).[26] This act determines the permitted level of water contaminants with a goal of safety.[27] Thus, this act not only protects the environment by reducing the amount of contaminants released into water, but it also promotes international human rights objectives, such as the right to well-being.[28] As the result of similar and overlapping objectives, both environmental goals and human rights objectives can be met simultaneously.

Furthermore, not only do environmental law and human rights have similar objectives, but recently they have begun to borrow much in the way of policy from one another. In fact, in 1992, former President Bill Clinton declared that, "[i]t is no accident that in those countries where the environment has been most devastated, human suffering is the most severe . . . ."[29] Environmental law, for example, has increasingly integrated human rights law into sustainable development debates.[30] The rights of future generations to

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24. *E.g.,* Rio Declaration, *supra* note 1, at princ. 1; *Stockholm Declaration*, *supra* note 11 and accompanying text.

25. Campbell-Mohn, *supra* note 6, at 112.

26. Safe Drinking Water Act, 42 U.S.C.A. §§ 300f-300j-26 (West 1996).

27. *Id.*

28. Declaration of Human Rights, *supra* note 4. Article 25 states that "[e]veryone has the right to a standard of living adequate for the health and well-being of himself and of his family . . . ." *Id.*

29. Michael J. Kane, *Promoting Political Rights to Protect the Environment,* 18 YALE J. INT'L L. 389, 390 (1993).

30. MARIE-CLAIRE CORDONIER SEGGER & ASHFAQ KHALFAN, SUSTAINABLE DEVELOPMENT LAW: PRINCIPLES, PRACTICES AND PROSPECTS 201 (2004).

have access to basic needs such as employment, self-determination, health, and well-being are all reasons to maintain a policy of sustainable development.

Another example of environmental law's borrowing of ideas from human rights policy is the "right to participate." This right is "understood to be the individuals' right to participate in decisions . . . that directly or indirectly affect their habitat."[31] This idea originated from the UDHR and was also integrated into Agenda 21 at the 1992 World Summit on Sustainable Development.[32] This borrowing demonstrates that significant ideas about policy are often shared between the two disciplines. Similarly, human rights bodies, such as the Office of the United Nations High Commissioner for Human Rights, have begun to communicate on a regular basis with environmental organizations.[33]

C. How Has Environmental Law Attempted to Integrate Human Rights?

Above, the individual and common objectives of both environmental law and human rights were established. The next step is to examine how some international bodies (through international treaties) and some nations (through constitutional provisions) have attempted to incorporate them.

One example of an international document that includes both environmental law ideas and human rights is the Stockholm Decolaration.[34] Principle 1 of the declaration states that "[m]an has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations."[35] By analyzing the text of this provision it is possible to extract additional meaning. By separating the phrase "in an environment . . . " from the items listed following "[m]an has the fundamental right . . . " the drafters of the declaration make clear that human rights are placed on a higher platform than environmental law. In

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31. Romina Picolotti & Jorge Daniel Taillant, *Introduction, in* LINKING HUMAN RIGHTS AND THE ENVIRONMENT (Romina Picolotti & Jorge Daniel Taillant eds., 2003), *available at* http://www.uapress.arizona.edu/catalogs/dlg_show_excerpt.php?id=1492&title=Linking+Human+Rights+and+Environment&subtitle=&author=Romina+Picolotti;+Jorge+Daniel+Taillant (last visited Mar. 15, 2010).

32. *Id.*

33. *See* Office of the United Nations High Commissioner for Human Rights, Meeting of Experts on Human Rights and the Environment (Jan. 16, 2002), http://www2.ohchr.org/english/issues/environment/environ/index.htm.

34. *Stockholm Declaration*, *supra* note 11.

35. *Id.* at princ. 1.

fact, it appears from the text that the environment is a vehicle to achieve those rights.

Twenty years later, with the drafting of the Rio Declaration, human rights continue to remain one step above the environment.[36] Principle 1 of the Rio Declaration provides that "[h]uman beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature."[37] Once again, not only are human rights superior to pure environmental concern, they are the sole objective of environmental protection. In fact, during the debate concerning the construction of principles within the Rio Declaration, many developed countries and their non-governmental organizations (NGOs) desired to shift away from the Stockholm Declaration and to adopt a more environmentally-centered policy.[38] However, this was defeated by the G-77 (a loose coalition of developing nations) and China, who both argued that Western countries were ignoring the problems of developing countries.[39] Thus, the anthropocentric view was maintained.

In addition to these international documents, many nations have also incorporated environmental rights into their constitutions. By incorporating environmental policy into a constitution, those issues are elevated to the same importance as human rights.[40] Many African constitutions exemplify this type of incorporation. Although these countries sometimes choose to specifically incorporate protections, the protections are often constructed vaguely or exist solely through judicial interpretation. For example, the majority of African countries include a "right to life" in their constitution, which has been interpreted by many courts to include the protection of clean air and water.[41] In Tanzania, for instance, Article 14 of the constitution provides that "[e]very person has the right to live and to the protection of his life by the society in accordance with law."[42] In *Joseph D. Kessy v. Dar es Salaam City Coun-*

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36. *See generally* Rio Declaration, *supra* note 1.

37. *Id.* at princ. 1.

38. Kovar, *supra* note 12, at 124 ("Some Western delegates, as well as many Western NGOs, argued that the Declaration should announce a radical change from the human-centered thinking of past UN statements on the environment.").

39. *Id.* ("The G-77 and China strongly disagreed, arguing that Western countries did not understand the plight of the poor in developing countries and preferred to ignore it still further by looking past people's misery and focusing on the inanimate workings of nature.").

40. *See* Carl Bruch et al., *Breathing Life into Fundamental Principles: Implementing Constitutional Environmental Protections in Africa* 5 (Jesse C. Ribot & Peter G. Veit eds., 2001) (discussing the benefits of incorporating environmental protections into national constitutions).

41. *Id.* at 29-38. There are similar "right to life" provisions in the Declaration of Human Rights. Declaration of Human Rights, *supra* note 4.

42. CONSTITUTION OF THE UNITED REPUBLIC OF TANZANIA OF 1977 art. 14, *available at* www.tanzania.go.tz/images/theconstitutionoftheunitedrepublicoftanzania1.pdf.

cil, the High Court of Tanzania ruled that "the air pollution created by the garbage dump endangered the health and lives of nearby residents."[43] As a result, they held that it violated Article 14.[44] Although these types of provisions substantially improve environmental protection, their inclusion in some African constitutions as an implied human right reaffirms the global anthropocentric stance.

III. WHY ARE HUMAN RIGHTS PRIORITIZED OVER THE ENVIRONMENT?

Since the obvious global consensus is that a short-term loss in human rights is unacceptable, even in exchange for long term environmental gain, the question becomes: "why?" Why do individuals place immediate human rights losses above environmental gains even though such gains will see a long-term rise in human rights?

There are two possible explanations for the above question. The first is simply that human rights have a longer history. Human rights as law date back to ancient times. In the Neo-Sumerian *Code of Ur-Nammu,* the oldest known legal codex, a variety of human rights issues are addressed—ranging from women's rights to slaves' rights.[45] Throughout history, in fact, human rights have continuously been the subject of controversy within organized society. The Magna Carta of 1215, created as the result of enraged nobility seeking rights from the king, is another powerful illustration of the establishment of a human rights regime.[46] For example, the modern idea of habeas corpus is derived from this document.[47]

On the other end of the historical spectrum is environmental law. Although there exists a long history of environmental controls within densely populated areas, there is little argument that these principles constitute what is now called "environmental law."[48] This consensus results primarily from the fact that environmental controls, prior to recent history, focused mainly on the protection of private and common property instead of on communal issues.[49] In-

43. Carl Bruch et al., *Constitutional Environmental Law: Giving Force to Fundamental Principles in Africa,* 26 COLUM. J. ENVTL. L. 131, 166-67 (2001) (internal citation omitted).

44. *Id.*

45. J.J. Finkelstein, *The Laws of Ur-Nammu*, 22 J. CUNEIFORM STUD. 66, 68-70 (1969) (listing a series of laws relevant to human rights including that "[i]f a man divorces his primary wife, he must pay (her) one mina of silver.").

46. The Text of Magna Carta, *available at* http://www.fordham.edu/halsall/source/magnacarta.html (last visited Mar. 15, 2010).

47. *Id.*

48. STUART BELL & DONALD MCGILLIVRAY, ENVIRONMENTAL LAW 17 (7th ed. 2008).

49. *Id.*

deed, it was not until the late 1960s that the first wave of modern environmental concern surfaced.[50] Additionally, many alive today were born long before environmental declarations or environmental concerns existed. As a result, numerous individuals were raised without an environmental education, though they were taught clear ideas of what inherent rights humans deserve. Thus, because such a large historical discrepancy exists between the two disciplines, a possible conclusion as to why human rights are favored is that society is socially conditioned to prioritize one discipline over the other based on a long, human history.

A second probable explanation for prioritizing human rights is future-value discounting. Future-value discounting is an economic principle usually used to examine future assets and reduce them to present value in today's dollars.[51] When determining present value, there are multiple relevant factors to consider: the opportunity cost in passing up available investments, inflation, and the opportunity of having access to immediate use of the money.[52] Applying this theory to environmental law and human rights can further explain the choices made by the international community. There is significant value in a future possessing both a stable environment and more abundant human rights; however, the cost of improvement, discounted by the present value of human rights and the fact that certain rights would be suspended, is outweighed by the present value of human rights. According to this calculation, maintaining human rights in the short-term is the proper action.

IV. THREE MAJOR AREAS OF CONFLICT

A. Introduction

In order to implement the environmental objectives described in Section II, environmental law must fashion policies and tools that facilitate change. Although every policy or tool designed to effectuate change can serve one or many goals, each has its drawbacks. The drawback may involve something as trivial as losing a small source of income or as significant as the deprivation of life. The choice of how to accomplish these objectives then places a heavy burden on its creator. If the manner of implementing change

50. *See id.* at 21-22 (showing a timeline of landmarks in the modern history of environmental law and policy beginning with Rachel Carson's *Silent Spring* in 1962 and ending with Al Gore's winning of the Nobel Peace Prize in 2007).

51. Charles Dominique & David R. Kamerschen, *The Effect of the Mandated Discount Rate on the Value of Wrongful Death Awards in Georgia,* 52 MERCER L. REV. 1147, 1149 (2001).

52. *Id.*

results in a violation of human rights, there is little chance of that solution flourishing. Therefore, careful scrutiny is required. In order to maximize the objectives of both disciplines, policies and tools implemented for environmental change must be properly designed. This section will analyze three specific policies and tools: population control, the polluter pays principle, and the modification of property rights. These specific policies and tools will be analyzed using this Note's four-step process: (1) describe the desired environmental objective, (2) examine the offered policy or tool used to achieve that objective, (3) analyze the human rights issues, and (4) offer changes or alternatives. The purpose is to demonstrate that by using such a process, existing and future policies and tools can be altered to better meet the objectives of both disciplines.

B. Population Control

1. Describe the Desired Environmental Objective

One major objective of environmental law is sustainable development.[53] The purpose of sustainable development "is to manage natural systems for the perpetuation of the human species now and in the future."[54] Because this objective assumes that the harm generated by the depletion of resources outweighs the possibility that future technology will expand those resources, planning for the future must be undertaken with the information available today. [55] While sustainable development can be accomplished through a variety of policies and environmental tools, one solution often suggested is population control.

2. Examine the Offered Policy or Tool Used to Achieve that Objective

Despite the fact that the idea appears relatively new, population control dates back to the eighteenth century.[56] Thomas Malthus hypothesized that while resources for food grew arithmetically (linearly), population growth occurred exponentially.[57] Although Mathus focused on the problems associated with a growing population and its effects on starvation and illness,[58] the same hypothesis

53. Campbell-Mohn, *supra* note 6, at 119-20.
54. *Id.* at 119.
55. *Id.* at 119-20.
56. *See* THOMAS ROBERT MALTHUS, POPULATION: THE FIRST ESSAY (1798).
57. *Id.* at 9 (stating that "the human species would increase in the ratio of—1, 2, 4, 8, 16, 32, 64, 128 . . . and subsistence as—1, 2, 3, 4, 5, 6, 7 . . . .").
58. *Id.*

has been applied to environmental degradation and the depletion of world resources. Furthermore, the Stockholm Declaration acknowledges that a growing population contributes to environmental problems.[59] Its fifth proclamation provides that "[t]he natural growth of population continuously presents problems for the preservation of the environment, and adequate policies and measures should be adopted, as appropriate, to face these problems."[60]

Beginning in the late 1960s, population control gained momentum as an environmental theory. Written in 1968, *The Population Bomb*, by Paul Ehrlich, predicted that at current growth, by the 1970s, "the world will undergo famines—hundreds of millions of people are going to starve to death."[61] While this prediction proved false, and global population growth has actually slowed recently,[62] it does not mean that the theory is rendered inapplicable. In fact, the United Nations predicts that by 2050 the world population will be ten billion, and in the worst-case scenario, at current reproduction levels, it could reach 694 billion by 2150.[63] Although there will almost definitely be improvements in technology, sustainable development examines current technology when determining what action is necessary. With some scholars predicting that Earth will soon reach its "carrying capacity,"[64] it is likely that population issues will have an important place in the near future. Therefore, the implementation of population control warrants close scrutiny.

3. Analyze the Human Rights Issues

Although primarily used to promote modernization and economic development instead of environmental protection, China is home to one of the world's most controversial population control

59. *Stockholm Declaration*, *supra* note 11, at 3.

60. *Id.*

61. PAUL R. EHRLICH, THE POPULATION BOMB xi (1968).

62. Ciara Curtin, *Fact or Fiction?: Living People Outnumber the Dead*, SCI. AM., Mar. 1, 2007, *available at* http://www.sciam.com/article.cfm?id=fact-or-fiction-living-outnumber-dead (stating that "[r]ecently, the population has been increasing by about 1.2 percent each year, down from the late 1960s peak of a 2.1 percent yearly growth rate.").

63. Geoffrey McNicoll, *The United Nations' Long-Range Population Projections,* 18 POPULATION & DEV. REV. 333, 334 (1992).

64. Carrying capacity is described as "the maximum population size of any organism that an area can support, without reducing its ability to support the same species in the future." Mona L. Hymel, *The Population Crisis: The Stork, the Plow, and the IRS,* 77 N.C. L. REV. 13, 19 (1998) (original emphasis omitted) (quoting PAUL R. ERLICH ET AL., THE STORK AND THE PLOW 3-4 (1995)); Diane L. Slifer, *Growing Environmental Concerns: Is Population Control the Answer?* 11 VILL. ENVTL. L.J. 111, 115 (2000) ("On one side of the debate are those who hypothesize that the Earth is running out of natural resources, and the human race is therefore on the brink of disaster. People agreeing with this hypothesis claim the Earth will soon reach its limited "carrying capacity.").

policies.[65] Currently, with about 1.3 billion people and a land mass smaller than that of the United States, China has been struggling to control its over-population issues.[66] Through its "one-couple, one-child" policy, China places multiple conditions on reproduction.[67] The two most important principles of this policy are that: (1) no couple is permitted to conceive more than one child, and (2) couples may not conceive children until they reach the legal age for marriage.[68] As a mechanism of enforcement, the government constantly engages in forced abortions and sterilization of its population.[69] In fact, a State Department Country Report profiled a mass forced abortion and sterilization that took place in 2005 in the Linyi, Shandong Province.[70] The report stated that approximately 130,000 people were detained, and many of them were forced to submit to one of the two procedures.[71] Even more horrifying, according to Congressman Christopher Smith, Chairman of the Subcommittee on International Operations and Human Rights, "[f]orced abortions [in China] are often performed very late in pregnancy, even in the ninth month."[72] Such abortions are sometimes accomplished by either crushing the baby's skull with forceps as it emerges from the mother or by injecting poison into the baby's skull once it is born.[73]

Moreover, China is not alone in its brutal population control policies. India also has a history of similar programs.[74] To solve problems stemming from its growing population, India opened family planning clinics in 1923.[75] During the 1970s, its population

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65. *See* Amy Hampton, *Population Control in China: Sacrificing Human Rights for the Greater Good?*, 11 TULSA J. COMP. & INT'L L. 321, 321 (2003) (stating that "[i]n an effort to reduce the Chinese population to a level that more equally matches the country's available resources and to improve the nation's economic standing, the Chinese government has implemented various population control[s] . . . ."). Additionally, it is important to note that although it is not a primary goal, improving the environment is still listed by the Chinese government as one reason for population control. *Id.* at 358 (stating that "'China will continue to control population growth, improve population quality, protect and rationally utilize resources, strengthen ecological building, protect and improve the environment, and vigorously promote the coordinated development of the economy, population, resources, and the environment with development as the theme.'") (internal citation omitted).

66. PETER J. BRYANT, BIODIVERSITY AND CONSERVATION: A HYPERTEXT BOOK, *Chapter 24: Human Population Growth,* http://darwin.bio.uci.edu/~sustain/bio65/lec24/b65lec24.htm, (last visited Mar. 15, 2010).

67. Petition for Writ of Certiorari at 3, Yang v. Mukasey, 2007 WL 4300862 (No. 07-756).

68. *Id.*

69. *Id.* at 4.

70. *Id.*

71. *Id.*

72. Hampton, *supra* note 65, at 335.

73. *Id.* at 335-36 (describing abortion scenes).

74. Elizabeth Rohrbough, *On Our Way to Ten Billion Human Beings: A Comment on Sustainability and Population,* 5 COLO. J. INT'L ENVTL. L. & POL'Y 235, 244 (1994).

75. *Id.*

continued to grow so rapidly that India instituted a campaign of forced sterilization.[76] Beginning in the mid-1970s, forced sterilization cases rose from 1.3 million a year to 2.6 million a year and, finally, to 8.1 million a year.[77] Prime Minister Indira Gandhi's government was voted out of office because the forced sterilization program became so unpopular.[78]

As demonstrated by the Chinese and Indian examples, certain procedures used to control population growth often result in egregious human rights violations. While such violations touch on an enormous number of human rights issues, there are two rights that these procedures infringe upon the most: the right to life and the right to personal autonomy.

Although the breadth and depth of what constitutes a "human right" can be debated, it is difficult to argue that the right to life should not be included in the category. Around the globe, treaties and constitutions explicitly spell out this right. For example, Article 3 of the UDHR states that, "[e]veryone has the right to *life*, liberty and the security of person."[79] The Fifth Amendment of the United States Constitution states that "[n]o person shall be . . . deprived of life, liberty, or property, without due process of law."[80] Additionally, many U.S. states define an inalienable right to life in their constitutions.[81] Regardless of an individual's position on abortion—especially regarding the issue of when life begins—most would concede that killing a child after its birth violates its right to life. Since both human rights and environmental law prioritize human rights over environmental protection, population control, as implemented in China and India, furthers neither goal.

Closely related to the right to life is the right to personal autonomy. Although a right to life clearly exists, what constitutes the right to personal autonomy is significantly more muddled. In fact,

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76. *Id.*

77. CHARAN D. WADHVA ET AL., POPULATION STABILIZATION THROUGH DISTRICT ACTION PLANS 20 (2003) (describing statistics regarding the number of sterilizations that took place in India during the period from 1974-1978).

78. Rohrbough, *supra* note 74, at 244.

79. Declaration of Human Rights, *supra* note 4, at art. 3 (emphasis added).

80. U.S. CONST. amend. V. This amendment applies to the States through the Fourteenth Amendment of the Constitution, which states that "[n]o State shall . . . deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws." U.S. CONST. amend XIV.

81. *E.g.,* CAL. CONST. art. 1, § 1 ("All people are by nature free and independent and have inalienable rights. Among these are enjoying and defending life and liberty . . . ."); COLO. CONST. art. II, § 3 ("All persons have certain natural, essential and inalienable rights, among which may be reckoned the right of enjoying and defending their lives . . . ."); FLA. CONST. art. I, § 2 ("All natural persons, female and male alike, are equal before the law and have inalienable rights, among which are the right to enjoy and defend life . . . ."); HAW. CONST. art. I, § 2 ("All persons are free by nature and are equal in their inherent and inalienable rights. Among these rights are the enjoyment of life . . . .").

the UDHR fails to specifically establish such a right.[82] However, upon combining multiple provisions of the UDHR—such as Article 3's right to security of person, Article 4's right to be free from slavery, Article 9's right to be free from arbitrary detention, Article 18's right to freedom of thought and religion, and most importantly, Article 16's right to marry and found a family—it is apparent that a right to personal autonomy exists.[83] The prohibitions on couples under the marriage age to conceive children, the use of forced sterilization, and the use of forced abortion all infringe upon this "right to personal autonomy." Thus, all three policies are unacceptable options for accomplishing the objective of population regulation for the purposes of sustainable development.

4. Offer Changes or Alternatives

Because certain population control policies severely impact human rights, the final step is to explore different methods of population control or alternative methods of achieving sustainable development. Education about, and availability of, contraception, the improvement of women's rights, and the development of a stronger economy have all been argued as alternative, but by no means exclusive, ways in which sustainable development may be accomplished without the population control procedures used in China and India.[84]

By educating populations on contraception and making it more readily available, millions of potentially unwanted births can be avoided each year.[85] In addition to assisting population control, greater knowledge and use of contraception furthers human rights because they empower the individual with regard to the personal issue of starting a family.[86] Furthermore, it has been argued that altering women's roles in society would also decrease population growth.[87] Providing women with more education would encourage them to seek employment outside the home. Women could then step back from their roles as child producers and strive towards

82. *See* Declaration of Human Rights, *supra* note 4 (demonstrating that no such right explicitly exists).

83. *Id.* at arts. 3, 4, 9, 16, 18.

84. *See* Reed Boland, *The Environment, Population, and Women's Human Rights*, 27 ENVTL. L. 1137, 1165-66 (1997) (offering alternative ways to accomplish population control).

85. *See id.* at 1167 (noting that studies have consistently shown that hundreds of millions of people throughout the world would like to limit their births but do not have effective means to do so).

86. Declaration of Human Rights, *supra* note 4, at art. 16 (describing the right to create a family).

87. Hampton, *supra* note 65, at 356 ("[O]ne of the most effective ways to maintain population control in China would be to move further away from the traditional models of women in society.").

their own objectives.[88] According to a U.N. study, women who have seven years of education have "on the average three fewer children than women with no education."[89] Thus, greater education would not only help curb population growth but it would also further human rights, more specifically, women's rights.[90] Finally, another U.N. study shows that significant economic improvement often results in a declining birth rate.[91] Economic improvement similarly contributes toward population control and the furtherance of other human rights goals such as property ownership, employment, and readily available medical treatment.[92]

C. Polluter Pays Principle

1. Describe the Desired Environmental Objective

Another objective of environmental law is the protection of human health.[93] Although not defined by law, the "protection of public health . . . is intended to provide 'an absence of adverse effects,' including effects that are not immediately apparent."[94] This objective is considered "low-road environmentalism" since it is concerned with protecting individuals from pollution impacts as opposed to concern for quality of life.[95] One solution often used to achieve the protection of human health is economic instruments.

2. Examine the Offered Policy or Tool Used to Achieve that Objective

In the last few decades, economic instruments have gained significant popularity and have been called by some the "hottest growth industry in environmental law."[96] The theory surrounding economic instruments is that the production of goods and services not only produces monetary costs but also environmental and social costs for which society must be responsible.[97] As a result, economic instruments attempt to identify these costs, and "to include

88. Boland, *supra* note 84, at 1165-66.
89. *Id.* at 1164 (internal citation omitted).
90. *See* Declaration of Human Rights, *supra* note 4, at arts. 23 & 26
91. Margaret Liu, *International Adoptions: An Overview*, 8 TEMP. INT'L & COMP. L.J. 187, 192 (1994).
92. *See* Declaration of Human Rights, *supra* note 4, at arts. 17, 23, & 25.
93. Campbell-Mohn, *supra* note 6, at 112-15 (explaining the "protection of human health" objective).
94. *Id.* at 112.
95. *Id.*
96. Eric W. Orts, *Reflexive Environmental Law*, 89 NW. U. L. REV. 1227, 1241 (1995) (describing "free market environmentalism").
97. BELL, *supra* note 48, at 239.

them in the prices of goods and services, so that the market has a more accurate idea of the full cost of the product or service."[98] Thus, the costs are passed from the producer to the consumer.[99]

First popularized by the Organisation for Economic Co-operation and Development in the early 1970s,[100] one widely accepted method of implementing economic instruments is the polluter pays principle. Generally, the polluter pays principle "is an economic rule of cost allocation whose source lies precisely in the theory of externalities. It requires the polluter to take responsibility for the external costs arising from his pollution."[101] By imposing liability on the polluter, those who harm the environment have an economic incentive for managing and controlling pollution.[102] This liability includes the costs of preventing future environmental damage that the polluter's actions may cause.[103]

The polluter pays principle can be found in a multitude of international documents. For example, Principle 16 of the Rio Declaration states that, "National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.[104] Moreover, COD/2006/0086, which amends Directive 2004/35/EC of the European Parliament, describes the polluter pays principle, specifically by name. It states that "[t]aking into account the polluter pays principle, Member States should ensure that action is taken to remediate the contaminated sites indentified within their national territory."[105]

A brief hypothetical demonstrates the operation of this principle. Imagine that a factory produces an output of pollutant *x*. In order to reduce the amount of pollutant *x*, the factory must expend financial resources to upgrade its facilities. As a result, in an effort to subsidize the cost of lowering *x*, the factory will increase the price of its product. While this results in increased prevention of

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98. *Id.*

99. *Id.* at 244 (describing the "polluter pays principle").

100. *Id.*

101. Margaret Rosso Grossman, *Agriculture and the Polluter Pays Principle: An Introduction,* 59 OKLA. L. REV. 1, 29 (2006).

102. NEIL GUNNINGHAM ET AL., SMART REGULATION: DESIGNING ENVIRONMENTAL POLICY 78 (1998).

103. BELL, *supra* note 48, at 244 ("It also covers costs incurred in avoiding pollution and not only those related to remedying any damage.").

104. Rio Declaration, *supra* note 1, at princ. 16.

105. Commission of the European Communities, *Proposal for a Directive of the European Parliament and of the Council Establishing a Framework for the Protection of Soil and Amending Directive 2004/35/EC*, COM (2006) 232 final 2006/0086 (COD), at 13 (Sept. 22, 2006), *available at* http://ec.europa.eu/environment/soil/pdf/com_2006_0232_en.pdf.

some harm (as a result of lowering *x*), and mandates payment by the factory for the additional harm regularly generated (what is left of *x*), the entire cost of this modification will be shifted to the consumer, who must pay more for their product.

Additionally, maintaining a polluter pays regime also aids in the fight against "pollution havens."[106] It is argued that as a result of the stringent environmental standards in developed countries, corporations choose to close domestic operations and transplant them to developing countries where environmental standards are weaker.[107] Since the developing countries serve as a mechanism to encourage cheap pollution, they are aptly named "pollution havens." This nickname is further exacerbated by the fact that developing countries might intentionally undervalue environmental damage in order to attract greater foreign investment.[108] For example, industry has flocked to the "maquiladora" zone along the U.S.-Mexico border due to the area's lax environmental laws.[109] However, by applying a polluter pays principle to countries used as pollution havens, corporations lose their incentive to move the production of pollution from one country to another. Thus, it is no longer economically efficient to outsource abroad because the damage caused by the corporation will be factored into their operating cost regardless of where they operate.

3. Analyze the Human Rights Issues

Although the polluter pays principle, as applicable, provides countless benefits, it is not dispositive as to the question of universal use. In fact, there are several reasons this environmental policy, if applied to a developing country at an inappropriate time, could result in the loss of several human rights. The rights exposed to the greatest probability of harm are the right to work and the right to health and well-being.[110]

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106. It is still debated whether or not "pollution havens" actually exist; however, a conclusive answer has yet to be reached. Judith M. Dean et al., U.S. Int'l Trade Comm'n, Office of Economics Working Paper, *Foreign Direct Investment and Pollution Havens: Evaluating the Evidence from China*, 2004-01-B, at ii, *available at* http://permanent.access.gpo.gov/websites/ftpusitcgov/ftp.usitc.gov/pub/reports/studies/EC200401B.pdf ("Empirical studies to date show little evidence to support the pollution haven hypothesis, but suffer potentially from omitted variable bias, specification, and measurement errors.").

107. *Id*. at 1.

108. *Id.*

109. Hilary F. French, *Reforming the United Nations to Ensure Environmentally Sustainable Development*, 4 TRANSNAT'L L. & CONTEMP. PROBS. 559, 581 (1994).

110. Declaration of Human Rights, *supra* note 4, at arts. 23 & 25.

Although numerous developing countries manifest a strong desire to be involved in global environmental regimes,[111] many of their current economic situations are incompatible with certain environmental policies.[112] One of the most significant ways in which the polluter pays principle can affect developing economies is by harming their ability to produce low cost exports. In China, for example, exports now constitute more than one-third of the gross domestic product (GDP).[113] As a result, China's economy is heavily dependent on maintaining low prices in order to remain competitive with the remainder of the world. Introducing a polluter pays principle into such an atmosphere can drastically affect developing countries' ability to maintain these competitive prices. Because the polluter pays principle forces manufacturers to take accountability for their environmental damage, the cost and burden is shifted into the price of the product.[114] This shift no doubt reduces worldwide consumption of those exports. Thus, there is great friction between the polluter pays principle and developing countries that possess a GDP heavily dependent on exports.

While this price shift may appear harmless, issues caused by diminishing exports dramatically affect the health of developing economies and, by extension, human rights. In his 2006 trip to the United States, the Chinese President, Hu Jintao, claimed that the most serious challenge facing China was unemployment.[115] Since then, as a result of the worldwide financial crisis, China's GDP has seen a dramatic drop.[116] Consequently, it is conservatively estimated that 2.7 million workers could be facing unemployment.[117] Furthermore, since China's GDP is so heavily influenced by exports, a decreased GDP could lead to cataclysmic consequences in the job market. In fact, Yale Global Online has stated that a dra-

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111. As demonstrated by the fact that the G-77 has been involved in global environmental negotiations. *See* Lee Hart, Note, *Note: International Emissions Trading Between Developing Countries: The Solution to the Other Half of the Climate Change Problem*, 20 FLA. J. INT'L LAW 79, 97-98 (2008) ("Despite their differences, however, the G-77 countries have in common the goals of tackling poverty, achieving sustainable economic development, and gaining power and influence in a Western-dominated world.").

112. In fact, Principle 5 of the Rio Declaration was added as a result of the G-77s argument that "sustainable development for all cannot be achieved without alleviating and eventually eradicating poverty where it exists." Kovar, *supra* note 12, at 127. This addition illustrates that the G-77 must deal with economic struggles concurrently with environmental ones. *See id.*

113. Barry Hughes, *China Economy Driven by Domestic Spending*, THE AUSTRALIAN, Sept. 13, 2007, http://www.theaustralian.news.com.au/story/0,25197,22408411-23850,00.html.

114. BELL, *supra* note 48, at 244

115. Simon Elegant, *China's Worst Nightmare: Unemployment*, TIME, Oct. 31, 2008, http://www.time.com/time/world/article/0,8599,1855400,00.html.

116. *Id.* (stating that as of October 2008 China's GDP growth had dipped to around 9% and further decline was expected as the worldwide financial crisis transmogrified).

117. *Id.* (anticipating the closing of 9,000 factories in late January of 2009).

matic decline in employment could "threaten social stability in China . . . ."[118]

Using the UDHR yet again as a guide for human rights, it appears that multiple provisions are impacted. First and foremost, a dramatic loss of employment would violate the UDHR on its face. Article 23 states that "[e]veryone has the right to work, to free choice of employment, to just and favourable conditions of work and to protection against unemployment."[119] A polluter pays principle would not only deprive individuals of their right to work, but since other environmental policies are available as alternatives, it also prevents the state from providing adequate protection against unemployment, which then impacts other human rights.[120] For instance, the right to health and well-being is indirectly affected by unemployment because without a source of income, individuals lack the ability to afford proper food and medical care.[121]

4. Offer Changes or Alternatives

After analyzing the purpose of this environmental tool and discovering its shortcomings, the final step in the process is to craft an alternative. One possibility is the implementation of financial instruments. Financial instruments are used primarily to provide entities with subsidized resources for conservation and environmental protection.[122] These instruments are usually in the form of "revolving funds, green funds, subsidized interest rates, and soft loans."[123] By utilizing financial instruments, the cost of environmental protection is absorbed by the state instead of by the entity.[124] Therefore, the cost of the program fails to pass to the consumer; as a result, in developing countries, exports are not hampered. Moreover, if export prices remain stable, demand will remain high and workers can maintain employment. If they are able to maintain their employment, other rights such as the right to health and well-being also remain protected.

Some scholars have argued, with good merit, that financial instruments are subject to abuses—especially by spending on indus-

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118. Linda Lim, *Why China Should Not Revalue Its Currency*, YALE GLOBAL ONLINE, Sept. 12, 2003, http://yaleglobal.yale.edu/content/why-china-should-not-revalue-its-currency.

119. Declaration of Human Rights, *supra* note 4, at art. 23.

120. Since the State could institute environmental policies which do not implicate employment, using the polluter pays principle would be inadequate.

121. Declaration of Human Rights, *supra* note 4, at art. 25.

122. GUNNINGHAM, *supra* note 102, at 77-78.

123. *Id.* Revolving funds are loans given by the central government to fund local governments, small businesses, or other entities. This system allows government to finance environmental projects. Once the money is repaid it is then recycled to another project. *Id.*

124. *See id.*

trial expansion.[125] However, because the world view of environmental law is anthropocentric and because human rights are inalienable, it logically flows that the possibility of misappropriation in no way outweighs the valuable rights lost in certain polluter pays situations. Therefore, financial instruments are preferable over the polluter pays principle in situations where nations' economies depend on exports.

D. Modification of Property Rights

1. Describe the Desired Environmental Objective

Besides sustainable development and the protection of human health, another objective of environmental law is community stability.[126] It is argued that the goal of "community stability arose when the first humans joined with others to form social unions."[127] Since then, it has been an objective of every society.[128] One widely utilized and popular solution for implementing community stability is the modification and distribution of property rights.[129]

2. Examine the Offered Policy or Tool Used to Achieve that Objective

It is argued that "much environmental depletion and pollution is caused by inadequately defined and insecure property-rights."[130] Garrett Hardin's *Tragedy of the Commons* has been widely cited to demonstrate this proposition.[131] In Hardin's example, residents of "the commons" (a pasture) operate in their own self-interest (by overgrazing) as a consequence of non-existent property rights.[132] As a result, after a period of time, the pasture is depleted to an unsustainable level, harming the entire population and affecting community stability.[133] However, by assigning property rights, each commons resident has an incentive to maintain its value;[134] thus, the "tragedy of the commons" is avoided.

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125. *Id.* at 78.
126. Campbell-Mohn, *supra* note 6, at 124-25.
127. *Id.* at 124.
128. *Id.*
129. *See id.*
130. GUNNINGHAM, *supra* note 102, at 70.
131. Garrett Hardin, *The Tragedy of the Commons,* 162 SCIENCE 1243 (1968).
132. *Id.* at 1244.
133. *Id.*
134. GUNNINGHAM, *supra* note 102, at 71. As a result of establishing a right to a resource, value is generated. Furthermore, in order to "maximize the profits that accrue from selling that right," the owner must maintain his property. This incentive encourages entities to conserve environmental resources and limit their use to what can be sustained. *Id.*

There are two categories in which property rights can be limited to achieve environmental objectives.[135] First, property rights can be limited through land banking, easements, zoning, planned unit developments, land trusts, and transferable development rights.[136] While not without their own problems, this category of limitations is not addressed by this Note. Secondly, property rights can also be limited through "adverse possession, private nuisance, waste, public and private easements, restrictive covenants, eminent domain, community property, and the public trust."[137] It is this category of tools that will be scrutinized, particularly eminent domain.

3. Analyze the Human Rights Issues

Although there are apparent benefits in regulating property rights, for many, property rights are considered to be equivalent to other human rights, such as the right to life.[138] As a result, a potential conflict exists between the use of regulation of public property to achieve environmental improvement and the property rights of individuals. However, before any further discussion, it must be determined whether the ownership of property constitutes a human right at all. Both the UDHR and the constitutions of multiple countries claim property ownership as a protected right.[139] The UDHR provides in Article 17 that "[e]veryone has the right to own property alone as well as in association with others" and "[n]o one shall be arbitrarily deprived of his property."[140] Thus, there is a strong argument as to the existence of this right.

As a result of placing property ownership within the scope of human rights, issues arise when limiting property ownership through regulations, such as covenants and easements, and also during transfers of property from one group to another through eminent domain. In the United States, the state of Oregon has dealt with the former issue. In an attempt to battle state-wide urban sprawl, and with the goal of sustainability in mind, Oregon

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135. Campbell-Mohn, *supra* note 6, at 143 (describing in detail the definition and uses of property right distribution in the environmental context).

136. *Id.*

137. *Id.* at 143.

138. *See* James S. Burling et al., *Environmental Law: Property Rights in the United States*, 32 WM. & MARY ENVTL. L. & POL'Y REV. 877, 880 (2008) ("In other places in the world, those of us born under communism, those of us born under and who have lived under other systems of government where property is either severely limited by the government or practically nonexistent, realize full well as a matter of daily life that you really can't have liberty. And in a real sense, you can't have life without property.").

139. Declaration of Human Rights, *supra* note 4, at art. 17; U.S. CONST. amend. V; U.S. CONST. amend. XIV; GRUNDGESETZ [GG][Constitution] art. 51 (F.R.G.).

140. Declaration of Human Rights, *supra* note 4, at art. 17.

instituted a growth management system beginning in the 1970s.[141] Oregon's first action was to determine state-wide growth goals—initially there were fourteen.[142] In order to implement this growth management system, the state government extended deference to the municipal and county governments to "'[p]repare, adopt, amend and revise comprehensive plans in compliance with goals approved by the commission.'"[143] This system allowed the government to restrict land use without compensating the owner.[144] In response, voters passed Measures 37 & 49 to protect private property interests.[145]

The compensation issue described in Oregon demonstrates the issues that may arise between private property and environmental policies. Once again, however, by analyzing the issue thoroughly and establishing the mutual goals of environmental law and human rights, it is possible to solve this issue. While many sources cite property ownership as a fundamental right, this right is not an unlimited one. Article 17 of the UDHR solely states that the deprivation of property must not be arbitrary,[146] while the United States Constitution states that property must not be denied without due process.[147] Despite the fact that property ownership is arguably a human right,[148] if "just compensation" is awarded for the restriction of that use, then the property right is not deprived arbitrarily or without due process. Therefore, as long as regulations provide "just compensation," harmony can exist between this environmental policy and human rights.

In addition to the property issue existing in Oregon, another conflict exists between the distribution of property and groups of indigenous peoples. Currently, the United Nations estimates that more than 300 million indigenous peoples live in over seventy countries around the world.[149] In fact, the role of indigenous peoples has long been recognized by environmental organiza-

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141. David J. Boulanger, *The Battle Over Property Rights in Oregon: Measures 37 and 49 and the Need for Sustainable Land Use Planning*, 45 WILLAMETTE L. REV. 313, 313 (2008).

142. *Id.* at 318.

143. *Id.* at 318-19 (internal citation omitted).

144. *Id.* at 314.

145. *See id.* at 314 ("Measures 37 and 49 represent the ongoing conflict between private property rights advocates and those who advocate sustainable development through the use of government regulation.").

146. Declaration of Human Rights, *supra* note 4, at art. 17.

147. U.S. CONST. amend. V.

148. *See e.g.*, Declaration of Human Rights, *supra* note 4, at art. 17; U.S. CONST. amend. V; U.S. CONST. amend. XIV; GRUNDGESETZ [GG][Constitution] art. 51 (F.R.G.).

149. SVITLANA KRAVCHENKO & JOHN E. BONINE, HUMAN RIGHTS AND THE ENVIRONMENT: CASES, LAW, AND POLICY 147 (2008).

tions.[150] The Rio Declaration states in Principle 22 that "[i]ndigenous people and their communities and other local communities have a vital role in environmental management and development because of their knowledge and traditional practices."[151] However, as a result of some property rights distribution policies, indigenous peoples are sometimes denied access to vital resources, including their cultural territories.[152]

Although the UDHR fails to recognize any specific rights for indigenous peoples,[153] this is not dispositive as to whether they have rights at all. In fact, the United Nations adopted the Declaration on the Rights of Indigenous Peoples in 2007.[154] This document contains forty-six articles that specifically pertain to the rights of indigenous people.[155] Although multiple provisions within the document are affected by governmental property distribution policies, the rights most significantly implicated are the Article 3 right to self-determination and the Article 8 right to be protected from the dispossessing of lands, territories, and resources.[156]

Lubicon Lake Band v. Canada[157] demonstrates these types of violations. In that case, the chief of the Lubicon Lake Band, Bernard Ominayak, accused the Canadian government of "violating the Band's right to determine freely its political status and to pursue its economic, social and cultural development."[158] He accused the Canadian Government of allowing the province of Alberta to annex the territory of the Band for the benefit of private corporate

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150. Rio Declaration, *supra* note 1, at princ. 22 (stating also that "[s]tates should recognize and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development.").

151. *Id.*

152. *See* Robert Poirier & David Ostergren, *Evicting People From Nature: Indigenous Land Rights and National Parks in Australia, Russia, and the United States*, 42 NAT. RESOURCES J. 331, 350-51 (2002).

153. Declaration of Human Rights, *supra* note 4 (showing that no article describes rights provided to indigenous people).

154. KRAVCHENKO, *supra* note 149, at 157. The U.N. Human Rights Council first recommended this Declaration in 1994, and it was accepted by a General Assembly vote of thirty to two. *Id.*

155. Declaration on the Rights of Indigenous Peoples, G.A. Res. 61/178, U.N. Doc. A/61/L.67 (Sept. 7, 2007), *available at* http://iwgia.synkron.com/graphics/Synkron-Library/Documents/InternationalProcesses/DraftDeclaration/07-09-13ResolutiontextDeclaration.pdf [hereinafter Rights of Indigenous Peoples].

156. *See id.* (stating in Article 3 that "[i]indigenous peoples have the right to self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development" and in Article 8(2) that "[s]tates shall provide effective mechanisms for prevention of, and redress for . . . (b) Any action which has the aim or effect of dispossessing them of their lands, territories or resources.").

157. Lubicon Lake Band v. Canada, Commc'n No. 167/1984, U.N. Doc. Supp. No. 40 (A/45/40) (1990), *available at* http://www1.umn.edu/humanrts/undocs/session45/167-1984.htm [hereinafter Lubicon Lake Band].

158. *Id.*

interests.[159] By allowing private companies to access their land, the Canadian Government not only violated the Band's right to self-determination, it also failed to provide mechanisms to prevent the dispossession of their land.[160] As a result, the Band's human rights were violated.

The struggles of the Maasai in East Africa provide another example of the type of harm caused by the modification of property rights. Historians believe that the settlement of the Maasai in Kenya can be traced back to the first millennium A.D.[161] As a result, their history and culture is deeply rooted in the territory they inhabit. Despite that, however, since the inception of the colonial period, the Maasai's rights to inhabit land have deteriorated.[162] Beginning in 1945 with the National Parks Ordinance,[163] and throughout the twentieth century, the Maasai were systematically excluded from their land.[164] In fact, the government reserved the best of the Maasai land (the areas with rivers and streams) for protection, and left the Maasai with dry season grazing areas and other substandard habitat.[165] The government's theory was that "overgrazing due to improper livestock and range management is one of the principal causes of desertification in Kenya."[166] As a result, the Maasai tribal land is now shared with, and in many cases given to, entities for development and tourism (such as national parks).[167] This policy has caused chaotic consequences for the Maasai. One major change is that the traditional leaders and elders of the Maasai community have been stripped of their customary authority and role in ensuring social cohesion.[168] Thus, just like the Lubicon Lake Band, many of the Maasai's human rights are violated as a result of land redistribution.

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159. *See* KRAVCHENKO, *supra* note 149, at 150. Although this case is not centered on environmental protection, the dangers present here are nonetheless present in property rights policies regarding the environment. *See id.*

160. Lubicon Lake Band, *supra* note 157.

161. Joy K. Asiema & Francis D. P. Situma, *Indigenous Peoples and the Environment: The Case of the Pastoral Maasai of Kenya*, 5 COLO. J. INT'L ENVTL. L. & POL'Y 149, 155 (1994).

162. *Id.* at 159.

163. *Id.* (declaring that certain reserves shall become national parks, and that the Maasai and their livestock were excluded).

164. *Id.*

165. *Id.* at 160-61.

166. *Id.* at 164.

167. *See id.* ("To combat overstocking and overgrazing, the government proposed that the entire range should be developed, conserved, and managed in accordance with ecological principles of proper land use.").

168. *Id.* at 163.

4. Offer Changes or Alternatives

Although the rights of indigenous peoples are harmed by the dispossession of their property, a viable solution exists. Instead of removing indigenous peoples from their territory, they can live in symbioses with the territory. In fact, a record of successful coexistence between indigenous peoples and nature exists in international fora.[169] Furthermore, indigenous peoples have historically disallowed levels of plant or animal use that would destroy the ecosystem or any part of it.[170] In the case of the Maasai, for example, history has shown that when left on their own they use land in a means that is ecologically efficient.[171] By allowing indigenous peoples to maintain control over their traditional lands, an extra layer of protection is added to already existing environmental policy. The government can still protect national parks by banning private ownership of land and can still allow companies to harvest predetermined amounts of a resource, but there is an added benefit in allowing indigenous peoples to simultaneously remain the caretakers: in this way, both environmental and human rights goals are satisfied.

V. CONCLUSION

As global awareness of environmental issues increases, the number of possible conflicts between environmental law and human rights also increases. Without understanding the objectives of environmental law and human rights and how they are capable of coexisting, global progress is significantly stunted. This conflict is the result of the unwillingness of many groups, including the international community, to relinquish short-term human rights in order to achieve long-term success in both environmental law and human rights. Thus, acknowledging the anthropocentric view of environmental law and the inalienability of human rights forms a common ground from which to build policy.

By acknowledging the similarities between environmental law and human rights and combining them into a four-part process, present conflicts can be identified and feasible solutions proposed. Furthermore, this analysis was successful as applied to population

169. Annecoos Wiersema, *Sharing Common Ground: A Cautionary Tale on the Rights of Indigenous Peoples and the Protection of Biological Diversity*, *in* LINKING HUMAN RIGHTS AND THE ENVIRONMENT 162, 163 (Romina Picolotti & Jorge Daniel Taillant eds., 2003).

170. *Id*. at 162.

171. Asiema, *supra* note 161, at 164 (showing that historically, "the pastoralist Maasai, left to themselves, pursue ecological principles of proper land use. However, the tribe's ability to pursue these principles is increasingly being restricted by outside intervention.").

control, the polluter pays principle, and the modification of property rights. In each one of those cases, it was possible to achieve the same objectives while using altered approaches. By subjecting all policies and tools to this process, the objectives of both environmental law and human rights can be achieved. Moreover, if mutual objectives are achieved in specific settings, the chance of attaining general harmony between the two disciplines is amplified. It is this harmony that will encourage both developed and developing countries, both the rich and poor, both the environmentally concerned and the human rights focused, to accept proposals to improve the future.

STAKEHOLDER REACTION TO EMISSIONS TRADING IN THE UNITED STATES, THE EUROPEAN UNION, AND THE NETHERLANDS

BRYANT WALKER SMITH*

I. INTRODUCTION

As a contribution to the debate over market-based environmental regulation, this article examines the reaction of stakeholders to cap-and-trade programs proposed or implemented in the United States (U.S.), the European Union (EU), and the Netherlands for industrial emissions of certain pollutants. Those pollutants include nitrogen oxides (NO_x), sulfur dioxide (SO_2), mercury (Hg), and greenhouse gases such as carbon dioxide (CO_2). For the purpose of

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the article, stakeholders include industry, environmental groups, and regulators.

The broad conclusion, to which the remainder of the article provides context, is straightforward: Industry dislikes regulation. It strongly dislikes redundancy. It loathes uncertainty. Even emitters that have profited through emissions trading seem to remain generally averse to uncertainty. The result is a bias for the status quo, except when that status quo becomes too unpredictable or otherwise burdensome, and a bias against overlapping regulatory regimes.

In examining the reactions of industry and environmental groups, two distinctions are particularly important. The first distinction is between the *method* of emissions regulation and the *extent* of emissions reduction. A group's public arguments for or against a cap-and-trade regime may often obfuscate which of these is the primary motivator. For example, a polluter may publicly oppose the introduction of cap-and-trade largely out of a private concern that any regulatory change would be accompanied by a tightening of the relevant pollution standard.

The second related distinction is between the "cap" and the "trade" in a cap-and-trade regime. The cap determines the extent of overall emissions reduction, whereas the trade enables the regulatory targets to collectively achieve that reduction. But like the trade, the cap also delegates some decisions to the regulatory targets, such as the choice between switching fuels and abating emissions. In other words, *both* elements provide flexibility that a command-and-control regime might not.

Following this introduction, Section II discusses U.S. cap-and-trade programs for SO_2, NO_X, and mercury as well as cap-and-trade proposals for greenhouse gas emissions. Both industry and environmental groups (with some prominent exceptions) have been cautiously receptive to cap-and-trade as a method, although environmental groups have generally opposed the use of cap-and-trade for mercury emissions.

Section III discusses the European Union's Emissions Trading Scheme (EU ETS) for greenhouse gases and the European Commission's ongoing exploration of a similar regime for SO_2 and NO_x. Both industry and environmental groups have cautiously supported EU ETS but have resisted similar regulation of SO_2 and NO_x, for which an integrated command-and-control regime already exists.

Section IV discusses the Netherlands' cap-and-trade program for NO_x. Industry generally supported the program's introduction but has since objected to the unpredictability and rigidity created

by the interaction with the European Union's command-and-control regime for NO_x.

Section V concludes.

II. CAP-AND-TRADE PROGRAMS IN THE UNITED STATES

A. Background

The federal and state governments of the United States limit certain emissions of SO_2, NO_x, and mercury through a combination of command-and-control and cap-and-trade regulation. This section discusses three federally-inspired cap-and-trade programs: the Acid Rain Program's SO_2 Allowance Trading Program, the so-called "Clean Air Interstate Rule" (CAIR) for SO_2 and NO_x, and the so-called "Clean Air Mercury Rule" (CAMR) for mercury.[1] It does not directly examine two state-inspired programs that also include market-based mechanisms: the RECLAIM program for SO_2 and NO_x in Southern California and the OTC Regional NO_x Trading Program in the Northeastern United States (which CAIR replaces).

As this complex regulatory web suggests, the U.S. experience is most instructive when understood in the context of the country's jurisdictional and geographic anomalies. State governments share responsibility with the federal government for environmental protection and often implement federal programs and standards. The fifty states also cooperate and compete with each other, and emissions from upwind states impact the quality of air, water, and soil in downwind states. Coal—the dominant fuel for stationary power sources in the United States—varies regionally by price and by sulfur content. These conditions have affected the political compromises and design decisions inherent in the three programs discussed below.

B. Acid Rain Program

1. Stakeholder Response to the Clean Air Act Amendments (CAAA): 1990

The Acid Rain Program, established under the 1990 Clean Air Act Amendments (CAAA), includes a command-and-control regime for NO_x and a cap-and-trade regime for SO_2. This article focuses on

1. As a result of court decisions and the 2008 U.S. presidential election, both CAIR and CAMR will be replaced by new rules. In the interim, only CAIR is in effect. *See North Carolina v. EPA*, 550 F.3d 1176 (D.C. Cir. 2008); *New Jersey v. EPA*, 517 F.3d 574 (D.C. Cir. 2008); *see also* Motion of the Environmental Protection Agency to Dismiss the Case, *EPA v. New Jersey*, *available at* http://www.epa.gov/mercuryrule/pdfs/certpetition_withdrawal.pdf.

the latter, which supplements an existing command-and-control regime under which utilities tend to mitigate ambient air pollution by increasing their stack heights.[2]

Statements leading up to the CAAA highlight the public positions of certain stakeholders. The final act was signed by then-President Bush[3] and enjoyed overwhelming support from both houses of Congress, with nearly ninety percent of legislators voting to approve it.[4] Nonetheless, the CAAA did face opposition. An industry coalition predicted that the entire bill, including the SO_2, NO_x, and air toxin provisions, would eliminate 600,000 jobs and "dramatically change our lifestyles," presumably not for the better.[5] The National Coal Association accused Congress of defying science and economics.[6] The American Mining Congress predicted adverse economic effects.[7] (The National Gas Association, meanwhile, welcomed the amendment's "significant opportunities" for its members.[8])

President Bush and many of his top advisors embraced, and indeed insisted on, the inclusion of a cap-and-trade program.[9] His administrator of the federal Environmental Protection Agency (EPA) described the program as "innovative" and critical to helping Bush "break the clean air logjam."[10]

Utilities and other industrial stakeholders were generally ambivalent toward the SO_2 cap-and-trade program. In an editorial, the *Journal of Commerce* supported emissions trading over a proposed emissions tax that would have subsidized the installation of pollution controls at the dirtiest facilities.[11] A major coal-hauling railroad called the emissions trading regime "murky."[12] A major electric company questioned whether emission trading would work at all.[13] The Electricity Consumers Resource Council described the trading regime as "an extra hoop to make utilities jump through"

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2. Dallas Burtraw et al., *Economics of Pollution Trading for SO2 and NOX*, 30 ANN. REV. ENVTL. RESOURCES, 253, 257 (2005).

3. *Clean Air Act Signed into Law by Pres. Bush*, 238 CHEMICAL MARKETING REP. 5 at 21, Nov. 19, 1990 [hereinafter *Clean Air Act Signed*].

4. *See Acid Rain Curbs: A Technical Summary*, J. COM., Nov. 9, 1990, at 14A [hereinafter *Acid Rain Curbs*].

5. *Clean Air Act Signed*, *supra* note 3.

6. *Acid Rain Curbs*, *supra* note 4, at 14A.

7. *Id.*

8. *Id.*

9. *Congress Wraps Up Clean Air Bill, Retaining Basic Acid Rain Package*, INDUSTRIAL ENERGY BULLETIN 14A (Oct. 26, 1990) [hereinafter *Congress Wraps Up*].

10. *Clean Air Act Signed*, *supra* note 3. This article attributes statements by an organization's official to that organization.

11. *Acid Rain Runaround*, J. COM., Jan. 22, 1990, at 8A.

12. Tim Sansbury, *Inside Talk on Coal*, J. COM., Nov. 8, 1990, at B7.

13. *Id.*

in what was predominately a command-and-control regime.[14] An energy holding company likewise predicted that little, if any, trading would occur, producing an onerously complex regime with the cost of command-and-control.[15]

Some eight months before passage of the CAAA, three dominant electric utility groups with oft-conflicting goals together offered an alternative that would have allowed the measurement of emissions on a company-wide, statewide, or power pool average.[16] However, this alternate proposal received scant attention.[17] Three months before passage of the CAAA, these groups then identified six common priorities.[18] Of the six, only one related to emissions trading: the ability of utilities to opt in to the regime sooner than would otherwise be required.[19] This provision, which the CAAA incorporates, increased the number of credits available for trade and partially addressed fears of illiquidity in the market.[20]

The National Association of Regulatory Utility Commissioners supported emissions trading as a concept but warned that a cap could create electricity rationing.[21] The potential role of these state utility regulators—as well as their environmental counterparts—created substantial uncertainty. It was unclear whether each state's regulators would encourage or discourage trading and whether they would seek to limit that trading to within their state.[22]

Environmental groups were split on the cap-and-trade program. The Environmental Defense Fund (EDF) worked closely with the EPA and the White House to shape and then promote the program.[23] In contrast, the Sierra Club criticized the EDF for abandoning command-and-control and for implicitly accepting some pollution.[24] A former EDF official who was instrumental in the design of the trading scheme argued that "the environmental community slowly is coming to realize that industry isn't a giant mono-

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14. *Congress Wraps Up*, *supra* note 9, at 1, 3.

15. *Clean Air Triggers Massive Scrubber Use*, 11 COAL & SYNFUELS TECH. (1990).

16. *Alternative Acid Rain Proposal Unites Split Industry Views*, 68 ELECTRIC LIGHT & POWER (March 1990) [hereinafter *Alternative Acid Rain Proposal*].

17. *Regulators Forge Acid Rain Compromise*, 68 ELEC. LIGHT & POWER (April 1990).

18. *Industry United on Six Clean Air Issues as Minimum for Good Bill*, ELECTRIC UTILITY WK., Aug. 13, 1990, at 11; *Emissions Trading Provokes Mixed Reactions*, 11 COAL & SYNFUELS TECH. (June 4, 1990).

19. *Id.*

20. *Id.*

21. *Alternative Acid Rain Proposal*, *supra* note 16.

22. *Allowance Trades Will Be 'Prudence Issue of the '90s,' EEI Meeting Told*, ELECTRIC UTILITY WK., Nov. 12, 1990, at 10.

23. William H. Miller, *Earth Day: Twenty Years Later*, INDUSTRY WK., March 19, 1990, at 87.

24. *Id.*

lith that automatically must be opposed."[25] Nonetheless, one of the keys to the program's broad support was its incorporation of significant emissions reductions in conjunction with the new regulatory regime.[26]

Edmund Muskie, who championed the original Clean Air Act as a senator, recognized that the amendments were passed against the background of the global climate change negotiations.[27] Similarly, an energy holding company skeptical of the trading system suggested that environmental groups promoted the program as a "stalking horse" for a future greenhouse gas trading regime.[28]

2. Stakeholder Response to Phase I: 1995-1999[29]

The response of utilities with capped facilities evolved throughout Phase I of the Acid Rain Program. Byron Swift describes this response as "three overlapping stages": uncertainty, recalibration, and profit-seeking.[30] In the first stage, a combination of uncertainty about market fluidity, uncertainty about allowance prices, and the resulting overestimation of those prices drove utilities to overinvest in compliance measures such as scrubber installation.[31]

In the second stage, as actual allowance prices turned out to be much lower than expected, utilities opted for the use of low-sulfur coal over the installation of scrubbers.[32] Because utilities did not need regulatory approval to change their compliance strategy, the "cap" was largely responsible for the "relatively rapid response to price signals."[33] "Trades" were less important and largely took the form of allowance banking and intrafirm averaging rather than interfirm transactions.[34]

In the third stage, toward the end of Phase I, utilities began to embrace the allowance market more as a profit source than as a compliance tool.[35] Arbitrage and profit-motivated trades grew in prominence, and many utilities moved responsibility for trading

25. *Id.*
26. Burtraw et al., *supra* note 2, at 261.
27. *Clean Air Act Signed*, *supra* note 3.
28. *Clean Air Triggers Massive Scrubber Use*, *supra* note 15.
29. *See generally* Byron Swift, *How Environmental Laws Work: An Analysis of the Utility Sector's Response to Regulation of Nitrogen Oxides and Sulfur Dioxide Under the Clean Air Act*, 14 TUL. ENVTL. L.J. 309, 320-47 (2001).
30. *Id.* at 322-323.
31. *Id.* at 322.
32. *Id.* at 322-23.
33. *Id.* at 323.
34. *Id.*
35. *Id.*

from their environmental division to a new division or corporate entity dedicated to energy-related commodities.[36]

Emissions from Phase I were thirty percent below the cap.[37] There are several explanations for this over-compliance by the affected utilities. First, environmental regulations, including the traditional command-and-control approach, often produce net overcompliance as conservative utilities seek a margin of safety.[38] Second, the provision of a substantial number of "bonus" allowances encouraged the installation of scrubbers.[39] Third, the costs of compliance were lower than expected due to innovation and competition in both low-sulfur coal and scrubbing technology.[40] Fourth, utilities could bank allowances with the expectation that these allowances would become more valuable in Phase II.[41]

Utilities accomplished these reductions largely by embracing go-it-alone compliance. While different utilities adopted varying primary strategies, they collectively achieved nearly sixty percent of their emission reductions through the use of low-sulfur coal and thirty-five percent through the installation of scrubbers (and the subsequently high utilization of those scrubbed units).[42] Because the program permitted substitution, nearly one-fifth of these reductions occurred at plants that were *not* capped in Phase I.[43]

Trading, to the extent that it occurred, also reflected an autarkic approach. Under-emitting units generated some fourteen million allowances (that is, tons of SO_2) during Phase I.[44] Of these, utilities banked seventy-five percent, transferred twenty percent between their own units for intrafirm averaging, and transferred only five percent between firms for the purpose of compliance.[45] However, "economically unrelated entities" traded more than thirty million allowances during the same period, a number that reflects the predominance of arbitrage and other profit-motivated trades.[46]

This approach was surprising, because "most economic analyses reveal substantial differences in compliance costs among the Phase I units."[47] This disparity would have had the greatest impact on smaller utilities with limited options for intrafirm trad-

36. *Id.* at 347.
37. *Id.* at 325.
38. *Id.*
39. *Id.*
40. *Id.* at 324.
41. *Id.* at 325.
42. *Id.* at 330, 333, 335.
43. *Id.* at 340.
44. *Id.* at 344.
45. *Id.* at 341-47.
46. *Id.* at 341.
47. *Id.* at 327.

ing.[48] Commentators offer several explanations for the failure of utilities to fully exploit this imperfect market.[49] First, these utilities did not view environmental compliance as a collective effort.[50] Second, state public utility regulators often eliminated the profit motive by treating gains from allowance trading as an element of fuel cost to be refunded to ratepayers.[51] Third, federal tax regulators required the first seller of any allowance to treat the entire selling price as taxable gain (because allowances were distributed for free and therefore had a zero cost basis).[52] Fourth, some utilities initially faced public and political opposition to buying a right to pollute.[53]

3. Stakeholder Response to Phase II: 2000-Present

Phase II exhibited a more robust market with more confident actors. By the start of this expanded phase in 2000, utilities had banked as many allowances as were allocated that year.[54] Since 2001, allocated allowances have remained steady, actual emissions have declined slightly, and banked allowances have declined significantly.[55]

These trends have also caused some discomfort to utilities. Disruptions such as the 2001 collapse of Enron temporarily stifled Phase II's otherwise robust market.[56] In 2003, a substantial rise in the price of natural gas prompted the increased use of coal plants, while proposed changes to the regulation of SO_2 emissions increased the value of banked allowances.[57] By early 2005, the allowance price reached the level that the EPA had predicted in 1990.[58]

Utilities responded by planning the installation of scrubbers and by turning in the interim to their banked emissions or to an allowance market. Several made multimillion dollar purchases; one utility's poor emissions hedging decreased its 2004 earnings by

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48. *Id.*
49. *Id.* at 345-46.
50. *Id.* at 345.
51. *Id.*
52. *Id.* at 346.
53. *Id.*
54. ENVTL. PROT. AGENCY, ACID RAIN AND RELATED PROGRAMS 9 (2007) [hereinafter *2006 Progress Report*], *available at* http://www.epa.gov/airmarkt/progress/docs/2006-ARP-Report.pdf.
55. *Id.*
56. *Id.* at 12.
57. Matthew Dalton, *Utilities Start to Feel Bite of SO2 Caps*, WALL ST. J., Apr. 13, 2005, at 1. *See also* Clean Air & Interstate Rule (CAIR), *infra* note 64.
58. Robert V. Percival, *Regulatory Evolution and the Future of Environmental Policy*, 1997 U. CHI. LEGAL F. 159, 181.

more than ten percent.[59] Abnormally low SO_2 emissions in 2006 resulted primarily from lower demand, as well as a shift from oil to gas and the installation of additional scrubbers.[60]

The Acid Rain Program has received considerable acclaim. *The Economist* labeled the program in 2002 probably "[t]he greatest green success story of the past decade."[61] The Kyoto Protocol embraced cap-and-trade as key to controlling carbon dioxide emissions.[62] The EPA published a guide for other countries interested in the approach.[63] And the program inspired domestic proposals for cap-and-trade regulation of NO_x, mercury, and greenhouse gases, discussed below.

C. Clean Air Interstate Rule (CAIR)

In 2005, the EPA issued final rules for four cap-and-trade programs. The so-called Clean Air Interstate Rule (CAIR) encompasses three of them: SO_2, annual NO_x, and ozone-season NO_x.[64] The SO_2 provisions tighten the Acid Rain Program's cap and potentially expand its scope.[65] (In a wrinkle of federalism, the EPA requires states to regulate emissions but gives them some flexibility with regard to method. Hence, the EPA manages the cap-and-trade programs on behalf of those states that opt to participate by adopting the EPA's "model" rules.[66])

In its final rule, the EPA noted that commenters "overwhelmingly supported the use of a cap and trade approach."[67] The EPA also emphasized that while its cap-and-trade programs would not require emission reductions to occur in areas most affected by those emissions, it was "encouraging" states to address localized pollution through "complementary measures."[68]

The final rule acknowledges several areas of significant controversy. The first is the allocation of NO_x allowances, which the EPA effectively sidesteps by allowing each participating state to deter-

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59. *See* Dalton, *supra* note 57, at 1.
60. *2006 Progress Report*, *supra* note 54, at 11.
61. *Survey: The Invisible Green Hand*, ECONOMIST, July 6, 2002, at 13.
62. Kyoto Protocol to the United Nations Framework Convention on Climate Change art. 6, Dec. 11, 1997, *available at* http://unfccc.int/resource/docs/convkp/kpeng.pdf.
63. U.S. ENVTL. PROT. AGENCY OFFICE OF AIR AND RADIATION, TOOLS OF THE TRADE: A GUIDE TO DESIGNING AND OPERATING A CAP AND TRADE PROGRAM FOR POLLUTION CONTROL, EPA430-B-03-002 (June 2003), *available at* http://www.epa.gov/airmarkt/resource/docs/tools.pdf.
64. Clean Air Interstate Rule, 70 Fed. Reg. 25,162, 25,274 (May 12, 2005) [hereinafter CAIR].
65. *Id.*
66. *Id.*
67. *Id.*
68. *Id.*

mine its own method, frequency, and basis for allocation as well as its use of set-asides.[69]

Like the Acid Rain Program, the NO_x programs allow unrestricted banking.[70] Utilities objected to the "complex procedures" used to restrict banking in a precursor NO_x program, and the EPA questioned the effectiveness of such restrictions generally.[71] In addition, utilities may use allowances banked under the Acid Rain Program and the precursor NO_x program to comply with their CAIR cap.[72]

None of the CAIR programs permit inter-pollutant trading through interchangeability of allowances.[73] As the EPA noted, however, trading is nonetheless possible: "a source can choose the level to which they can cost effectively control one pollutant and, if necessary, buy or sell emission allowances of the other pollutant to compensate for . . . control cost."[74]

D. Clean Air Mercury Rule (CAMR)

The Clean Air Mercury Rule (CAMR), which largely mirrors CAIR, likewise allows unrestricted banking and gives states flexibility in the allocation of their allowances.[75] However, many more commentators opposed the use of a cap-and-trade program to control mercury emissions.[76] In addition, because SO_2 and NO_x controls also reduce mercury, CAMR's phasing does not require the specific control of mercury beyond this co-benefit until 2010.[77]

Like CAIR, the final rule does *not* cap the price of an emission allowance; unlike CAIR, the EPA had originally proposed such a financial safety valve.[78] Although many utilities supported a price cap, the EPA concluded it was unnecessary in light of CAMR's delayed phasing and the limited market volatility experienced under the Clean Air Program.[79]

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69. *Id.* at 25,279.
70 *Id.* at 25,282.
71. *Id.*
72. *Id.* at 25,284.
73. *Id.* at 25,283.
74. *Id.* at 25,284.
75 . *See* Clean Air Mercury Rule, 70 Fed. Reg. 28,606, 28,624 (May 18, 2005).
76. *Id.*
77. *Id.* at 28,617.
78. *See* Press Release, Edison Elect. Inst., Comments of EEI President Tom Kuhn on Senate Vote Affirming A Market-Based Approach for Reducing Mercury Emissions (Sept. 13, 2005) (following the failure in the U.S. Senate of a resolution to overturn CAMR that nonetheless received the support of a narrow majority of senators).
79. Clean Air Mercury Rule, 70 Fed. Reg. at 28,630.

CAMR has been particularly controversial but enjoys the support of many utilities.[80] In two mercury-related press releases, the Edison Electric Institute (EEI), an association of U.S. shareholder-owned electric companies, specifically highlighted cap-and-trade programs as "the fastest and most cost-effective approach for reducing emissions" and argued that such a program for mercury would not produce pollution hot spots.[81]

E. Greenhouse Gases

While industry groups have historically resisted regulation of greenhouse gases, many now recognize that such regulation is inevitable and may even be desirable. The U.S. Climate Action Partnership (USCAP), which includes nearly thirty major industrial companies and six prominent environmental nongovernmental organizations,[82] advocates "the prompt enactment of national legislation . . . to slow, stop and reverse the growth of greenhouse gas emissions over the shortest period of time reasonably achievable."[83] Cap-and-trade is "essential" to such a mandatory program and should include emission offsets, significant free allocation of initial allowances, and credit for early emission reductions.[84]

The EEI, some of whose members also belong to USCAP, similarly emphasizes market instruments as an important component of any regulation of greenhouse gases.[85] However, it opposed a 2008 Senate bill that would create a cap-and-trade regime as economically disruptive due to the "unrealistic compliance dates and ineffective cost-relief provisions."[86]

According to the EEI, a cap-and-trade regime for greenhouse gases "need not" be modeled on the Clean Air Act and should instead apply to the entire economy rather than only to particular

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80. *See, e.g.,* J.R. Pegg, *Bush Mercury Rule Sparks Controversy, Litigation*, ENV'T NEWS SERVICE, Mar. 16, 2005, http://www.ens-newswire.com/ens/mar2005/2005-03-16-10.html.

81. Press Release, *supra* note 78; Press Release, Edison Elect. Inst., Wisc.'s Proposed Mercury Rules, 5 (June 11, 2007).

82. *See* U.S. Climate Action Partnership, http://www.us-cap.org/about (last visited Mar. 15, 2010).

83. USCAP, A CALL FOR ACTION, CONSENSUS PRINCIPLES AND RECOMMENDATIONS FROM THE U.S. CLIMATE ACTION PARTNERSHIP: A BUSINESS AND NGO PARTNERSHIP 2, *available at* http://www.us-cap.org/USCAPCallForAction.pdf (last visited Mar. 15, 2010).

84. *Id.* at 7-8.

85. EDISON ELEC. INST., EEI GLOBAL CLIMATE CHANGE PRINCIPLES 2 (Feb. 8, 2007) [hereinafter EEI PRINCIPLES], *available at* http://www.eei.org/ourissues/TheEnvironment/Climate/Documents/070208_climate_principles.pdf.

86. EDISON ELEC. INST., CONCERNS ABOUT THE LIEBERMAN-WARNER CLIMATE CHANGE BILL, (Feb. 2008), *available at* http://www.eei.org/ourissues/TheEnvironment/Climate/Documents/Leberman_Warner_final.pdf.

sectors like electricity generation.[87] It should allow sufficient time for transition, include several phases, and permit banking across those phases.[88] It should derive caps from greenhouse gas intensity rather than absolute emissions, account for earlier emissions reductions, and distribute allowances almost entirely through free allocation rather than auction.[89] Finally, it should provide a "moderate" long-term price signal, permit unlimited domestic and international offsets, and include a financial safety valve.[90] The EEI is more concerned about avoiding overlapping regulation and maintaining flexibility than linking with international regimes.[91]

III. CAP-AND-TRADE PROGRAMS IN THE EUROPEAN UNION

A. Greenhouse Gases

In the early 1990s, the European Commission proposed—but opposition from industry and from certain member states stalled—an EU-wide carbon tax. In the decade following, the Kyoto Protocol embraced trading, BP and Shell both piloted internal trading schemes, and greenhouse gas emissions trading came to enjoy "general support . . . from a majority of business and industry groups across the EU."[92]

The prospect of emissions trading nonetheless generated some consternation. A 2002 survey of nearly one thousand companies in the United Kingdom and Germany revealed significant national differences of opinion: While British firms were somewhat supportive, their German counterparts were largely skeptical.[93] The survey authors attributed this difference to British industry's emphasis on economic self-interest and "German industry's implicit faith in regulated self-regulation."[94]

A year before implementation of the EU Emissions Trading Scheme (EU ETS) in 2005, the EU Energy Commissioner warned that the scheme would cause relocations and "very serious problems of competitiveness . . . . There will be bankruptcies and major

87. EEI PRINCIPLES, *supra* note 85, at 2; EDISON ELEC. INST., *Edison Elec. Inst. Response to Dingell-Boucher Letter of Feb. 27, 2007*, 1, 4, 6 n.2, 8, 33, Mar. 19, 2007, *available at* http://energycommerce.house.gov/images/stories/Documents/PDF/selected_legislation/EEI.031907.resp.pdf [hereinafter *Dingell-Boucher*].

88. *Dingell-Boucher*, *supra* note 87, at 10-14, 33.

89. *Id.* at 10-14.

90. *Id.* at 18, 20.

91. *Id.* at 38.

92. Atle C. Christiansen & Jörgen Wettestad, *The EU As a Frontrunner on Greenhouse Gas Emissions Trading: How Did it Happen and Will the EU Succeed?* 3 CLIMATE POL'Y 3, 9 (2003), *available at* http://env.asef.org/documentsEUasfrontrunneronKyoto.pdf.

93. Ian Bailey & Susanne Rupp, *Politics, Industry and the Regulation of Industrial Greenhouse-Gas Emissions in the UK and Germany*, 14 EUR. ENV'T. 235, 247 (2004).

94. *Id.* at 246, 247.

problems." [95] Certain sectors, most notably aluminum but also steel, paper and pulp, and cement, were considered particularly vulnerable.[96]

The European Union allocated most of the *shortage* in emissions allowances to the fifteen mostly Western European member states that constituted the EU15, and most of these states in turn allocated their shortage to their electric utility sector.[97] To garner industry support, allowances were generally allocated free of charge.[98]

The EU ETS experienced a volatile beginning.[99] As a result of overgenerous allocations, allowances for the scheme's three-year Phase I fluctuated dramatically in value before becoming virtually worthless. [100] Several major environmental groups, including Greenpeace and the WWF, described this overallocation as an "abuse" of the trading scheme without criticizing the scheme itself.[101] Companies complained of the scheme's inconsistent application and lack of "longer-term certainty and predictability."[102] Eurelectric, the European electricity industry association, called for "greater predictability . . . around the boundary conditions which set the long-term price of an EU Allowance."[103]

B. SO_2 and NOx

1. Regulators

While the European Commission appears to favor cap-and-trade programs for SO_2 and NO_x, spirited resistance comes from some environmental regulators, industry groups, and environmen-

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95. *ETS Rules Could 'Cause Co. Bankruptcies*', 59 METAL POWDER REP. 2, 8 (Feb. 2004).

96. *Id.*

97. A. Denny Ellerman & Barbara K. Buchner, *The European Union Emissions Trading Scheme: Origins, Allocation, and Early Results*, 1 REV. ENVTL. ECON. POL'Y 66, 74 (2007).

98. Christian Egenhofer, *The Making of the EU Emissions Trading Scheme: Status, Prospects and Implications for Business*, 25 EUR. MGMT. J. 453, 454 (Dec. 2007), *available at* http://www.sciencedirect.com/science/article/B6V9T-4PT2FTM-1/2/f6f3932433d4f3d6b2eec328965be12d.

99. *Trading Thin Air*, ECONOMIST, June 2, 2007.

100. *Id.*

101. Press Release, Climate Action Network Europe, CO2 emissions: EU Member States Abuse Emissions Trading System (May 15, 2005), *available at* http://www.climnet.org/EUenergy/ET/20050515%20CO2%20emissions%20joint%20PR%20_final.pdf.

102. Ahmed ElAmin, Foodproductiondaily.com, Companies Call For Set Targets Under Emissions Trading Scheme (Dec. 2, 2005), http://www.foodproductiondaily.com/Processing/Companies-call-for-set-targets-under-emissions-trading-scheme.

103. EURELECTRIC, POSITION PAPER, REVIEW OF THE EU EMISSIONS TRADING DIRECTIVE (2003/87/EC) AND THE LINKING DIRECTIVE (2004/101/EC) 6 (July 2007), *available at* http://www2.eurelectric.org/content/default.asp?PageID=627 (then follow hyperlink to Environment & Sustainable Development).

tal organizations. As a result, the use of cap-and-trade for SO_2 and NO_x in the European Union is extremely controversial and, it would seem, generally unpopular.[104]

The Commission's recently completed review of its Integrated Pollution Prevention and Control Directive (IPPC) has involved discussion of market-based approaches, including both taxation and cap-and-trade.[105] The review process as it pertains to cap-and-trade has two parts; only if the Commission determines that member states should be able to use a cap-and-trade regime to comply with EU environmental standards will it then develop EU-wide rules for such a regime.[106] The Commission has indicated cautious support for emissions trading in the abstract, noting that such a regime could be cost effective and "could play a much more important role than today."[107] However, the formulation of concrete rules would be a highly deliberate process that could only occur *after* the Commission had revised its IPPC.[108] When pressed by the European Cement Industry Association (CEMBUREAU) on emissions trading, the Commission responded that "it was too early to go into" discussion of any details.[109] Similarly, in the December 2007 Communication summarizing its review of the IPPC, the Commission simply noted that:

> The Commission will further explore the use of IPPC-compatible, market-based instruments such as an emission trading scheme for NO_x/SO_2, with a view to the potential development of a legal instrument laying down EU-wide rules on this issue. This will include a full analysis of options, including the scope and the allocation of allowances, and will look into potential direct and indirect impacts for economic sectors as well as drawing on the experience from greenhouse gas emissions trading.[110]

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104. For example, at a May 2007 panel on "ensuring better regulation," 10 of the 14 participant comments concerned emissions trading, with the majority opposed. DRAFT MINUTES OF THE STAKEHOLDER HEARING: TOWARDS A FUTURE POLICY ON INDUSTRIAL EMISSIONS: REVIEW OF THE IPPC DIRECTIVE AND RELATED LEGISLATION 19-20 (May 4, 2007) [hereinafter DRAFT MINUTES], http://circa.europa.eu/Public/irc/env/ippc_rev/library?l=/ippc_stakeholder&vm=detailed&sb=Title (then follow hyperlink to Public Hearing Minutes).

105. *Id.* at 2.

106. *Id.*

107. *Id.* at 2, 4.

108. *Id.* at 4.

109. *Id.* at 7.

110. Commission of the European Communities, *Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions: Towards An Improved Policy on Industrial Emissions*, 1, 7, (Dec. 21, 2007), *available at* http://ec.europa.eu/environment/air/pollutants/stationary/ippc/proposal.htm.

Several prominent environmental regulators support the IPPC's existing best-available-technology (BAT) approach. The European Environment Agency noted that full implementation of BAT could still achieve significant emissions reductions.[111] The German Federal Ministry of Environment emphasized that any emissions trading scheme should only be used in tandem with BAT.[112] The French Environmental Ministry suggested that emissions trading might not help to simplify the regulatory framework.[113] Austria, Cyprus, Ireland, Latvia, Portugal, and Sweden expressed skepticism toward the use of emissions trading for SO_2 or NOx; many suggested that the results of the CO_2 trading regime were not yet clear.[114] The United Kingdom (and the Netherlands) noted that local pollution prevention measures could and should trump a trading regime.[115] Only the Dutch Ministry of Environment "welcomed" emissions trading for SO_2 and NO_x.[116]

2. Industry Groups

Industry groups strongly support the status quo. In March 2007, eleven European industry associations issued a joint statement opposing emissions trading for SO_2 and NO_x.[117] They presented three primary arguments.[118] First, trading would be ineffective: Because the industrial emission of SO_2 and NO_x is already highly regulated "by several Directives, national taxes, fees and international agreements,"[119] the addition of another regime that would not involve nonindustrial emitters would increase costs, increase complexity, and fail to spur technological change.[120] Second, trading is inappropriate for local and regional pollutants and could impair the IPPC's BAT regime.[121] Third, a cap-and-trade regime would increase power prices, hurt competitiveness and distort

111. DRAFT MINUTES, *supra* note 104, at 5.

112. *Id.* at 10.

113. *Id.* at 20.

114. ENTEC UK LIMITED, *Delivered to the European Commission*, *Assessment of Options to Streamline Legislation on Industrial Emissions,* Contract 070402/2005 /420336 /MAR/C4, 25-26 (June 2007) [hereinafter *Streamlining Report*], *available at* http://circa.europa.eu/Public/irc/env/ippc_rev/library?l=/streamlining_study/final_report&vm=detailed&sb=Title (then follow hyperlink to Streamlining final report).

115. *Id.* at 26.

116. DRAFT MINUTES, *supra* note 104, at 12.

117. Press Release, CEFIC – European Chemical Industry Council et al., Emission Trading Scheme for NOX and SO2 (March 2007), *available at* http://www.cembureau.be/Cem_warehouse/EMISSION%20TRADING%20SCHEME%20FOR%20NOX%20AND%20SO2.PDF.

118. *Id.* at 1.

119. *Id.* at 1-3.

120. *Id.*

121. *Id.* at 1, 3.

competition, suffer from limited liquidity because of the IPPC's parallel BAT scheme, and fail to account for previous emissions reductions.[122] Concerns about the allocation of pollution allowances, while not explicit in the statement, were likely present as well.

Eurelectric did not join the industry statement but expressed its opposition to emissions trading for SO_2 and NO_x in a separate position paper.[123] It favored full implementation of the IPPC, opposed "double regulation," and expressed concern about administrative and monitoring costs, limited liquidity as a result of BAT, and hot spots.[124] It also suggested that "the focus of policy should be on other, more dominant sources of emissions" rather than "sectors that have already delivered significant emission reductions, such as electricity."[125]

Industry groups continued to resist emissions trading at a May 2007 public hearing on IPPC. Business Europe (BE) professed the strong support of European industry for BAT as well as the IPPC's use of an "integrated approach" to regulate multiple pollutants.[126] Resistance to change underlay BE's support: It emphasized, for example, that "better regulation can be the enemy of good regulation."[127] BE further argued that the application of cap-and-trade to SO_2 and NO_x would amount to "double regulation" and would entail administrative costs in excess of any benefit.[128] The trading system for CO_2, by contrast, was imposed on emissions that were not previously regulated. [129] BE reiterated its opposition to emissions trading for NO_x and CO_2 in a November 2007 position paper.[130]

The European Petroleum Industry Association (EUROPIA) "did not see how a trading system could work" in the context of the IPPC.[131] The European Lime Association argued that changing the IPPC would "be very confusing." [132] Eurelectric suggested that emissions trading was inappropriate for pollutants with local or regional impacts.[133] In apparently coordinated replies, the Confe-

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122. *Id.* at 1, 3-4.

123. EURELECTRIC, EURELECTRIC'S COMMENTS ON THE GREEN PAPER ON MARKET-BASED INSTRUMENTS FOR ENVIRONMENT AND RELATED POLICY PURPOSES 8 (July 25, 2007).

124. *Id.*

125. *Id.*

126. DRAFT MINUTES, *supra* note 104, at 11.

127. *Id.* at 17.

128. *Id.*

129. *Id.*

130. BUSINESS EUROPE, POSITION PAPER, STATEMENT ON THE DRAFT IPPC DIRECTIVE PROPOSAL IN INTER SERVICE CONSULTATION 2 (Oct. 31, 2007), *available at* http://www.businesseurope.eu/DocShareNoFrame/docs/3/HMNDPBNDINEFKBGHIBCPGBIIPDB39DW1GG9LTE4Q/UNICE/docs/DLS/2007-01549-E.pdf.

131. DRAFT MINUTES, *supra* note 104, at 19.

132. *Id.* at 20.

133. *Id.*

deration of Danish Industries and ExxonMobil Chemical BV in the Netherlands (among others) saw "only disadvantages" to supplementing or replacing the IPPC with emissions trading.[134] The Austrian Economic Chamber rejected emissions trading for pollutants other than CO_2,[135] and the Chemical Industries Association expressed skepticism.[136]

The European steel and iron association (Eurofer), which had joined the industry statement opposing emissions trading, nonetheless suggested at a public hearing that trading could coexist with the IPPC and "may be a solution for some Member States to achieve" their targets under the related National Emissions Ceiling Directive (NEC).[137] The Dutch Waste Management Association noted that the IPPC's flexibility had been used by member states to surpass the requirements of BAT.[138]

Of eight industrial facilities in the European Union that commented on potential emissions trading for SO_2 or NO_x as part of a June 2007 Commission report, six were either skeptical or opposed.[139] The other two facilities were in the Netherlands; one generally supported trading, while the other merely lamented regulatory uncertainty.[140]

Of the respondents to an Internet survey conducted for the Commission, over ninety percent supported maintaining BAT as "the key instrument of the EU policy on industrial emissions" and seventy-five percent opposed the use of SO_2 or NO_x emissions trading by member states.[141] Nearly two-thirds of the respondents were either companies or associations; under a quarter were individuals; and the remainder consisted of environmental groups and regulatory authorities.[142]

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134. European Commission IPPC Review, *Streamlining Industrial Emissions Legislation and Possible Emissions Trading for NOX and SO2*, 1, 8 (May 1, 2006) [hereinafter *Streamlining Industrial Emissions*], *available at* http://circa.europa.eu/Public/irc/env/ippc_rev/library?l=/streamlining_study/.

135. Austrian Federal Economic Chamber*, First Position Paper to the IPPC Review Process* 4 (Jan. 11, 2006), *available at* http://circa.europa.eu/Public/irc/env/ippc_rev/library?l=/streamlining_study/replies_questionnaire&vm=detailed&sb=Title.

136. *Streamlining Industrial Emissions*, *supra* note 134, F app. at 17.

137. DRAFT MINUTES, *supra* note 104, at 20.

138. *Id.* at 13.

139. *Streamlining Report*, *supra* note 114, app. F at 17, 26, 31, 34, 70, 76, 84.

140. *Id.* at 41, 54.

141. *Summary Results of the IPPC Review Internet Consultation Questionnaire*, http://ec.europa.eu/environment/air/pollutants/stationary/ippc/pdf/consult_results.pdf (last visited Mar. 15, 2010).

142. *Id.*

3. Environmental Groups

The European Environmental Bureau (EEB), the umbrella organization for national environmental groups in Europe, suggested that emissions trading would "confuse" the IPPC.[143] That system, it argued, is "just starting to work" and should not be modified for at least two years.[144] While the EEB "had no objection to trading in principle," such a regime for SO_2 or NO_x would fail to account for local environmental impacts, suffer from insufficient liquidity, and be incompatible with the IPPC's site-specific permitting requirements.[145]

IV. CAP-AND-TRADE PROGRAMS IN THE NETHERLANDS

A. Demonstration Project

Prior to the introduction of NO_x and CO_2 trading in 2005, the Netherlands conducted a trading simulation that involved twenty-five companies (representing some sixty percent of total CO_2 emissions) and lasted about six months.[146] A report following that demonstration project concluded that "companies are adequately prepared for the introduction of both CO_2 and NO_x emission trading" and made several additional observations.[147] First, companies were preparing intensively for the introduction of emissions trading but had not obtained enough involvement from those with financial, legal, transactional, and trading expertise.[148] Second, companies were resistant to verification, particularly its cost, its scope, and the high level of statistical confidence that it demanded.[149] Third, there were sufficient exchange platforms in the Netherlands and brokers in Europe to facilitate trading.[150] Fourth, emissions trading might not benefit smaller companies because they would have limited access to the European market and would be more prone to the risks posed by trading.[151]

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143. DRAFT MINUTES, *supra* note 104, at 18.

144. *Id.*

145. *Id.* at 19.

146. Hans Warmenhoven & Henk van Wouw, Spin Consult & Sogos Consultants, *Emission Trading is Ready to Commence: Evaluation Report of the Large-Scale Emission Trading Demonstration*, 1, 4, 14, (Nov. 2004), *available at* http://international.vrom.nl/docs/internationaal/Evaluation_Report_on_the_Large_Scale_Demonstration.pdf.

147. *Id.* at 14.

148. *Id.* at 14-15.

149. *Id.* at 15.

150. *Id.* at 16.

151. *Id.* at 16-17.

B. Subsequent Evaluation

In interviews in 2006, the operators of several industrial installations in the Netherlands expressed concerns about the Dutch cap-and-trade regime. These concerns generally relate to the complexities, inefficiencies, and uncertainties created by the interaction of the domestic regime with the EU-wide regime's BAT.

The operator of a coal and biomass-fueled power station noted several such issues. First, the government suggested that the regime would provide more flexibility than the IPPC ultimately allowed.[152] Second, the regulatory uncertainty that accompanied the regimes delayed emissions reductions.[153] Third, the BAT regime impedes trading: Because the IPPC already limits the station's NO_x emissions, it has little need to buy credits; because the IPCC likewise limits the emissions of other facilities, the station has little opportunity to sell any excess credits.[154]

Shell Chemicals generally supported the emissions trading regime for NO_x, "including the performance standard rate approach as compared to grandfathering."[155] However, it noted the significant monitoring costs associated with the CO_2 cap-and-trade regime and, to a lesser extent, the NO_x cap-and-trade regime.[156]

The Dutch steel industry initially supported the NO_x regime but became critical when the Dutch government subsequently reduced the regime's performance standard rate to a level at which abatement technology could not ensure compliance.[157] By 2010, compliance may require the purchase of some €9 million worth of credits per year.[158] This cost is in addition to nearly €900,000 per year to monitor and verify emissions at each plant.[159] The steel industry did support the use of a performance standard rate rather than an absolute cap since the rate allows an increase in emissions proportionate to the increase in production.[160]

V. CONCLUSION

The reaction of industry and environmental groups to cap-and-trade programs has varied depending on the country, date, extent of proposed emission reductions, existence of other regulatory re-

152. *Streamlining Report*, *supra* note 114, app. F at 41.
153. *Id.*
154. *Id.* at 39.
155. *Id.* app. F at 54.
156. *Id.*
157. *Id.* at 47.
158. *Id.*
159. *Id.*
160. *Id.*

gimes, and state of regulation absent the program, among what are likely many other factors.

The observation by Business Europe that "better regulation can be the enemy of good regulation" highlights the importance of context in assessing stakeholder reactions.[161] An industry group may derive its position on a proposed regulatory regime from some combination of its desire to avoid—with increasing tenacity—regulation, redundancy, and uncertainty. It is then likely to support that position with reasons other than those aversions, if it cites them at all. Accordingly, public statements alone may not explain, for example, the vociferous opposition of EU industry to a cap-and-trade regime for SO_2 and NO_x. Strategic considerations may similarly motivate environmental groups and regulators.

Because context is so important, it would be difficult at best to assess the propriety of cap-and-trade for another country solely on the basis of the stakeholder reactions described in this article. For example, a smaller state would not encounter and need not reproduce the European Union's unique regulatory complexity. Nor would it encounter many of the timing and coordination issues that arise from supplementing an existing method of regulation with another. While the limited scale of a purely domestic regime might reduce market liquidity, initial regulation could also deliver substantial emission reductions—the "low-hanging fruit"—that the European Union and the United States had otherwise achieved prior to any cap-and-trade scheme.

However, several lessons do emerge from the experiences in the United States, the European Union, and the Netherlands. First, regulation is necessarily controversial. Second, the extent of regulation may matter to industry and environmental groups as much as the method of regulation. Third, a cap-and-trade regime includes more elements, and more flexibility, than just the trading of allowances. Finally, cap-and-trade programs can work, and they can win support. In some circumstances, for both industry and environmental groups, they may even become "essential."[162]

161. DRAFT MINUTES, *supra* note 104, at 17.
162. USCAP, *supra* note 83, at 7.

RECENT DEVELOPMENTS

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I. NOTABLE FEDERAL CASES

A. Friends of the Everglades v. South Florida Water Management District

Water Management District's transfer of polluted waters from one canal to another did not require an NPDES permit under the Clean Water Act.

Friends of the Everglades v. South Florida Water Management District addressed the applicability of the National Pollution Discharge Elimination System (NPDES) to the transfer of water (containing pollutants) from one navigable water body to another; more specifically whether or not this constitutes "discharge of a pollutant" under the Clean Water Act.[1] This litigation involved the South Florida Water Management District's (SFWMD) pumping of water from the Everglades Agricultural Area (EAA) canals into other canals and eventually Lake Okeechobee. It is important to note that "[t]he pumps do not add anything to the canal water; they simply move it through pipes."[2] The U.S. District Court for the Southern District of Florida held that the pumping did violate the Clean Water Act and issued an injunction requiring the director of the SFWMD to apply for a permit under NPDES.[3]

A sub-issue of the trial, which the Eleventh Circuit addressed, was whether or not the Director of the SFWMD was immune from this suit on Eleventh Amendment grounds.[4] While the district court held that she was, but still kept the Director in the suit for other legal reasons, the Eleventh Circuit found that it did not matter.[5] The Director was properly sued, as the doctrine invoked "provides an exception to Eleventh Amendment immunity for lawsuits against state officials as long as the plaintiffs seek only prospective injunctive relief to stop ongoing violations of federal law."[6] Thus, it made no difference whether the injunction was awarded against the Director of the SFWMD or the SFWMD itself; "[t]o enjoin the executive director of the Water District is for all practical purposes to enjoin the Water District."[7]

This issue disposed of, the court then moved on to address the primary issue in the case: whether or not the transfer of water as

1. Friends of the Everglades v. S. Fla. Water Mgmt. Dist., 570 F.3d 1210, 1213 (11th Cir. 2009).
2. *Id.* at 1214.
3. *Id.* at 1215.
4. *Id.*
5. *Id.*
6. *Id.*
7. *Id.* at 1216.

described above requires an NPDES permit. The language of the CWA prohibits discharging any pollutant sans permit, and defines discharge as "'any addition of any pollutant to navigable waters from any point source.'"[8] There was no debate that the waters contain pollutants, that the waterways are navigable waters, or that the pumps qualify as point sources, even if they add nothing additional to the water.[9] What remained at issue, however, was "whether moving an existing pollutant from one navigable water body to another is an 'addition . . . to navigable waters' of that pollutant."[10] One thing that affected this case considerably is the fact that the EPA adopted a new rule clarifying NPDES applicability to water transfers after the district court's decision, but prior to the Eleventh Circuit hearing the case, which specifically states "that water transfers are not subject to regulation under the National Pollution Discharge Elimination System permitting program."[11]

Considering that the NPDES applicability issue was answered prior to this court hearing the case, what remained was a determination of whether the new regulation is reasonable in light of the previously ambiguous statute.[12] The court turned to context for this determination.[13] Friends of the Everglades argued that Congress did not intend to leave so widespread an activity as water transfer outside of the purview of the CWA, however, the court disposed of this contention by reminding the parties that Congress has left other major activities out of the CWA, most notably nonpoint source pollution.[14]

The court concluded that the clarification of the statute in the newly promulgated regulation is one of the two possible interpretations of the rule, and thus the new construction is not "'arbitrary, capricious, or manifestly contrary to the statute.'"[15] The court's final determination was that because the EPA's regulation was reasonable, the water transfer activity did not qualify as a discharge of a pollutant under the CWA, and thus did not require an NPDES permit.[16]

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8. *Id.* (quoting 33 U.S.C. § 1362(12) (2006)).
9. *Id.*
10. *Id.*
11. *Id.* at 1218-19.
12. *Id.* at 1219.
13. *Id.* at 1223.
14. *Id.* at 1226-27.
15. *Id.* at 1228 (quoting Chevron, U.S.A, Inc. v. NRDC, Inc., 467 U.S. 843, 844 (1984)).
16. *Id.* at 1228.

B. Miccosukee Tribe of Indians v. United States

USFWS's biological opinion addressing a Corps operating plan's impacts on two endangered species was not invalid.

The tribe brought this suit in reference to a U.S. Fish and Wildlife Service (USFWS) biological opinion regarding the impacts of a Corps of Engineers operation plan upon the Cape Sable seaside sparrow and the Everglades snail kite (both endangered species).[17] The operation plan governed the release of water from one area to another–the area upstream of the water control gate is habitat for the snail kite and the area downstream of the gate is sparrow habitat.[18] Unfortunately, the water condition that each species requires to thrive is incompatible with what the other species requires.[19]

The Tribe presented three main arguments opposing the biological opinion and associated incidental take statement. First, the Tribe claimed that the biological opinion was invalid because it did not follow the procedures required by law.[20] The first element of this claim, which the court rejected, was that the USFWS failed to use the best available data in writing the biological opinion.[21] The court conceded that the agency was required to use the best available data, but found that in this situation, the best available data was used.[22] The several examples of reports which the tribe asserted were not included in the opinion either were included, or subsequent versions were included.[23] Furthermore, one such report received a poor peer review, yet the opinion still incorporated parts of that report.[24] Another element in the Tribe's argument that proper procedure was not followed was the claim that the agency was required, based on prior caselaw, to "'give the benefit of the doubt to the species.'"[25] The court rejected this claim, finding that the cases which support this contention were cases where the agency did not use the best available data, which was not the case here.[26] The court pointed out that in some situations, this is a factor which is considered, however "[t]he need to give a species the

17. Miccosukee Tribe of Indians v. United States, 566 F.3d 1257, 1263-64 (11th Cir. 2009).
18. *Id*. at 1263.
19. *Id*. at 1262-63.
20. *Id.* at 1264-65.
21. *Id*.
22. *Id*. at 1266.
23. *Id*. at 1265-66.
24. *Id.*
25. *Id.* at 1266 (quoting H.R. Rep. No. 96-697, at 12 (1979), *as reprinted in* 1979 U.S.C.C.A.N. 2572, 2576).
26. *Id*. at 1267.

benefit of the doubt cannot stand alone as a challenge to a biological opinion."[27] The Tribe's third contention to support its first argument was that the USFWS did not properly analyze the baseline and cumulative effects associated with the operation plan.[28] The court found that the rules do not require that a biological opinion thoroughly address something which was found to have no impact on a species in a previous biological opinion.[29] Furthermore, "[f]ederal actions, and those involving federal agencies, are excluded from cumulative effects analysis because they are subject to their own consultation process."[30]

The Tribe's next main argument was that the biological opinion was arbitrary and capricious.[31] The court pointed out that there is some inconsistency in the opinion, because it does state that there will be harm to the species and the habitat as a result of the operation plan, however the opinion claimed that this harm "will not jeopardize the continued existence of the kite or adversely modify its critical habitat within the meaning of the [Endangered Species] Act."[32] Thus, the USFWS claimed, without support, that harm to the species and habitat must be permanent before it will be considered "'adverse modification'" under the Act.[33] The court, however, after a brief analysis of the life cycle of the kite, determined that because "the kite is a long-lived bird with a high adult survival rate and an enormous range . . . [,]" several years of harm to the species and habitat will not be detrimental to the species as a whole.[34] Thus, the court found that the USFWS's determination that the operation plan would not violate the Endangered Species Act was not arbitrary and capricious.[35]

The tribe found a bit more success in its third main argument, which claimed that an incidental take statement is not acceptable if it uses habitat indicators to trigger re-evaluation of the take;[36] the trigger must specify, in numbers of animals, "how much 'take'

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27. *Id.* at 1268.
28. *Id.* at 1264.
29. *Id.* at 1268.
30. *Id.* at 1269.
31. *Id.*
32. *Id.* at 1270.
33. *Id.*
34. *Id.* at 1271. The court distinguished this case from *Pacific Coast Federation of Fisherman's Ass'ns v. U.S. Bureau of Reclamation,* 426 F.3d 1082 (9th Cir. 2005), where the data indicated that the life cycle of the coho salmon was three years. The plan at issue was to restore flow within eight years, and the court pointed out that "all the water in the world in 2010 and 2011 will not protect the coho, for there will be none [left] to protect." *Id.* at 1094.
35. *Miccosukee*, 566 F.3d at 1271.
36. Under the Endangered Species Act, "[a]n incidental take statement may lawfully authorize harm to an endangered species as long as the statement sets a 'trigger' for further consultation." *Id.* at 1271.

is permissible."[37] After examination of precedent cases, the Eleventh Circuit agreed with the Tribe, finding that Congress has spoken on the issue in the statutory language.[38] Thus, the court remanded the case with respect to the incidental take statement, but affirmed the lower court's determinations with respect to the other issues, to be resolved consistent with the Eleventh Circuit's findings discussed here.[39]

C. Connecticut v. American Electric Power Co.

States had standing to sue coal-fired power plants under federal common law nuisance.

In *Connecticut v. American Electric Power Co.*, plaintiffs (eight states, one city, and three land trusts) brought suit under federal common law nuisance against six fossil-fuel-fired power plants located in twenty states, claiming that the emission of "650 million tons per year of carbon dioxide[ ] is causing and will continue to cause serious harms affecting human health and natural resources" by contributing to global warming.[40] The district court dismissed the complaint after holding that the "[p]laintiffs' claims presented a non-justiciable political question . . . ."[41] The Second Circuit conducted an extensive analysis of both the plaintiffs' and defendants' claims and came to the conclusion that the district court was in error.[42] The claims did not present a non-justiciable political question, and furthermore all of the "[p]laintiffs have standing; that the federal common law of nuisance governs their claims; that Plaintiffs have stated claims under the federal common law of nuisance; [and] that their claims are not displaced . . . ."[43]

The complaint alleged that the defendants were responsible for 25% of the carbon dioxide generated from electricity production in the United States and 10% of all anthropogenic carbon dioxide emissions in the United States.[44] Furthermore, the plaintiffs alleged that viable alternatives existed for decreasing emissions

37. *Id.*
38. *Id.* at 1274.
39. *Id.* at 1275.
40. Connecticut v. Am. Elec. Power Co., 582 F.3d 309, 314 (2d Cir. 2009).
41. *Id.* The district court relied on the *Baker v. Carr* factors, more specifically, the third factor: "[p]rominent on the surface of any case held to involve a political question is found . . . [(3)] the impossibility of deciding without an initial policy determination of a kind clearly for nonjudicial discretion . . . ." *Id.* at 319 (quoting Baker v. Carr, 369 U.S. 186, 217 (1962)).
42. *Id.* at 315.
43. *Id.*
44. *Id.* at 316.

without increasing costs to consumers.[45] Most importantly, however, the complaint expressed thoroughly and in detail the present and future harms that each plaintiff has endured and will continue to endure as a result of increased emissions and global warming.[46]

The Second Circuit provided a brief overview of *Baker v. Carr*, 369 U.S. 186 (1962), listing six factors to describe the political question, and then examined how each of the six factors applied to the case at hand.[47] In finding that this case did not present a non-justicable political question, the court first found that, contrary to what the defendants argued, there is not a constitutional commitment to another branch, as the plaintiffs were not asking the court to legislate a solution to emissions and global warming, but were merely asking the court to "limit emissions from six domestic coal-fired electricity plants on the ground that such emissions constitute a public nuisance . . . ."[48] Second, the court found that there was not a lack of judicially-discoverable standards to govern resolution of this case.[49] Defendants argued that this case was too complex for a court to resolve.[50] However, the court provided numerous examples of extremely complex common law cases which have been resolved by courts.[51] The court emphasized that it was resolving this particular issue, not related, broad policy issues.[52] Furthermore, the court pointed to the Supreme Court's (and the Second Circuit's) use of the Restatement (Second) of Torts "for assistance in developing standards in a variety of tort cases."[53] Thus, extant principles of tort and common law provided sufficient guidance for resolution of this issue. In examination of the third *Baker* factor, the court found that an initial policy determination was not necessary for resolution of this claim,[54] and also cited to a precedent case which held that if existing statutes were insufficient to cover a specific claim and remedy, the federal common law of nuisance was still available.[55] The court addressed the remaining three *Baker* factors in one analysis and found that because

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45. *Id.*at 317.
46. *Id*. at 317-18.
47. *Id*. at 321-32.
48. *Id.* at 325. The court further emphasized this position by stating that this decision does not establish national or international policy, nor could it even if the court expressed that as its intention. *Id.*
49. *Id*. at 326-330.
50. *Id*. at 326.
51. *Id*. at 326-327.
52. The court cited to a particularly prescient statement in one of the plaintiff's briefs: "'[t]hat Plaintiffs' injuries are part of a worldwide problem does not mean Defendants' contribution to that problem cannot be addressed through principled adjudication.'" *Id.* at 329.
53. *Id.* at 328 (citations omitted).
54. *Id.* at 331.
55. *Id.* at 330 (citing Illinois v. City of Milwaukee, 406 U.S. 91, 92 (1972)).

"there really is no unified policy on greenhouse gas emissions[,]"[56] addressing this issue would not demonstrate a lack of respect for other branches or a contravention of an existing political decision.[57]

After the Second Circuit reached the conclusion that this case did not present a nonjusticable political question, the court moved on to standing, which the district court did not address.[58] The court first identified three different types of standing that exist for states suing in federal court[59] and found that the states were suing under the first and the third type while the city and land trusts were suing solely under the first type.[60] The court examined the history of *parens patriae* and determined that the states did meet the requirements to sue in this capacity.[61] The court then moved on to address whether the plaintiffs had standing under Article III. The court found that the parties did allege a sufficient injury-in-fact, despite the fact that many of the injuries alleged were future injuries which had not yet been realized.[62] The court found that future injuries are certain enough to satisfy injury-in-fact because the future harms were certain enough "to ensure that the injury was not speculative."[63]

Because the harm was ongoing, traceability and redressability represented a similar analysis. The court found that the plaintiffs' injuries were "fairly traceable" to the defendants' actions, disregarding the defendants' contention "that many others contribute to global warming in a variety of ways, and that therefore Plaintiffs cannot allege traceability . . . ."[64] The defendants claimed that the plaintiffs' harm could only be redressed by forcing entities not party to this suit to reduce their emissions as well, because the defen-

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56. *Id.* at 331.

57. *Id.* at 332.

58. The court stated that "the Supreme Court [has] held that when a lower court dismisses a case without deciding whether standing exists and the basis for the dismissal was found to be error, the Court has an obligation *sua sponte* to assure itself that the plaintiffs have Article III standing before delving into the merits." *Id.* at 333 (citing Friends of the Earth, Inc. v. Laidlaw Envtl. Servs., Inc. 528 U.S. 167, 180 (2000)).

59. The court recalled the three types: "'proprietary suits in which the state sues much like a private party suffering a direct, tangible injury; (2) sovereignty suits requesting adjudication of boundary disputes or water rights; or (3) *parens patriae* suits in which States litigate to protect 'quasi-sovereign' interests.'" *Id.* at 334 (quoting Connecticut v. Cahill, 217 F.3d 93, 97 (2d Cir. 2000)).

60. *Id.*

61. *Id.* at 334-39. The requirements for *parens patriae* standing can be found in *Snappe v. Puerto Rico ex rel. Barez*, 458 U.S. 592, 607 (1982).

62. *Id.* at 344.

63. *Id.* at 343. The court quoted *Lujan*'s analysis of imminence, which requires that "the injury is 'certainly impending[.]'" *Id.* (quoting Lujan v. Defenders of Wildlife, 504 U.S. 555, 564 n.2 (1992)). In other words, *Lujan* did not impose a "strict temporal requirement." *Id.* at 344.

64. *Id.* at 347.

dants' emissions are only a small part of worldwide emissions.[65] However, the court rejected this argument, citing the recent decision of *Massachusetts v. EPA*, where the Supreme Court "recognized that regulation of motor vehicle emissions would not 'by itself *reverse* global warming,' but that it was sufficient for the redressability inquiry to show that the requested remedy would '*slow or reduce* it.'"[66]

The court further found that the plaintiffs properly alleged a public nuisance claim under the Restatement definition[67] and thus under federal common law.[68] The court then went on to disregard several other of the defendants' contentions, ranging from constitutional to common law to whether or not the plaintiffs are appropriate parties to bring the suit, resolving all of these contentions in favor of the plaintiffs.[69] The final main argument made by the defendants was that the plaintiffs' common law public nuisance claim, even if valid, was displaced by federal legislation, namely by the Clean Air Act and other legislation addressing greenhouse gases.[70] After a lengthy analysis, the court determined that the Clean Air Act "does not (1) regulate greenhouse gas emissions or (2) regulate such emissions from stationary sources[,]" meaning that the issues targeted by the plaintiffs' complaint have not been addressed fully by the Clean Air Act.[71] The court reached a similar conclusion after examining other federal legislation relating to greenhouse gases.[72]

The final issue that the court addressed in its opinion related to the availability of pursuing these claims under state common law nuisance because the plaintiffs alleged in the alternative that the defendants were liable under state nuisance claims.[73] The court, however, found that a defendant cannot be subject to both state and federal nuisance law for the same issue.[74] Because the court found federal nuisance law to be appropriate here, state nuisance law needed not apply.[75]

The final conclusion of the court was thus the claims presented were not non-justiciable political questions; all of the parties had standing; federal common law public nuisance was appropriate to

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65. *Id.* at 347-49.
66. *Id.*at 348 (quoting Massachusetts v. EPA, 549 U.S. 497, 525 (2007)).
67. *See* RESTATEMENT (SECOND) OF TORTS § 821B (1979).
68. *Am. Elec. Power Co.*, 582 F.3d at 353.
69. *Id.* at 353-71.
70. *Id.* at 371, 375.
71. *Id.* at 381.
72. *Id.* at 381-85.
73. *Id.* at 234.
74. *Id.* at 235.
75. *Id.*

apply here, and all parties did effectively state a claim under this law; federal legislation did not displace the plaintiffs' claims; and state common law does not apply because federal common law does.[76]

D. In re *Tri-State Water Rights Litigation*

> Congressional authorization required for the US Army Corps of Engineer's reallocation of substantial portions of Lake Lanier for the purpose of water supply for Atlanta.

This consolidated litigation represents the most recent achievement for Florida and Alabama in their litigation against Georgia and the U.S. Army Corps of Engineers for allocation of the water in the Apalachicola-Chattahoochee-Flint (ACF) River Basin. The main issue "in the case [was] whether, by taking or failing to take the actions complained of in the various lawsuits, the Corps violated § 301 of the [Water Supply Act][.]"[77] The plaintiffs' main contention was that the Corps is required to seek congressional approval for its use of Lake Lanier for water supply.[78] The defendants countered that because water supply was one of the project's original purposes, Congressional approval was not required, and furthermore, the water supply operations "have not amounted to a major structural or operational change in the project."[79]

In order to determine the original purposes of the project and resolve the issues of this case, the court took an extensive look at the history of Lake Lanier and Buford Dam.[80] The possibility of using the lake as water supply for Atlanta arose when the site was identified and planning began, but Congress suggested that the City of Atlanta should contribute to the construction costs because it would benefit from the creation of a municipal water source.[81] Ironically, Mayor Hartsfield responded to this suggestion in a 1948 letter: "[f]rankly, in our zeal I think we have just laid too much emphasis on the Chattahoochee as a water supply . . . [because] water supply is only [an] incidental [benefit of this project] . . . .

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76. *Id.* at 235-36.

77. *In re* Tri-State Water Rights Litig., 639 F. Supp. 2d 1308, 1310 (M.D. Fla. 2009). This act provides "modifications of a reservoir project heretofore authorized, surveyed, planned, or constructed to include storage [for water supply] which would seriously affect the purposes for which the project was authorized, surveyed, planned, or constructed, or which would involve major structural or operational changes shall be made only upon the approval of Congress[.]" *Id.*

78. *Id.*

79. *Id.*

80. *Id.* at 1310-33.

81. *Id.* at 1313.

Certainly a city which is only one hundred miles below one of the greatest rainfall areas in the nation will never find itself in the position of a city like Los Angeles . . . ."[82] Fast forward to 1981, only thirty-three years later, when "the Chattahoochee and Lake Lanier suppl[ied] more than 90 percent of the total water supply for the metropolitan Atlanta area."[83]

Over the fifty-plus years between the initial planning for the dam and reservoir and the present day, Congress and the Corps conducted study after study addressing the predominant purposes of the project as well as the "incidental" benefit of water supply, frequently coming to the conclusion that the primary purposes of the project were flood control and hydroelectric power generation.[84] Meanwhile, the only municipalities congressionally authorized to withdraw from the reservoir were the nearby cities of Gainesville and Buford, although the Corps had also formed "interim" water-supply contracts with the Atlanta Regional Commission (ARC), Gwinnett County, and the city of Cumming.[85] These interim contracts all expired on January 1, 1990, "[h]owever, the municipal entities continue to withdraw water pursuant to these contracts."[86]

The first legal issue that the court addressed was standing, because the Georgia parties have continually insisted that Alabama and Florida do not have standing to bring this suit because they cannot establish injury in fact.[87] The court, however, found that the plaintiffs did provide sufficient evidence to support the claim "that they have suffered harm because of the Corps's operations in the ACF basin[,]"[88] and thus found that these parties have standing.[89]

The plaintiffs then argued that the defendants were precluded from litigating this issue under the doctrine of collateral estoppel because the D.C. Circuit already ruled that this reallocation constituted a "major operational change" under the Water Supply Act (WSA).[90] The court asserted that the prior decision,[91] while persuasive on this court, was not binding.[92]

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82. *Id.* at 1315.
83. *Id.* at 1325.
84. *Id.* at 1316-33.
85. *Id.* at 1326, 1335.
86. *Id.* at 1335.
87. *Id.* at 1340-42.
88. *Id.* at 1341.
89. *Id.* at 1342.
90. *Id.* at 1342, 1339. The prior decision referred to is *Southeastern Federal Power Customers v. Geren*, 514 F.3d 1316 (D.C. Cir. 2008).
91. Holding that "reallocating more than twenty-two percent . . . of Lake Lanier's storage capacity [under a proposed settlement agreement] constitutes the type of major operational change referenced by the WSA[.]" *Id.* at 1339.
92. *Id.* at 1343.

The court then arrived at the issue of whether or not the WSA required the Corps to seek congressional authorization for its reallocation of substantial quantities of Lake Lanier's storage to water supply.[93] The court examined the WSA and determined that the act permitted the Corps to "set aside storage for water supply in a previously constructed reservoir as long as (1) the beneficiaries of that storage pa[id] a proportionate share of the costs of the project, and (2) the modification [did] not seriously affect the project's purposes or constitute a major structural or operational change."[94] While there is no debate as to the first element (Atlanta did not assist with the costs of the project), the second element required a deeper examination. Although the Georgia parties argued that water supply was one of the project's purposes, the court disagreed with their assertion and the evidence that they used to support it.[95] In reaching the conclusion that water supply was not one of the project's purposes, the court did point out that from the beginning of the project, the Corps identified its purposes as hydropower, flood control, and navigation.[96] Although water supply was recognized from the beginning as an incidental benefit, this benefit was not intended to be derived from Lake Lanier, but instead "from the regulation of the Chattahoochee River's flow provided by the dam and the releases for hydropower."[97] Furthermore, the court found that nearly 25% of the lake's storage was reallocated for the purposes of water supply and that this, without question, constituted a major operational change.[98]

The court then went on to debunk the Georgia parties' assertion that this reallocation only caused a one percent reduction in hydropower generation. In finding that the Corps was in violation of the WSA, the court determined that this reallocation had "seriously affected the purposes for which the Buford project was originally authorized."[99] The court also dismissed as moot other claims that the Corps' operations violated the National Environmental Policy Act, the Flood Control Act, the Coastal Zone Management Act, and other miscellaneous laws.[100]

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93. *Id*. at 1343-54.

94. *Id*. at 1344.

95. The Georgia parties supported their assertion by repeatedly referencing a sign at Lake Lanier and Buford Dam, which states that the "'PRIMARY PURPOSES'" are "'FLOOD CONTROL - - POWER - - WATER SUPPLY - - INCREASED FLOW FOR NAVIGATION.'" *Id*. The Court was not persuaded: the "sign . . . is not authoritative legislative history[.]" *Id.*

96. *Id*. at 1345.

97. *Id*. at 1346 (citations omitted).

98. *Id*. at 1347.

99. *Id*. at 1354.

100. The court explained that "[b]ecause the court has determined that the Corps must seek Congressional authorization before it can reallocate storage in Lake Lanier to water

Realizing how complex this issue was, the court allowed a period of three years for the Corps and Georgia parties to seek congressional authorization, during which period "the parties may continue to operate at current water-supply withdrawal levels but should not increase those withdrawals absent the agreement of all other parties to this matter."[101] If the parties should fail to get congressional approval, then the court ordered a return to the "'baseline'" operation from the 1970s.[102] In a final note, the court chastised the Corps for failing to update the original operating manual for the Buford Dam, which is now fifty years old, and encouraged it to complete its ACF basin plan quickly so all parties involved will be able to address the issues at hand more effectively.[103]

E. Arkansas Game & Fish Commission v. United States

> Corps' deviation from its operating plan, which resulted in extended periods of inundation of Arkansas State Wildlife Management Area, constituted a taking.

In *Arkansas Game & Fish Commission v. United States*, the Arkansas Game and Fish Commission sued the Corps of Engineers because a deviation from its operating plan for the Clearwater Dam on the Black River resulted in extended inundation on a wildlife management area owned by the commission.[104] The primary purpose for the commission's purchase of the management area was to "provide wintering habitat for migratory waterfowl[,]"[105] however it also served "[s]econdarily . . . as a timber resource . . . ."[106] The six-year period of inundation severely damaged the root system of several of the species of trees, contributing to their demise.[107] The commission thus sued the Corps alleging a Fifth Amendment taking had occurred.[108] The court mentioned that for the purpose of the Fifth Amendment, private property can "include[ ] 'property [that] has been dedicated by the State to public use.'"[109] Thus, Arkansas's ownership of the wildlife management

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supply, the parties' remaining . . . claims regarding the Corps's operations and the plans for those operations are [now] moot." *Id.*

101. *Id.* at 1355.

102. Meaning that only Gainesville and Buford will be permitted to withdraw from the lake. *Id.*

103. *Id.*

104. Arkansas Game & Fish Comm'n v. United States, 87 Fed. Cl. 594 (2009).

105. *Id.* at 601.

106. *Id.*

107. *Id.* at 605, 612.

108. *Id.* at 600, 616.

109. *Id.* at 616 (quoting California v. United States, 395 F.2d 261, 264 (9th Cir. 1968)).

area constituted a valid property interest.[110] Furthermore, Arkansas was not just seeking compensation for what the court referred to as a "'flowage easement,'" but for "'the destruction and taking of its timber, plus for the necessary silvacultural restoration.'"[111] The court cited precedent caselaw in outlining what the plaintiff must establish when flooding has resulted in a taking claim: "'intermittent, frequent, and inevitably recurring floodings.'"[112] The court found that because the evidence presented at trial proved that the Corps' deviation from the operating plan resulted in greater inundation than normally occurs, "the Commission . . . met its burden of proving that the . . . releases were 'intermittent, frequent, and inevitably recurring floodings . . . .'"[113]

The court then addressed foreseeability, which it stated was a required element for this cause of action.[114] The court found that although the Corps was not aware that the deviation from the plan would cause increased flooding in the wildlife management area, the "effect . . . was predictable, using readily available resources and hydrologic skills."[115] Additionally, the court found that there was a drought after the extended period of inundation, and this may have contributed to the tree mortality; "the root systems . . . in the Management Area had already been severely damaged by excess inundation" during the period in which the Corps deviated from the operating plan.[116]

The court moved on to address causation. After examining the evidence presented by Arkansas, the court was satisfied that the "simplest conclusion" was that the tree mortality was caused by the six-year period of excess inundation.[117] Thus the court was convinced that causation had been established[118] and rejected alternative explanations presented by the Corps.[119]

The court examined several different methodologies for determining compensation due to the state, and finally settled on one method which generated $5.6 million in fair market value damages for the damages to the timber[120] and over $200,000 in regeneration costs.[121]

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110. *Id.*
111. *Id.* (citations omitted).
112. *Id.* at 618 (quoting Fromme v. United States, 412 F.2d 1192, 1196 (1969)).
113. *Id.* at 618-19 (citations omitted).
114. *Id.* at 621.
115. *Id.* at 623.
116. *Id.* at 624.
117. *Id.* at 626.
118. *Id.* at 629-33.
119. *Id.* at 634.
120. *Id.* at 640.
121. *Id.* at 646.

F. Burlington Northern & Santa Fe Railway Co. v. United States

Party who delivered hazardous substances to a distributor who in turn caused spills was not held jointly and severally liable for the cleanup costs even though the party had knowledge of the spills.

Burlington Northern & Santa Fe Railway Co. v. United States involved cleanup under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and further examined the question of "whether and to what extent a party associated with a contaminated site may be held responsible for the full costs of remediation."[122] Brown & Bryant (B & B), an agricultural distribution business, purchased pesticides from Shell, a company which sold various hazardous chemicals, beginning in 1960.[123] The pesticides were originally delivered in drums, however, in the mid-1960s, Shell began requiring the purchaser to maintain storage tanks for the chemicals.[124] Although some degree of care was taken in the transfer of the chemicals from the truck to the storage tanks, some amounts of the chemicals would spill onto the ground.[125] Shell instituted several steps to prevent these commonplace spills in the late 1970s, and required the purchaser/distributers to obtain inspections of their storage facilities.[126] Even after implementing these precautionary measures, Shell was still aware of the fact that "B & B remained a '[s]loppy [o]perator.'"[127] Eventually, the California Department of Toxic Substances Control and the U.S. Environmental Protection Agency (EPA) began investigating the site.[128] B & B did take some remedial action, but became insolvent in 1989, and the site was subsequently listed on the National Priority List.[129] Over the following nine years, the EPA expended $8 million to clean up the contamination, and the costs have continued to amass.[130] A 1991 administrative order directed several railroad companies, who were part owners of the property, to "perform certain remedial tasks in connection with the site."[131] In performing these actions, the railroads

122. Burlington N. & Santa Fe Ry. Co. v. United States, 129 S.Ct. 1870, 1874 (2009).
123. *Id.*
124. *Id.* at 1875.
125. *Id.*
126. *Id.*
127. *Id.* (citation omitted).
128. *Id.*
129. *Id.* at 1876.
130. *Id.*
131. *Id.*

spent greater than $3 million, and, as a result, sought to recover some of the costs from other responsible parties.[132] Several law suits involving both state and federal entities, the railroads, B & B, and Shell were consolidated in the U.S. District Court of the Eastern District of California, which held a lengthy trial.[133]

The district court did not impose joint and several liability on the railroads and Shell even though it held that both parties were potentially responsible parties under CERCLA because it found that the harm was apportionable.[134] Based on several calculations, the court came to the final determination that Shell was responsible for 6% of the response costs and the railroads were responsible for 9%.[135] The Ninth Circuit Court of Appeals came to the decision that the harm was indistinguishable, and thus, Shell and the railroads were jointly and severally liable for the response costs, disregarding the district court's division of liability.[136]

The Supreme Court, in examining CERCLA's arranger liability, decided to give plain meaning to the term "'arrang[e] for'" because CERCLA does not specifically define this term.[137] Thus, "under the plain language of the statute, an entity may qualify as an arranger under [CERCLA] when it takes intentional steps to dispose of a hazardous substance."[138] As applied to Shell, the Court held that it did not qualify as an arranger under this definition because it did not arrange for *disposal*, even though it was aware that the spills were occurring.[139] The Court found that "knowledge alone is insufficient to prove that an entity 'planned for' the disposal . . . "[140] and furthermore, the Court was persuaded by the evidence that Shell's steps to reduce spills indicated that it did not have the requisite intent.[141]

The Supreme Court absolved Shell of liability as an arranger and then moved on to address whether or not the district court's apportionment of the costs was correct, or whether the railroad should have been held jointly and severally liable, as the appellate court found.[142] The Court followed the *Chem-Dyne*[143] approach,

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132. *Id.*
133. *Id.*
134. *Id.*
135. *Id.* at 1876-77.
136. *Id.* at 1877. Only "a portion of the site contamination occurred before the Railroad parcel became part of the facility, only some of the hazardous substances were stored on the Railroad parcel . . . . [Only some] of the hazardous substances spilled on the facility had been sold by Shell." *Id.* (citation omitted).
137. *Id.* at 1879.
138. *Id.*
139. *Id.* at 1880.
140. *Id.*
141. *Id.*
142. *Id.*
143. United States v. Chem-Dyne Corp., 572 F.Supp. 802 (1983).

which adopted the Restatement (Second) of Torts: "apportionment is proper when 'there is a reasonable basis for determining the contribution of each cause to a single harm.'"[144] Because both lower courts were in agreement that the singular harm was capable of apportionment, the Court then only had to address whether the district court's apportionment was reasonable.[145] The Supreme Court concluded that the district court's calculations, which were based on the percentage of the site that the railroads owned, the duration which they owned it, and the volume of the releases, were reasonable especially in light of the fact that the district court left room for a 50% margin of error in the calculation.[146] The Supreme Court thus reversed the appellate court's judgment and remanded the case for proceedings consistent with the opinion.[147]

Justice Ginsberg wrote the dissent, stating that she would have held Shell liable as an arranger because Shell's actions contributed to the contamination.[148] Furthermore, she stated that policy implications favor finding Shell liable as an arranger, as it "place[s] the cost of remediation on persons whose activities contributed to the contamination rather than on the taxpaying public."[149] Ginsberg commended the district court in its effort to apportion the costs, but felt it would have been more appropriate for each party to present its theories of apportionment, which was not done at trial.[150] Thus, she recommended remanding the case to the district court for the opportunity to have each party involved in the fair apportionment of the costs.[151]

G. Stop the Beach Renourishment v. Florida Department of Environmental Protection

The Supreme Court held oral argument for *Stop the Beach Renourishment v. Florida Department of Environmental Protection* in December of 2009. Unfortunately, the Court's opinion did not make it out in time to be included in this article, however it will be included in the next edition of the *Journal of Land Use and Environmental Law's* Recent Developments article.

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144. *Burlington N. & Santa Fe Ry. Co.*, 129 S. Ct. at 1881 (citation omitted).

145. *Id.*

146. *Id.* at 1881-82.

147. *Id.* at 1884.

148. *Id.* at 1884-85 (Ginsberg, J., dissenting). Because it was economically advantageous, Shell switched from shipping the pesticides in drums to requiring the purchaser to maintain bulk storage tanks which "led to numerous tank failures and spills as the chemical rusted tanks and eroded valves." *Id.* at 1885 (quoting *Id.* at 1875, n.1).

149. *Id.* at 1885.

150. *Id.* at 1885-86.

151. *Id.* at 1886.

II. NOTABLE FLORIDA CASES

A. Drake v. Walton County

County's actions in diverting an outfall constituted a taking when the county did not re-divert the water away from appellant's property.

The landowners in *Drake v. Walton County* brought suit against the county, claiming a taking of private property, based on the county's actions in 2005 when it diverted water across the appellant's property for the purpose of protecting a neighboring home and property.[152]

Prior to appellant's ownership of the property, it had historically been exposed to water overflow from the outfall of an inland lake, however state authorities assisted in stabilizing and diverting flow away from the property, "thus making the upper portion of the land available for development."[153] Over the subsequent years, however, water was temporarily diverted more than once over the appellant's property in emergency conditions to lessen flooding on neighboring properties.[154] The final action giving rise to the suit was in 2005 when the county diverted the outfall over the appellant's property and did not re-divert it back once the emergency was over.[155]

The trial court found no taking because the county had followed statutorily-granted emergency authority and that the most recent reconfiguration of flow "simply restored the natural drainage pattern . . . that predated any artificial structures or drainage improvements . . . ."[156] The trial court continued, finding that the landowners should have engaged in due diligence prior to purchasing the property, and their failure to do this could not give rise to a taking.[157] The First District Court of Appeal (First DCA) reversed the lower court's decision and emphasized that it was the county's actions, not the natural disaster, which caused the flooding on the appellant's property.[158] The First DCA stated that "[g]overnment cannot choose to act and protect one property owner by diverting floodwater onto the property of another without compensating that property owner."[159] The court opined that the Coun-

152. *Id.* at 719-20.
153. Drake v. Walton County, 6 So. 3d 717, 719 (Fla. 1st DCA 2009).
154. *Id.*
155. *Id.*
156. *Id.*
157. *Id.* at 720.
158. *Id.*
159. *Id.*

ty's action served to confer a public benefit on other property owners, which is much more likely to result in a taking than an action which prevents a public harm.[160] The court went on to address the statutory argument[161] and found that the relevant section "does not grant the County immunity during an emergency . . ." and thus appellant was not precluded from bringing a takings claim.[162] The First DCA reversed the trial court's judgment and remanded for a determination of the value of the taking.[163]

B. Department of Environmental Protection v. Landmark Enterprises, Inc.

DEP not appropriate as a receiver for abandoned wastewater treatment plant.

The case of *Department of Environmental Protection v. Landmark Enterprises, Inc.* involves Landmark Enterprises, Inc. (Landmark), which owned and operated a wastewater treatment plant that was falling into disrepair and had been cited for improper disposal.[164] In 2002, after Landmark had failed to comply with a prior consent order, the Department of Environmental Protection (DEP) filed both a complaint and a petition to enforce the consent order and was awarded an injunction.[165] Five years later, DEP felt that the requirements of the injunction had not been met so the agency filed a motion for contempt.[166] Landmark, in turn, abandoned the plant.[167] The statutory requirements for abandonment found in section 367.165, Florida Statutes (2007) were met.[168] This statute requires that the owner give sixty days notice to the county where the utility is located.[169] The county then petitions the circuit court to appoint a receiver, "which may be the governing body of a political subdivision or any other person deemed appropriate."[170] The affected county filed a petition to make DEP the receiver, which the circuit court granted and to which DEP objected.[171]

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160. *Id.* at 721.

161. In this claim, the county argued that its actions were authorized pursuant to Florida Statutes and thus it should be immune from suit. *Id.*

162. *Id.*

163. *Id.* at 722.

164. Dep't of Envtl. Prot. v. Landmark Enters., Inc., 3 So. 3d 434, 435 (Fla. 2d DCA 2009).

165. *Id.*

166. *Id.*

167. *Id.*

168. *Id.*

169. *Id.* at 435 n.1.

170. *Id.*

171. *Id.* at 435-36.

This court addressed whether or not DEP was an eligible and appropriate receiver under the statute; more specifically, whether or not DEP is considered a "'person'" within the meaning of the statute.[172] The court pointed out that no example had been provided where DEP is authorized to act as a receiver.[173] Furthermore, if the legislature intended to give DEP authority to act as a receiver "it knew how to do so, as illustrated by instances where it empowered other state agencies to so act when needed."[174] Thus, the court determined that under the current statutory framework, DEP is "not empowered to act as a receiver for an abandoned wastewater treatment facility," and reversed the lower court's holding, stating that the solution to this problem must come from the executive and legislative branches.[175]

C. Bay County v. Harrison

Condominium units not equated with dwelling units under Bay County's density restriction.

The issue in *Bay County v. Harrison* began in the late 1990s, when Bay County amended its Comprehensive Plan (Plan) in an effort to shape future land uses of Laguna Beach, located in the western area of the county, toward more tourism and resort-type uses.[176] The amended plan designated several areas in Laguna Beach as "'seasonal/resort,'" which meant that these areas were not meant for year-round residential occupation, but for tourist-oriented uses, such as hotels, beach houses, condos, and associated restaurants, bars, and convenience stores.[177] The amendment limited density to "[n]o more than fifteen (15) dwelling units per acre . . . ."[178] Several years later, the county approved a proposal to develop a resort condominium (the Mayan) in Laguna Beach, which would contain 279 units.[179] A nearby landowner brought suit, claiming that this was inconsistent with the county's Plan, which limited density to no greater than fifteen units per acre.[180] The trial court concluded that the proposed development was inconsistent with the county's Plan because the proposed density

172. *Id.* at 436.
173. *Id.*
174. *Id.*
175. *Id.* at 437.
176. Bay County v. Harrison, 13 So. 3d 115, 117 (Fla. 1st DCA 2009).
177. *Id.*
178. *Id.*
179. *Id.*
180. *Id.* at 117-18.

was "nine and one-half times that permitted for resident 'occupied' structures."[181]

In its reversal of the trial court's decision, the First District Court of Appeal raised a distinction between resort condominium rental units and "'dwelling unit[s],'" the term used in the Plan amendment.[182] The court asserted that "'dwelling unit[,]'" as applied to structures, suggested uses of a residential nature, while the Mayan and similar facilities "are permanent structures that accommodate temporary visitors."[183] The court further reasoned that because the amendment did not preclude hotels, and because the County had intentionally chosen not to implement a density limitation for lodging establishments, this proposal did not violate the Plan.[184] Thus, the court's final determination was that temporary lodging establishments were not subject to a density restriction for "dwelling units."[185] The court did not address the validity of the Plan amendment creating the "'seasonal/resort'" use,[186] however, it will be interesting to monitor any future challenges to the validity of this restriction on land use.

D. St. Johns River Water Management District v. Koontz

Proposed exactions attached to a development permit constituted a taking even though the landowner never accepted them.

St. Johns River Water Management District v. Koontz arose after the St. John's River Water Management District (SJRWMD) refused to grant the landowner, Coy Koontz, a permit to develop nearly four acres of his property.[187] This portion of the property was not authorized for development under existing regulation, so Mr. Koontz applied for a permit.[188] SJRWMD responded to the permit application by proposing to attach certain conditions to the permit, including off-site mitigation and placement of a conservation deed-restriction on the remaining fourteen acres which were not to be developed.[189] Mr. Koontz refused, so the permit application was denied.[190] The trial court, in applying the standards ex-

181. *Id.* at 118 (emphasis omitted).
182. *Id.* at 119-20.
183. *Id.* at 119 (citation omitted).
184. *Id.* at 120.
185. *Id.*
186. *Id.* at 117.
187. St. Johns River Water Mgmt. Dist. v. Koontz, 5 So. 3d 8, 9 (Fla. 5th DCA 2009).
188. *Id.*
189. *Id.*
190. *Id.*

pressed in *Nollan*[191] and *Dolan*,[192] found no essential nexus between the conditions requested and the potential impact from the proposed development and thus "concluded that the District had effected a taking of Mr. Koontz's property and awarded damages.[193] The main argument that SJRWMD proffered was that the landowner cannot claim that an exaction amounts to a taking when the landowner refuses to accept the conditions.[194] The Fifth District Court of Appeal (Fifth DCA) declined to address this issue, stating that it had already been addressed in *Dolan*: "[a]lthough the *Dolan* majority did not expressly address the issue, the precise argument was addressed by the dissent and, thus, implicitly rejected by the majority."[195] The Fifth DCA affirmed the trial court's holding.[196]

Several interesting points are raised in both the concurrence and the dissent by the Fifth DCA. In the concurring opinion, Judge Orfinger pointed out that there remain important unanswered questions in the wake of *Nollan* and *Dolan*; the main question is at what point does a condition placed on the granting of a permit become an unconstitutional exaction?[197] Judge Orfinger argued that *Nollan* and *Dolan* should "be read to require governments to act reasonably in its [sic] permitting and land use decisions."[198] However, the concurrence raised an important issue: considering that "[o]verreacting is an inherent risk in the bargaining process[,] . . . [s]hould every misstep by the government, however reasonable, equate to a taking and create liability?"[199]

The dissent introduced some facts that the majority neglected to mention, which served to shed a slightly different light upon the case. The dissent pointed out that Mr. Koontz conceded that "he had no right to the permit . . . " and "that the government had the right to turn him down flat . . . ."[200] However, he decided to try anyway and submitted an application, which was then denied–finally resulting in an award of $376,154.00 in damages when the court found there was a taking.[201] The dissent expressed concern that this holding would set a dangerous precedent; other landowners in a position similar to Mr. Koontz's could pursue this profitable loo-

191. Nollan v. Cal. Coastal Comm'n, 483 U.S. 825, 839 (1987).
192. Dolan v. City of Tigard, 512 U.S. 374, 385 (1994).
193. *St. Johns River Water Mgmt. Dist.*, 5 So. 3d at 10.
194. *Id.* at 10-11.
195. *Id.* at 11 (citing *Dolan*, 512 U.S. at 408 (Stevens, J., dissenting)).
196. *Id.* at 12.
197. *Id.* at 13 (Orfinger, J., concurring).
198. *Id.* at 15.
199. *Id.*
200. *Id.* at 16-17 (Griffin, J., dissenting).
201. *Id.* at 16, 17.

phole to benefit from their undevelopable property.[202] The dissenting judge, Judge Griffin, then proposed a distinction be made between the situation when the unconstitutional condition involves a taking of an interest in land and the situation when the unconstitutional condition involves a taking of something that is not considered an interest in land.[203] Judge Griffin went on to say "[i]n this case, the objected-to condition . . . was not an interest in land; it was the requirement to perform certain off-site mitigation . . . to enhance wetlands several miles away."[204] Furthermore, in the end, "*nothing* was ever taken" from the landowner.[205] Thus, the dissenting opinion suggested that in such a situation, when what is being taken is not an interest in land, inverse condemnation should not be available as a remedy. However, this does not leave the landowner without redress: he can appeal his permit denial.[206] The dissenting opinion also took issue with the majority's statement that because the Supreme Court majority in *Dolan* failed to address one of the points raised in the *Dolan* dissent, it implicitly rejected it.[207] The dissenting judge cited to several precedent cases to support her opinion. First, she cited a California case where the court found that because the landowner rejected the condition, "'neither a property right nor money was in fact taken . . . there is [therefore] nothing requiring review under the *Nollan*/*Dolan*/*Ehrlich* standard.'"[208] Second, the dissenting judge cited to *Lingle*[209] in her assertion that the making of the offer does not give rise to the taking; it is the actual receipt of the offer and compliance with the unconstitutional condition that gives rise to the taking.[210]

E. City of Jacksonville v. Coffield

County's actions toward landowner did not vest his development rights.

City of Jacksonville v. Coffield arose after a public roadway was closed and abandoned in order to make the attached subdivision

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202. *Id.* at 16.
203. *Id.* at 17-18.
204. *Id.* at 18.
205. *Id.*
206. *Id.* at 20.
207. *Id.*
208. *Id.* at 19 (citing Lambert v. City & County of San Francisco, 57 Cal. App. 4th 1172 (Ct. App. 1997), *cert. denied*, 529 U.S. 1045 (2000)).
209. *Lingle v. Chevron U.S.A., Inc.*, 544 U.S. 528 (2005),
210. *St. Johns River Water Mgmt. Dist.*, 5 So. 3d at 20.

(Windsong Place) private and gated.[211] Prior to the issue giving rise to the suit, Mr. Coffield was under contract to purchase a parcel of land adjacent to the road in question, and planned to subdivide the land into eight units and develop.[212] In order to successfully subdivide and develop this property into eight units, Mr. Coffield would need access to the Windsong Place roadway, for which an application for closure and abandonment had been filed with the city.[213] Mr. Coffield was made aware of Windsong Place's application for closure and abandonment to the city "more than five weeks before the agreed deadline for rescinding the contract and recouping his . . . deposit."[214] He, however, decided to proceed under mistaken factual and legal beliefs, assuming that in the event that the city did close and abandon the road, he would still have access to it for his development.[215] Prior to both the purchase of the property and the closure of the road, Mr. Coffield began site preparation and surveying for the property.[216] Over the subsequent months, Mr. Coffield received a letter from the City, which notified him that he could apply for driveway connection permits.[217] The sale closed and just over two months later, the City closed and abandoned the road, after which the City sent Mr. Coffield a letter stating that he needed to provide the City with assurances that the eight proposed lots would have ingress and egress to the private road.[218] The closure of the road, combined with lack of access and a few other factors, seemed to indicate that no more than two houses could be built on Mr. Coffield's newly acquired property.[219]

The trial court held "that the City had made representations which 'would lead a reasonable person to believe that the development of the property could still proceed despite the application for abandonment of the roadway[,]'"[220] and that the City's actions had "'inordinately burdened' an 'existing use' . . . ."[221]

On appeal, the City argued that neither Mr. Coffield nor his LLC (to which he had recently transferred title to the property) were proper parties to bring this suit, and thus the claim should

211. City of Jacksonville v. Coffield, 18 So. 3d 589, 591 (Fla. 1st DCA 2009).
212. *Id.*
213. *Id.* Furthermore, as a city employee testified, he had no recollection of any of these applications ever being denied in his four-year tenure with the city–the city received forty-five to seventy every year. *Id.*
214. *Id.*
215. *Id.* at 592.
216. *Id.*
217. *Id.*
218. *Id.*
219. *Id.*
220. *Id.* at 593
221. *Id.*

have been dismissed.[222] The City's argument was essentially that the LLC was not a proper party because the LLC acquired the property *after* the City had closed the road (and thus "had no reasonable, investment-backed expectation at the time of acquisition . . ."[223]), and Mr. Coffield was not a proper party because he no longer held title to the property.[224] With an examination of precedent case, the First District Court of Appeal (First DCA) found that although statutory language may seem to indicate otherwise, courts have consistently rejected similar arguments.[225] Thus, the court determined that both were proper parties to bring suit. [226]

After an examination of the statute invoked by Mr. Coffield, this court disagreed with the trial court's determination that the City's actions "inordinately burdened an existing use of real property or a vested right to a specific use of real property[.]"[227] To begin with, Mr. Coffield's proposed development of eight units was never an "existing use" of the property.[228] Furthermore, Mr. Coffield did not have a "vested right" to this use because he was on notice that the city might close the road long before he purchased the property.[229] The First DCA explained that "Mr. Coffield went forward based on mistaken assumptions. . . . [His] misapprehensions conferred no legal rights."[230] The court pointed out that the concept of equitable estoppel further cemented this determination.[231] Although the City did communicate with Mr. Coffield about his proposed development prior to the closure of the road, "no action or omission on the part of the City reasonably led Mr. Coffield to believe that his proposed development could proceed *in the event the City closed or abandoned the roadway*."[232] Thus, the First DCA reversed the lower court's decision and remanded the case, directing the lower court to dismiss the claim.[233]

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222. *Id.*
223. *Id.* (Citing Palazzolo v. Rhode Island, 533 U.S. 606, 626 (2001)).
224. *Id.*
225. *Id.* at 593-94 (Citation omitted).
226. *Id.* at 594.
227. *Id.* (Quoting FLA. STAT. § 70.001(2) (2006)).
228. *Id.* at 595-96.
229. *Id.*
230. *Id.* at 596.
231. *Id.* at 597.
232. *Id.*
233. *Id.* at 599.

F. Peace River/Manasota Regional Water Supply Authority v. IMC Phosphates Co.

DEP not required to consider cumulative impacts of the proposed project because the ALJ found no adverse impacts.

The action of *Peace River/Manasota Regional Water Supply Authority v. IMC Phosphates Co.* commenced when the regional water supply authority (Authority) filed suit against the Department of Environmental Protection (DEP) and IMC Phosphates Co. (IMC) after DEP issued a notice of intent to issue a permit to IMC for construction of a new phosphate mine.[234] A portion of the Authority's water supply came from this region of the Peace River, and thus it was concerned that the proposed development would contaminate that water source.[235] At the administrative hearing, IMC was successfully able to exclude all evidence of past and potential future cumulative impacts of this and other projects on the Peace River and Basin.[236] The Administrative Law Judge (ALJ) did recommend that DEP grant the permit application, but only if several conditions were attached to increase environmental protection.[237] Additionally, the ALJ found that the water supply authority did not have standing to bring this action "because its substantial interests were not affected by the order;" however, at the time of the recommended order, the ALJ noted this issue was moot because the Authority had participated fully.[238] DEP adopted the majority of the ALJ's findings and the water authority subsequently appealed.[239]

The Second District Court of Appeal (Second DCA) found that the Authority did have standing because it sufficiently alleged that the proposed activities could have an adverse affect upon the Peace River as a water supply.[240] IMC claimed that because the ALJ ultimately found that there was no adverse impact, this served to eliminate standing.[241] However, the Second DCA pointed out that standing is not a retroactive concept and cannot be eliminated by a final determination by the fact-finder of no adverse impact.[242] The Second DCA went on to find that the proposed development did

234. Peace River/Manasota Reg'l Water Supply v. IMC Phosphates Co., 18 So. 3d 1079, 1080 (Fla. 2d DCA 2009).
235. *Id.* at 1083.
236. *Id.* at 1081.
237. *Id.* at 1082.
238. *Id.*
239. *Id.*
240. *Id.* at 1085.
241. *Id.* at 1086.
242. *Id.*

have a possibility of adversely impacting the interests of the Authority, and thus, standing existed.[243]

The court then went on to examine the cumulative impacts issue. The Authority's argument was that under section 373.414(8)(b), Florida Statutes (2004), the mitigation must offset fully any adverse impacts.[244] The court, however, did not find this argument to be compelling.[245] While the legislative history indicated that the intent of the statute was to require a full offset of adverse impacts, the language "fully offset" cannot be found in the statute itself.[246] Furthermore, the statute does not require that all impacts be mitigated, only adverse ones.[247] Partly because IMC's mitigation is in the same drainage basin as the proposed impact, "the ALJ found, based on competent, substantial evidence, that there would be *no* postmitigation adverse impacts from IMC's activities . . . and DEP adopted this finding."[248] As a result of this finding of no adverse impacts, DEP was not required to consider potential cumulative impacts to the resource.[249] Thus, this court found that the ALJ's exclusion of a cumulative impact study was not an error.[250]

The court's final words expressed concern about this application of the statute.[251] Under the statute, DEP never has to consider cumulative impacts upon a resource so long as the mitigation is in the same basin and "the incremental impact of each of [the] projects is so small that the impact[s] can individually be classified as not adverse . . . ."[252] This outcome did not sit well with the court, but the court clearly stated that its role is not to re-write the statutes; it is the legislature's job to address and rectify problems as it sees fit.[253]

Although this court did not agree with the ALJ regarding the Authority's standing, this was not a reversible error because the Authority participated fully below.[254] Thus, the court affirmed DEP's final order.[255]

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243. *Id.*
244. *Id.*
245. *Id.*
246. *Id.* at 1087.
247. *Id.*
248. *Id.*
249. *Id.* at 1088.
250. *Id.*
251. *Id.* at 1088-89.
252. *Id.*
253. *Id.* at 1089.
254. *Id.*
255. *Id.*

III. NOTABLE FLORIDA LEGISLATION

A. Expedited Permitting/Mike McHugh Act Chapter 2009-134/House Bill No. 73

A county or municipality, through city or county commission resolution, can label a business as a targeted industry business.[256] Once labeled as such, this act requires that the Department of Environmental Protection (DEP) and/or Water Management Districts (WMD) adopt a program to expedite the process for reviewing Environmental Resource Permits (ERPs) for projects meeting the definition of targeted industry business (found in section 288.106, Florida Statutes (2009)).[257] This act imposes a mandatory pre-application review process to avoid permitting conflicts.[258] The permitting authority has forty-five days after receipt of the application to either approve or deny the permit.[259] Projects requiring approval by the Board of Trustees of the Internal Improvement Trust Fund are not eligible under this act.[260] Projects located in charter counties with populations greater than 1.2 million people that have entered into a delegation agreement with DEP or the relevant WMD to process ERPs are eligible under this act only if designated by the county's governing board.[261]

B. Energy Efficient Appliance Rebate Program Chapter 2009-36/House Bill No. 167

This piece of legislation creates a statute establishing a rebate program for the purchase of energy efficient appliances.[262] This program is under the purview of the Florida Energy and Climate Commission, which is charged with developing and administering the program and ensuring that it is consistent with 42 U.S.C. § 15821 along with any other federal agency regulation or guidance.[263] The Commission is charged with developing the most efficient means of administering the program, whether through cooperation with other state agencies or public-private partnerships.[264]

256. FLA. STAT. § 380.0657(2) (2009).
257. *Id.* § 380.0657(1).
258. *Id.* § 380.0657(3).
259. *Id.* § 380.0657(4).
260. *Id.* § 380.0657(1).
261. *Id.* § 380.0657(5).
262. *Id.* § 377.807.
263. *Id.* § 377.807(1).
264. *Id.* § 377.807(3).

The legislature has appropriated $150,000 to the Commission to administer this program.[265]

C. Real Property Used for Conservation Purposes Chapter 2009-157/House Bill No. 7157

In response to the passage of Amendment IV in the 2008 general election, the Legislature enacted a property tax exemption for real property dedicated in perpetuity for conservation purposes.[266] In order for land to qualify, it must be "encumbered by an irrevocable, perpetual conservation easement[,]" which contains a baseline evaluation of the value of the natural resources to be protected on the property.[267] The newly-enacted statute defines conservation purposes as retaining the substantial natural value of land, retention of wildlife habitat, or retention for purposes of water quality enhancement or water recharge.[268] Additionally, land satisfying 26 U.S.C. § 170(h)(4)(A)(i)-(iii) qualifies.[269] Land used exclusively for conservation purposes is exempt from ad valorem taxation.[270] Land used for conservation that also allows commercial uses is only subject to ad valorem taxation for 50% of the assessed value of the land.[271] If the property in question contains fewer than forty acres, then it does not qualify under this statute unless the Acquisition and Restoration Council (statutorily defined in section 259.035, Florida Statutes (2009)) determines that it "fulfill[s] a clearly delineated state conservation policy and yield[s] a significant public benefit."[272] The legislature provides a specific set of qualifying criteria for determining whether or not the parcel yields a significant public benefit, including such things as whether the property contains a sinkhole or spring, whether it provides habitat for threatened or endangered species, or whether it protects vulnerable coastal areas or natural shoreline habitat.[273] Additionally, any parcel less than forty acres approved by the Council under this provision must have a management plan and designated manager.[274]

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265. Act effective July 1, 2009, Ch. 2009-36 § 2, Laws of Fla. (2009).
266. §377.807.
267. *Id.* § 196.26.
268. *Id.* §§ 196.26(1)(c)(2)(a)-(c).
269. This section of the U.S. Code defines serving a conservation purpose. *Id.* § 196.26(1).
270. *Id.* § 196.26(2).
271. *Id.* § 196.26(3).
272. *Id.* § 196.26(4).
273. *Id.* §§ 196.26(4)(a)-(g).
274. *Id.* § 196.26(4).

D. Transportation
Chapter 2009-89/House Bill No. 5013

This act served to amend the powers and duties of the Department of Transportation, adding various responsibilities for "enhancement of environmental benefits" and conservation of "natural roadside growth and scenery . . . ."[275] Additionally, the act creates the Energy Economic Zone Pilot Program, which is to be implemented in consultation with the Department of Community Affairs.[276] The purpose of the program is to develop "a model to help communities cultivate green economic development, encourage renewable electric energy generation, manufacture products that contribute to energy conservation and green jobs," and further discourage sprawl.[277] The responsible agencies, with the assistance of the Office of Tourism, Trade, and Economic Development are required to submit a report to the legislature by February 2010 outlining the status of the pilot program and providing any recommendations for changes.[278] If the program continues, another report shall be provided by February 2012.[279]

E. Rural Agricultural Industrial Centers
Chapter 2009-154/House Bill No. 7053

The legislature, recognizing that there are many communities around the state which are socioeconomically challenged and completely dependent upon agricultural operations, is seeking to encourage diversification of these local economies.[280] The legislature recognizes that the agricultural sector is an important part of the Florida economy, therefore creation of jobs "that are not solely dependent upon, but are compatible with and complement, existing agricultural industrial operations" will be encouraged.[281] The legislature created parameters for determining whether or not a community could be designated a "'rural agricultural industrial center,'" which include total number of full-time employees greater than or equal to 200, and the requirement that these employees "aggregate and process and prepare for transport [of] a farm product, as defined in [Florida Statutes] s. 163.3162 . . . ."[282] Landowners located within these rural agricultural industrial centers may

275. *Id.* § 334.044(26).
276. *Id.* § 377.809.
277. *Id.* § 377.809(1).
278. *Id.* § 377.809(3).
279. *Id.* § 377.809(4).
280. *Id.* § 163.3177(15)(a)(2).
281. *Id.* § 163.3177(15)(a)(3).
282. *Id.* § 163.3177(15)(b).

apply for comprehensive plan amendments to be able to expand their operations to create jobs consistent with the purpose of this statute.[283] Several restrictions exist upon the final comprehensive plan amendment, including a limitation upon how much a specific operation can expand, infrastructure concurrency, and a minimum job creation requirement.[284]

F. Florida Fish and Wildlife Conservation Commission Chapter 2009-86/House Bill No. 1423

This bill contains many miscellaneous provisions. It adds the Fish and Wildlife Conservation Commission (FWCC) to the list of agencies which have certain duties with respect to state lands.[285] The bill adds "the preservation and regeneration of seagrass[es]" to the duties of DEP, Water Management Districts, FWCC, and Department of Agriculture and Consumer Services.[286] This bill deems photographic evidence of any wildlife or fish that has been illegally taken to be competent and admissible in court.[287] It raises the prices of the hunting and fishing licenses.[288] It gives FWCC the authority to institute civil action and recover civil penalties and damages "for any injury to the waters or property of the state, including animal, plant, and aquatic life . . . ."[289]
Finally, this bill includes the Coral Reef Protection Act,[290] which "applies to the sovereign submerged lands that contain coral reefs . . . off the coasts of Broward, Martin, Miami-Dade, Monroe, and Palm Beach Counties."[291] The Legislature, recognizing that coral reefs are important natural resources of the state, assigned DEP as the lead trustee for the resources.[292] The act requires that any boater who knows or should know that his vessel impacted or damaged any coral reef notify DEP within twenty-four hours.[293] If any vessel or anchor remains in the reef area, the party is responsible for removing it within seventy-two hours in a manner that does not cause further harm to the reef.[294] The act lists a series of expenses and costs which DEP is allowed to recover from the responsible party, including such things as staff time, restoration of

283. *Id.* § 163.3177(15)(c)(1).
284. *Id.* §§ 163.3177(15)(c)(1)(a)-(d).
285. *Id.* § 253.002.
286. *Id.* § 253.04(3)(a).
287. *Id.* § 379.3381.
288. *Id.* § 379.354(8).
289. *Id.* § 379.502(1)(a).
290. *Id.* § 403.93345.
291. *Id.* § 403.93345(2).
292. *Id.* § 403.93345(4).
293. *Id.* § 403.93345(5).
294. *Id.*

the reef, lost value of the reef, and monitoring costs.[295] The act authorizes civil penalties, establishes a framework for determining the total amount based on degree and area of damage, and allows double and triple penalties for second and third offenses, respectively.[296] The act also authorizes DEP to enter into "delegation agreements with another state agency or any coastal county with coral reefs within its jurisdiction[,]" provided the receiving entity meets certain characteristics.[297]

G. Water Conservation
Chapter 2009-199/Senate Bill No. 494

This act requires DEP to develop a model ordinance (and gives local governments the option to adopt it) relating to malfunctioning irrigation systems and associated fines for non-reporting.[298] This act incentivizes installation of smart irrigation systems by encouraging adoption of a uniform policy to exempt people using these systems from the day-of-the-week watering restrictions present in many localities around the state.[299] The act then lays out standards to govern the creation of a variance, which would include such requirements that a property with a smart irrigation system include multiple soil sensors which calibrate the irrigation to the conditions of the property and promptly notify the user of any malfunction.[300] It also requires licensed contractors who install these systems to conduct an annual maintenance review of such systems.[301]

The act also encourages county and municipal governments to adopt an already-existing model ordinance regarding Florida-Friendly fertilizer use.[302] Counties and municipal governments within the watersheds of impaired water bodies are required to adopt the model ordinance, although the local governments are permitted to enact more stringent regulations than the ordinance provides.[303] If a local government has already adopted a fertilizer ordinance (prior to January 1, 2009) which "substantively conform[s] to the most recent version of the model . . . ordinance[,]" then the locality is exempt from these provisions.[304]

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295. *Id.* §§ 403.93345(6)(a)-(e).
296. *Id.* §§ 403.93345(8)(a)-(e) (2009).
297. *Id.* § 403.93345(9).
298. *Id.* § 373.62(3).
299. *Id.* § 373.62(7)(a).
300. *Id.*
301. *Id.* § 373.62(7)(d)(2).
302. *Id.* § 403.9337.
303. *Id.* § 403.9337(2).
304. *Id.* § 403.9337(3).

The act requires the Department of Agriculture and Consumer Services (DACS), in cooperation with the Institute of Food and Agricultural Sciences, to provide training for urban landscape best management practices.[305] A person completing this training may then apply to DACS to receive "a limited certification for urban landscape commercial fertilizer application[.]"[306] Additionally, beginning in 2014, any person who applies urban commercial fertilizer must be certified pursuant to this statute.[307] The act further lays out practices which are not authorized under the urban landscape commercial fertilizer certification.[308]

H. Community Renewal Act
Chapter 2009-96/House Bill No. 360

The legislature, in recognizing that roadway capacity expansion is not always the best or most viable option for addressing transportation problems in urban centers, created transportation concurrency exception areas.[309] The following are designated as transportation concurrency exception areas: dense urban land areas,[310] urban service areas that are located within a county identified as a dense urban land area and have been adopted into the local comprehensive plan,[311] and counties with populations greater than 900,000 people that qualify as a dense urban land area but which do not have urban service areas designated.[312] Additionally, other areas which do not fall into the three aforementioned categories may also be transportation concurrency exception areas if the county designates the area in its comprehensive plan.[313] This legislation requires that within two years of designation, these areas adopt into their comprehensive plans measures to support and fund mobility in these areas, including alternative transportation.[314] This act does not apply to urban areas of greater than 1.5

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305. *Id.* § 403.9338(1)(a).
306. *Id.* § 403.9338(2).
307. *Id.* § 482.1562(2).
308. *Id.* § 482.1562(7).
309. *Id.* §163.3180(5)(a).
310. Defined in § 163.3164(34) as:
"(a) A municipality that has an average of at least 1,000 people per square mile of land area and a minimum total population of at least 5,000; (b) a county, including the municipalities located therein, which has an average of at least 1,000 people per square mile of land area; or (c) a county, including the municipalities located therein, which has a population of at least 1 million."
311. Defined in § 163.3164(29) as "built up areas where public facilities and services . . . are already in place or are committed in the first 3 years of the capital improvement schedule."
312. §§ 163.3180(5)(b)(1)(a), (b), (c).
313. *Id.* §§ 163.3180(5)(b)(2), (3).
314. *Id.* § 163.3180(5)(b)(4).

million people which have already instituted a concurrency assessment that supports alternative transportation.[315] The act also does "not apply in any county that has exempted more than 40 percent of the area inside the urban service area from transportation concurrency for the purpose of urban infill."[316] The Legislature emphasizes that establishing a transportation concurrency exception area does not limit or subvert a local government's authority to impose fees or adopt ordinances.[317]

The Legislature also created exemptions for developments of regional impact (DRI) almost identical to those outlined above.[318] If the proposed project is larger than 120% of any current DRI threshold, the local government must submit the development order to the Department of Community Affairs for review.[319] However, the DCA's review authority is limited only to comprehensive plan consistency.[320]

These DRI exemptions do not apply in areas of critical state concern, as designated by section 380.05, Florida Statutes (2009), in the Wekiva Study Area, or within two miles of the Everglades Protection Area boundary.[321]

315. *Id.* § 163.3180(5)(b)(5).
316. *Id.* § 163.3180(5)(b)(6).
317. *Id.* §163.3180(5)(f).
318. *Id.* § 163.3180(12).
319. *Id.* § 380.06(29)(f).
320. *Id.*
321. *Id.* § 380.06(29)(i).