CHARM IN THE CITY: THOUGHTS ON URBAN ECOSYSTEM MANAGEMENT

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> *From a rear window in my 75-year-old urban home, I look out on my small backyard and those of my neighbors. Some lawns are carefully tended; a few are seas of dandelions. One is adorned with gaudy plastic lawn ornaments, including a duck whose wings swing wildly in the breeze. I* see *native hazel nut trees and imported rose bushes. I see houses as old as mine, all built of red brick now darkened from years of exposure to industrial pollution. And I often see my neighbors, a diverse bunch, some of whom I call friends and others whose names I don=t know.*

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> *From the same window I can detect many scents, from spring rain to cooking odors, honeysuckle to bus exhaust. The sounds are numerous, too. There are screeching brakes and chirping birds, police sirens and the wind and thunder from summer storms, loud stereos and the occasional raised voices from within a neighbor's home.*
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> *A new coffee shop has opened around the corner. It has wonderful street appeal, sporting a colorful awning and leaded glass door. It's a welcoming spot both inside and out—a place where I chat with friends when happenstance brings us there at the same time, or where I mix briefly with others as I grab a morning brew.*
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> *Sights, smells, and sounds, juxtaposing the natural and the human, are experienced daily in my neighborhood, one that is far from state parks and wilderness reserves, removed from edge cities and sprawl. It's a neighborhood densely packed with humans, one that is very close to busy rivers manipulated by locks, spanned by bridges, and dotted with coal-laden barges, yet distant from the tributaries, fish-rich and pristine, that feed those rivers. It is a neighborhood that simultaneously hints at urban degradation and the richness of nature: a city neighborhood awaiting charm.*[1]

INTRODUCTION:
FAR FROM STATE PARKS, REMOVED FROM EDGE CITIES

Ecosystem management has become the mantra of environmental regulation in recent years. Literature abounds on the subject, but most of the commentary in the legal field deals with managing ecosystems on large expanses of public lands.[2] A few law review articles treat ecosystem management with a more local focus by touching on private land use issues and sprawl.[3] Still, there is a dearth of scholarship devoted to ecosystem management and cities, scholarship that explores whether urban environments, whether

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1. Observations of the author, who has resided in a city neighborhood for several years.

2. *See, e.g.*, Oliver A. Houck, *On the Law of Biodiversity and Ecosystem Management*, 81 MINN. L. REV. 869 (1997); Alfred R. Light, *Ecosystem Management in the Everglades*, 14 NAT. RESOURCES & ENV'T 166 (2000).

3. *See, e.g.*, Daniel B. Rodriguez, *The Role of Legal Innovation in Ecosystem Management: Perspectives from American Local Government Law*, 24 ECOLOGY L.Q. 745 (1997); Luther Propst et al., *Meeting the Challenge of Change in Western Communities*, 18 J. LAND RESOURCES & ENVTL. L. 63 (1998); J.B. Ruhl, *Taming the Suburban Amoeba in the Ecosystem Age: Some Do's and Don'ts*, 3 FALL WIDENER L. SYMP. J. 61 (1998).

urban environments, with all their trappings of the human condition, should be integrated into regional ecosystem management, and if so, how it should be accomplished.

The prevailing sentiment seems to be that cities represent our environmental problems at their worst.[4] Cities are, after all, worlds apart from state and national parks with their in-your-face ecosystems; they are distant, too, from edge cities, where the gobbling up of green space continues at an alarming rate. It is possible that the ecosystem management discussion has forgotten our paved-over cities because their ecosystems are largely invisible. Perhaps there is a belief that these places where commerce, industry, and development have carried on for centuries cannot be changed. Or maybe the logic is that cities are filled with people, who are bad for ecosystems, so there is nothing we can do. The question is whether we should be lulled into accepting the notion that ecosystem management is something that is of no concern to cities.

This article answers that question in the negative, and concludes that there are great opportunities for cities to become players in the nation=s move toward ecosystem management. Certainly, problems arise when humans are injected into the ecosystem equation,[5] and ecosystem management at the city level will not be easy. Nevertheless, the history of environmental regulation has taught us that making the easy choice does not always solve the problem.[6] Further, limiting ecosystem management to rural and wilderness areas can only further compartmentalize ecosystem management to rural and wilderness areas.

Urban ecosystem management is not an oxymoron. It can be achieved at various levels by implementing two dominant principles. The first will require cities to confront and celebrate their unique places within ecosystems. This stands in sharp contrast to the patterns of postwar urban development that have resulted in the bland, homogenous cityscapes we know today. Second, cities must acknowledge that the human species dominates their eco-regions and must accordingly make ecosystem management choices that will enhance human health and spirit. Thus, the twin concepts that should guide urban ecosystem management are celebration of place and respect for human well-being. In order to put these concepts

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4. *See* Joel B. Eisen, *Toward a Sustainable Urbanism: Lessons from Federal Regulation of Urban Stormwater Runoff*, 48 WASH. U. J. URB. & CONTEMP. L. 1, 6 (1995).

5. Houck, *supra* note 2, at 877.

6. *See* Carol M. Rose, *Demystifying Ecosystem Management*, 24 ECOLOGY L.Q. 865, 868-69 (1997).

into practice city residents, planners, and elected officials need to experience their ecosystems and build upon that experience.

As used in this article, Aexperiencing the ecosystem@ is a loaded phrase. It refers to developing a recognition of and respect for the charm, or spirit, of nature. It draws on the practices of aboriginal peoples[7] as well as the phenomenologist school of philosophy, which has focused for over a century on experience in general, and the experience of nature in particular, in an attempt to better understand time and space.[8]

This experiential interaction with nature is not as unrealistic or impractical a concept as it may appear. Recent insights from the arts and sciences and commentary from the fields of urban design and the law suggest that the time is right to forge ahead. When taken together, these concepts lead to this article=s thesis: namely, that the truest and most meaningful manifestation of ecosystem management at the urban level will arise by implementing a philosophy of urban charm. Charm, as defined below, melds these somewhat diverse fields into a useful and flexible construct that can help redefine and reinvigorate city planning to make it more ecosystem-responsive.

This article takes a number of steps to support and articulate this thesis. First, existing ecosystem management literature is surveyed to provide pertinent definitions, themes, and issues. Next, a brief discussion of the state of our cities reveals the problems and emerging city planning theories that urban ecosystem management must address. This review is followed by an excursion into the worlds of the arts and sciences, philosophy, and the law, both to provide the foundation for the experience-based charm concept and to reveal a readiness for that concept at the policymaking level. The final portion of this article offers ideas for bringing charm to our cities, ideas that not only will accommodate local ecosystems, but will also celebrate our cities= special places within the nation=s ecosystems and the human species= special place within cities.

I. ECOSYSTEM MANAGEMENT: *OF BUSY RIVERS AND DISTANT TRIBUTARIES*

This section begins by setting forth definitions and principles that have gained acceptance in the relatively short history of ecosystem management and discusses management techniques that have met with success in practice. It then reviews the literature that addresses

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7. *See* DAVID ABRAM, THE SPELL OF THE SENSUOUS 233-37 (Pantheon Books ed. 1996).
8. *Id.* at 33-47, 205-16.

ecosystem management at a more local level. Finally, this section concludes by addressing two issues of particular relevance to urban ecosystem management: the role of local communities in regional ecosystem planning, and the relationship of the human species to ecosystems.

A. Foundations of Ecosystem Management

What led environmental policy makers to focus on ecosystems? When was it determined that ecosystem management is a viable way to deal with natural resource problems? Many writers attribute its development to the Clinton administration=s response to the Pacific northwest=s spotted owl crisis.[9] Yet the realization that ecosystems play an important role in preserving scarce natural resources can be traced even further back, to late nineteenth century fisheries science.[10] Lessons learned there were used in the years following World War II in a failed attempt to save California=s sardine industry.[11] For some time, then, ecosystem protection has been considered a positive goal. Yet it is only within the past decade that it has received a remarkable amount of attention and made steady gains in acceptance.

The rivers and tributaries that surround a rust belt city such as the one described at the outset of this article are easily conceptualized as parts of an ecosystem that can be managed in various ways. Watershed management is apparent, for example, in the locks along the rivers. But the term Aecosystem management@, as conceived today, is far more comprehensive. It is recognized to be interdisciplinary, embracing fields such as ecology, sociology, and economics.[12] Its goal is to support ecosystem processes and services.[13] It also seeks to protect species while accommodating human demands.[14] Put another way, ecosystem management relies on scientific data regarding the relationships between the many

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9. George Frampton, *Ecosystem Management in the Clinton Administration*, 7 DUKE ENVTL. L. & POL=Y F. 39, 39-40 (1996); Joseph Sax, *The Ecosystem Approach: New Departures for Land and Water*, 24 ECOLOGY L.Q. 883, 886 (1997).

10. Harry N. Scheiber, *From Science to Law to Politics: An Historical View of the Ecosystem Idea and Its Effect on Resource Management*, 24 ECOLOGY L.Q. 631, 635-36 (1997).

11. *Id.* at 640.

12. Sheila Lynch, *The Federal Advisory Committee Act: An Obstacle to Ecosystem Management by Federal Agencies?*, 71 WASH. L. REV. 431, 432 (1996).

13. John M. Blair et al., *Ecosystems as Functional Units in Nature*, 14 NAT. RESOURCES & ENV=T 150, 154 (2000).

14. DeAnne Parker, *Natural Community Conservation Planning: California=s Emerging Ecosystem Management Alternative*, 6 U. BALT. J. ENVTL. L. 107, 120-21 (1997).

nonhuman organisms within ecosystems, but it also addresses human demands.[15] As such, it presents a tension between the needs of ecosystems and those of humans. Resolving that tension often threatens the status quo,[16] making ecosystem management both imprecise and disruptive.[17]

The definition of an "ecosystem" is no more concrete. It includes organisms and their surrounding environment,[18] encompassing biotic as well as abiotic materials.[19] An ecosystem is a complex structure where organisms interrelate through various processes to make the ecosystem an Aintegrated unit,@[20] and where a constant flow of energy, air, and water fuels these processes.[21] Ecosystem processes in turn generate services such as climate control; the maintenance of biodiversity; and air, soil, and water purification.[22] Present-day ecosystem science teaches us that ecosystems are dynamic and adaptive, have uncertain spatial boundaries,[23] and that smaller ecosystems are part of larger ones.[24] There are various types of ecosystems as well, such as deserts, coastal zones, and forests to name a few. Cities have been described as Ahuman-dominated ecosystems,@ relying on fossil fuels to produce energy for cars, machines, and industrial processes.[25]

A synthesis of these fluid definitions suggests that an ecosystem is a unit of biotic and abiotic material that constantly undergoes a complex series of processes, ultimately providing services within the ecosystem and beyond. The goal of ecosystem management is to allow that degree of human appropriation of ecosystem resources

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15. Jory Ruggiero, *Toward a Law of the Land: The Clean Water Act as a Federal Mandate for the Implementation of an Ecosystem Approach to Land Management*, 20 PUB. LAND & RESOURCES L. REV. 31, 44 (1999).

16. Houck, *supra* note 2, at 880.

17. Or as Carol Rose would say, Amessy.@ Rose, *supra* note 6, at 865.

18. Lynch, *supra* note 12, at 433.

19. Ruggiero, *supra* note 15, at 32. Abiotic material includes soil, water, and stored organic materials. Blair, *supra* note 13, at 151-52.

20. Susan Bucknum, Note, *The U.S. Commitment to Agenda 21: Chapter 11 Combating Deforestation—The Ecosystem Management Approach*, 8 DUKE ENVTL. L. & POL=Y 305, 318 (1998) (referring to United States Forest Service commentary); Ruggiero, *supra* note 15, at 37; Blair, *supra* note 13, at 152.

21. Blair, s*upra* note 13, at 151-52.

22. James Salzman, *Valuing Ecosystem Services*, 24 ECOLOGY L.Q. 887, 887-88 (1997); Blair, *supra* note 13, at 154.

23. Scheiber, *supra* note 10, at 643; Lee P. Breckenridge, *Reweaving the Landscape: The Institutional Challenges of Ecosystem Management for Lands in Private Ownership*, 19 VT. L. REV. 363, 372-73 (1995).

24. Bucknum, *supra* note 20, at 318 (referring to United States Forest Service commentary).

25. Blair, *supra* note 13, at 153.

that will ensure the continued vitality of ecosystem processes and their attendant services.

Beyond that goal, much uncertainty surrounds ecosystem management. Little seems clear except perhaps that it has non-binding legal status. It seems odd, then, that lawyers have been advised to take ecosystem management into account when advising clients about development plans.[26] Federal and state ecosystem management experiences, which have met with varying degrees of success, can provide guidance, however.[27] These efforts shed light on the challenges facing ecosystem managers and reveal some rudimentary principles of implementation.

By far, the most influential ecosystem management principles have been borrowed from the field of conservation biology, which dictates that the primary emphasis should be to preserve biodiversity within ecosystems.[28] To achieve that end, habitats should be set aside for threatened and endangered species. Experience has shown that large set-asides are better than small ones, interconnected reserves are preferable to fragmented ones, and, if possible, human access to set-asides should be prohibited.[29]

One way to meet conservation biology=s primary goal of preserving habitat is to employ a two-step method known as the Acoarse filter/fine filter@ approach. Adopted by agencies such as the United States Forest Service, this method uses initial Acoarse filter@ strategies to maintain ecosystem processes as a way to protect biodiversity.[30] Follow-up Afine filter@ efforts act as a safety net to provide added protection for threatened or endangered species, which coarse filter techniques might not adequately protect.[31]

Other principles now familiar to environmental lawyers have emerged from ecosystem management experiences. Ecosystem science, like so many other sciences, is inexact. Ecosystem process research is still underway,[32] and the reach of ecosystems and the time

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26. *See* J.B. Ruhl, *Ecosystem Management, The ESA, and the Seven Degrees of Relevance*, 14 NAT. RESOURCES & ENV=T 156, 159-60 (2000).

27. *See generally* Light, *supra* note 3; Rebecca W. Watson, *Ecosystem Management in the Northwest: AIs Everybody Happy?,@* 14 NAT. RESOURCES & ENV=T 173 (2000); Chad R. Gourley, *Restoration of the Lower Truckee River Ecosystem: Challenges and Opportunities*, 18 J. LAND RESOURCES & ENVTL. L. 113 (1998).

28. Ruggiero, *supra* note 15, at 38. Ruggiero also stresses the importance of landscape ecology in the practice of ecosystem management. *Id.*

29. Houck, *supra* note 2, at 878-79; J.B. Ruhl, *supra* note 3, at 65.

30. Bucknum, *supra* note 20, at 322.

31. *Id.* at 323.

32. Salzman, *supra* note 22, at 895.

at which species health should be judged are difficult to pinpoint.[33] Science has also proven incapable of acting quickly enough to deal with the myriad organisms and processes presented by complex ecosystems.[34] This significant degree of uncertainty leads to calls for the commonly-invoked precautionary principle, which essentially promotes a Aless is more@ approach: less human exploitation yields more ecosystem protection.[35]

Two other themes common to ecosystem management bear mentioning. The first is flexibility. Because ecosystems transcend jurisdictional boundaries,[36] and because they are now known to be dynamic rather than static, ecosystem managers are instructed to employ management strategies that are capable of adapting to ecosystem changes.[37] Second, ecosystem management entails weighing costs and benefits, which must be accounted for and which will inevitably be distributed among various interests.[38] The allocation of costs when ecosystem management is applied to privately-owned land[39] and the predictable loss of commitment when research suggests the need for tough protective measures[40] present two of ecosystem management=s greatest challenges.

Just as it is possible to glean general principles from ecosystem management=s early history, it is also possible to begin to determine which strategies succeed. Existing literature suggests that there are many crucial decisions ecosystem managers make. In particular, decisions regarding a plan=s starting point, its participants and their roles, and its components will heavily impact a plan=s effectiveness.

Whether termed a baseline,[41] goal,[42] or Ahook,@[43] numerous commentators agree that ecosystem management needs more of a starting point than a vaguely worded "save-the-habitat" policy. Oliver Houck maintains that ecosystem management is rarely, if ever, successful unless it is tied to a species in crisis, such as one

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33. Houck, *supra* note 2, at 875.

34. Robert H. Twiss, *New Tools for Building the Future of Ecosystem Management*, 24 ECOLOGY L.Q. 877, 877-78 (1997).

35. *See* Scheiber, *supra* note 10, at 648-49.

36. Lynch, *supra* note 12, at 433; Ruhl, *supra* note 3, at 78-79.

37. Frampton, *supra* note 9, at 45; Ruhl, *supra* note 3, at 78; Houck, *supra* note 2, at 876.

38. *See* Rose, *supra* note 6, at 869; Parker, *supra* note 14, at 137; Robert A. Kagan, *Political and Legal Obstacles to Collaborative Ecosystem Planning*, 24 ECOLOGY L.Q. 871, 875 (1997); Ruhl, *supra* note 3, at 85-86. *See generally* Salzman, *supra* note 22.

39. *See* Breckenridge, *supra* note 23, at 381-82.

40. *See* Scheiber, *supra* note 10, at 648-51.

41. Houck, *supra* note 2, at 976-77.

42. Frampton, *supra* note 9, at 43; Propst, *supra* note 3, at 70; Ruhl, *supra* note 3, at 78.

43. Rose, *supra* note 6, at 867.

listed under the Endangered Species Act.[44] Once a species becomes the beneficiary of the full range of the Act=s protections, the species becomes the baseline, making ecosystem management a Aspecies-up@ effort.[45] To Professor Houck, the intentional omission of humans from the starting point is imperative, because to include them in the equation from the outset risks turning ecosystems into whatever we desire.[46] He therefore endorses a bifurcated approach, one that first defines the ecosystem—the baseline—without humans and then develops a management strategy that incorporates human concerns.[47] Professor Houck thus recognizes the importance of a clearly defined starting point and argues that it should be a species-specific baseline.

Carol Rose=s Ahook@ thesis offers a different view of the proper starting point for an ecosystem management initiative.[48] In her view, it is important to begin by providing a hook that will get the public=s attention. The hook could be Professor Houck=s endangered species, but it could also be a locality such as an old growth forest. It might be a product such as a species of fish that provides food, recreation, or economic health to a community, or it could even be tribal or riparian property rights.[49] The hook concept is broader than the baseline species idea but it, too, emphasizes the importance of starting ecosystem management with a specific trigger.

Other commentators echo these views by generally suggesting that planners agree on a vision or goal before devising an ecosystem management plan. Determining the precise objective may not be easy; the decision will entail collaboration and will in all likelihood become political.[50] Yet an established goal gives management decisions a purpose,[51] and a shared vision has the added advantage of solidifying partnerships which are also crucial to ecosystem management success.[52]

The effectiveness of an ecosystem management program will also depend on who is involved and in what capacity. The spatial challenges presented by ecosystems make the collaborative demands

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44. Houck, *supra* note 2, at 873, 956-59.
45. *Id.* at 976-77.
46. *Id.* at 877; *see also* Oliver Houck, *Are Humans Part of Ecosystems?*, 28 ENVTL. L. 1, 3 (1998).
47. Houck, *supra* note 46, at 6-8.
48. Rose, *supra* note 6, at 867.
49. *Id.* at 867-68.
50. Frampton, *supra* note 9, at 43-44.
51. Ruhl, *supra* note 3, at 78.
52. *See* Propst, *supra* note 3, at 70.

of any program evident. Management efforts will likely require the participation of federal, state, and local governments[53] in addition to private stakeholders and nongovernmental organizations.[54] Much has been written about the importance of allowing local interests to play a substantial role in ecosystem management,[55] yet we are also told that the federal government must provide input.[56] Suggestions that horizontal, rather than vertical, organizational structures are better suited to the task add to the uncertainty regarding the precise roles the various players should assume in the ecosystem management process.[57] Thus, although there is no ideal mix of players and roles in ecosystem management, the issue clearly demands attention.

Once a fixed starting point and working partnership are in place, the actual ecosystem management plan should include four characteristics. First, plans must be tied to specific standards and provide certainty for participants. Professor Houck, for example, offers indicator species to furnish the needed specificity.[58] Other plans have employed scientific advisory committees to devise clear protective standards and practices that are not necessarily tied to species.[59] Employing environmentally-attuned accounting practices can also furnish specifics.[60] Certainty can be provided by assuring private participants that nothing more will be required of them once they perform certain ecosystem protection obligations.[61]

Two other characteristics shared by successful plans are mandatory provisions and monitoring. Provisions that are simply aspirational weaken plans.[62] Very specific protective standards become meaningless if presented as mere goals, or if they are intended to be implemented only to the fullest extent possible. Problems also arise if standards are determined through

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53. R. Eric Smith, *The Canyon Country Partnership and Ecosystem-Based Management on the East-Central Colorado Plateau*, 19 J. LAND RESOURCES & ENVTL. L. 19, 19 (1999); Propst, *supra* note 3, at 66.

54. Propst, *supra* note 3, at 67, 73.

55. *See* Breckenridge, *supra* note 23, at 396-98; Timothy P. Duane, *Community Participation in Ecosystem Management*, 24 ECOLOGY L.Q. 771, 772 (1997).

56. Breckenridge, *supra* note 23, at 422; Rodriguez, *supra* note 3, at 749.

57. *See* Duane, *supra* note 55, at 778.

58. Houck, *supra* note 2, at 976-77.

59. Gregory A. Hicks, *Managing State Trust Land for Ecosystem Health: The Case of Washington State's Range and Agricultural Lands*, 6 HASTINGS W.-NW. J. ENVTL. L. & POL'Y 1, 13 (1999).

60. *See* Salzman, *supra* note 22, at 899-90.

61. *See* Parker, *supra* note 14, at 130-31.

62. *See* Hicks, *supra* note 59, at 18.

collaboration.[63] In addition, the uncertainties of ecosystem science and the dynamic nature of ecosystems means that plans cannot be static; they must be flexible enough to adapt to changed circumstances. Plans must therefore include provisions for constant monitoring so managers can determine whether revisions to management practices are warranted.[64]

Coming to grips with costs and benefits represents a final determinant of plan success. One way to deal efficiently with costs is to include methods that finance habitat acquisition at an early stage to avoid greenlining.[65] Another method is to include mandatory environmental justice reviews.[66] A plan might also include micro-NEPA provisions that require cost-benefit analyses to accurately account for impacts on ecosystem services.[67] In short, no ecosystem management plan can realistically expect success without dealing fully and honestly with the financial bottom line.

Ecosystem management plans that have not met expectations admit to imprecise starting points, partnership weaknesses, or a failure to include one or more of the four suggested plan components.[68] For example, problems with ecosystem protection in Colorado=s canyon country have been traced to the plan=s vague focus, its too-large geographic reach, and its failure to include private stakeholders.[69] Weak statutory standards that mandate neither the implementation of protective practices nor monitoring have plagued a Washington plan to bring ecosystem management to state trust lands.[70] Clearly, initiatives that are careful to include some necessary ingredients can produce mediocre results by omitting others. The Washington plan well-illustrates this phenomenon. The program has been a disappointment despite its success in establishing specific ecosystem protection standards developed by a scientific advisory committee under a remarkably tight statutory deadline.[71]

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63. *See id.*

64. *Id.*; Parker, *supra* note 14, at 131.

65. Ruhl, *supra* note 3, at 82-83, 85-86.

66. *See id.* at 85-86.

67. *See* David R. Hodas, *NEPA Ecosystem Management and Environmental Accounting,* 14 NAT. RESOURCES & ENV=T 185, 189 (2000). *See generally* Salzman, *supra* note 22.

68. Commentators also note federal regulators= belief that the Federal Advisory Committee Act stymies successful ecosystem management partnerships. *See* Smith, *supra* note 53, at 35-36. *See generally* Lynch, *supra* note 12.

69. *See* Smith, *supra* note 53, at 31-33.

70. *See* Hicks, *supra* note 59, at 18-19.

71. *See id.* at 13-15.

B. Ecosystem Management in Human Population Centers

Any ecosystem management plan should include a starting point, create a partnership, and address the quartet of plan requirements. Literature that discusses management of public lands reveals the importance of these requirements. A few writers have, however, addressed ecosystem management in locations that are more heavily populated by people, and their insights are more attuned to urban ecosystem management.

Joel Eisen concludes that federal efforts to regulate urban stormwater runoff have been inadequate and that promise can come only if state and local governments become more involved in addressing the problem.[72] While Professor Eisen agrees that the federal government needs to play a role in this area of watershed protection, for several reasons he believes that state and local officials are better suited to make needed improvements. He notes that local governments are more likely to experiment. They can also be more aggressive and can easily coordinate their efforts with other relevant programs.[73] Professor Eisen emphasizes the importance of local participation by claiming that Athe power of decisions increases as they are made closer to the local level.@[74] He also points out that Aconnectedness with place@ is often lacking in top-down hierarchical regulatory structures.[75]

Other scholarship more fully details the unique and adaptable tools at the disposal of local governments.[76] City governments, for example, can be important participants in ecosystem protection because their laws allow them to change boundaries with relative ease, form regional governments, create regional special purpose districts, and enter into interlocal agreements to better deal with the challenges posed by ecosystem boundaries.[77] Local governments can also take advantage of various funding mechanisms to deal with cost distribution issues. Finance options include taxes, user fees, special assessments, bonds, and revenue sharing.[78] The tendency of citizens to trust local governments more than their federal counterparts is yet

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72. *See* Eisen, *supra* note 4, at 11. Professor Eisen=s article is cast in terms of sustainability rather than ecosystem management, but there is little doubt the concepts are closely related.

73. *See id*. at 73-74.

74. *Id.* at 75.

75. *Id.*

76. *See generally* Rodriguez, *supra* note 3.

77. *See id.* at 755-61.

78. *See id.* at 764.

another reason to pursue local involvement.[79] While these advantages are numerous and could be useful in ecosystem planning, they should not be taken as proof that ecosystem management should be left to local governments alone. The belief that the federal government must be involved at some level is fairly consistent, but that belief is sometimes accompanied by the caveat that federal involvement should be limited, perhaps to the extent of setting national biodiversity policy.[80]

J.B. Ruhl touts the benefits of ecosystem management in combating suburban sprawl,[81] and many of his suggestions echo those alluded to thus far. Goals,[82] adaptive management,[83] caution in the face of uncertain science,[84] and consistent use of specific and clear rules[85] are part of Professor Ruhl's package. He also points to three matters that seem more directly relevant to urban areas. Perhaps acknowledging the ability of local government to act quickly and creatively, Professor Ruhl suggests a proactive management style that would address status quo problems while there is still an opportunity for maximum flexibility, rather than waiting for a species to be listed as endangered.[86] He also encourages local governments to think beyond their boundaries and recognize that positive steps taken locally can have broad ecosystem benefits.[87] And although he encourages local officials to adopt a realistic attitude and acknowledge that not everyone can be pleased,[88] he notes the importance of passing along the benefits of a plan to a broad community base, rather than allowing them to inure to the affluent individuals who usually reside closest to habitat set-asides.[89]

In the face of the sizable amount of ecosystem management literature, the sparse scholarship devoted to local and urban concerns is nevertheless significant. Not only does it reinforce generic ecosystem management principles, but it also suggests that cities have an arsenal of tools that can help them bring a unique focus to ecosystem management. Such scholarship is also valuable because it

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79. *See id.* at 751-52.
80. *See id.* at 749.
81. *See generally* Ruhl, *supra* note 3.
82. *See id.* at 78-80.
83. *See id.* at 70.
84. *See id.* at 80-81.
85. *See id.* at 83-84.
86. *See id.* at 82.
87. *See id.* at 78-80, 82.
88. *Id.* at 84-85.
89. *Id.* at 85-86.

brings us face to face with two thorny issues in ecosystem management: the first addresses the proper balance between regional and local interests, and the second considers the proper place for humans within ecosystems. Both issues are particularly relevant in the urban context.

C. Two Issues: Local vs. Regional, and the Human Place in Ecosystems

It is widely agreed that ecosystem management should be a collaborative process involving federal, state, and local interests. National and regional planning, which is routinely encouraged,[90] respects the reach of ecosystems. Yet large-scale planning can be unwieldy, inflexible, and costly.[91] If expansive, all-encompassing ecosystem planning is the order of the day, how can it deal with those inherent problems? And how can the many arguments that either directly or indirectly favor a local focus be addressed?

The importance of communities of place in ecosystem management has been mentioned as important both when considering public participation[92] and when establishing program starting points.[93] And the flexibility of local governments has been offered as a reason to deeply involve them in ecosystem management.[94] Other scholars have noted that taking small, local steps to protect an ecosystem can have valuable spillover effects due to ecosystem synergies.[95] Also, acknowledging the importance of place and focusing on local communities can help resolve the clash between private property rights and public environmental concerns.[96] Residents of local communities who derive economic benefit from ecosystem resources often support ecosystem planning,[97] a fact which further highlights the importance of local input. In fact, Professor Ruhl states outright that sustainable development, which is arguably the end result of a properly devised ecosystem management plan, will only be achieved if it is implemented at the local level.[98]

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90. *See* Parker, *supra* note 14, at 117.
91. *See* Breckenridge, *supra* note 23, at 390-91; *see also* Eisen, *supra* note 4, at 75.
92. *See* Duane, *supra* note 55, at 772.
93. *See* Rose, *supra* note 6, at 868.
94. *See generally* Rodriguez, *supra* note 3.
95. *See* Gourley, *supra* note 27, at 121.
96. *See* Marc R. Poirier, *Property, Environment, Community*, 12 J. ENVTL. L. & LITIG. 43, 64, 69 (1997).
97. *See* Breckenridge, *supra* note 23, at 397-98.
98. Ruhl, *supra* note 3, at 68-70.

These sentiments cannot be lost in the midst of the many endorsements for national or regional ecosystem planning. Taken together, they do more than stand for the proposition that local participation is needed in regional ecosystem planning. They also tell us that the contribution from local communities, including cities, must be important and that those communities must be made to feel that their contribution matters. Some authors nevertheless favor a traditional top-down approach to ecosystem planning dominated by the federal government.[99] Yet that type of structure ignores the difficulties presented by big government programs and risks giving local communities short shrift. Driven by federally-set policy and standards and federally-produced technical support, a top-down model would leave the national government responsible for all aspects of an ecosystem management plan including its overall integrity.[100] Even if such a plan were to give local communities some implementation authority, it could easily fail to be responsive to the importance of place and the goal of empowering local communities.

Some existing ecosystem management models are primarily top-down, such as the national-state partnership to save the Florida Everglades.[101] That plan includes ecosystem-wide construction and operational projects, mitigation and monitoring, as well as local real estate requirements.[102] Despite the breadth of the plan, some believe that the plan will succeed only if it is both Aplace-based [and] holistic.@[103] Even within this national and state driven program, then, there appears to be a recognition that local input alone is not enough. Rather, ecosystem management plans must respect localities and their place within ecosystems by affording them a full opportunity to celebrate that sense of place.

One way to alleviate the regional-local tension is to make the top-down organization model more bottom-heavy. This approach is not meant to endorse a design in which uncoordinated local efforts proceed independently. That very kind of fragmented local planning has jeopardized the health of our ecosystems in the first place and has prevented ecosystem planning from taking hold.[104] Instead, the federal government should assume the role of ecosystem management overseer. This role should be limited to pronouncing

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99. *See* Frampton, *supra* note 9, at 46.
100. *Id.*
101. *See generally* Light, *supra* note 2.
102. *Id.* at 169-70.
103. *Id.* at 171.
104. *See* Kagan, *supra* note 38, at 873-75.

national ecosystem protection goals, defining national ecosystem boundaries, and producing science-driven baseline standards that ensure the ongoing functioning of ecosystem processes. The federal government=s oversight authority should also entail monitoring incoming data to determine if the baseline standards are being met. States, in turn, would coordinate ecosystem management efforts within their boundaries and would remain free to adopt more protective standards.

It should, however, be left to the localities within each ecosystem to ultimately determine how to meet the national or state imposed baselines. They should have the flexibility to determine their own place-specific goals that would take into account the baselines as well as positive peculiarities of place. The new organizational structure would invigorate local communities by allowing them to create unique ecosystem-based identities and improve their quality of place while simultaneously creating ecosystem synergies that would help restore and maintain ecosystem processes remote from them. The ability of localities to define what they want themselves to be in relation to their immediately surrounding ecosystems would add a measure of empowerment that is missing from traditional top-down models. Being given a maximum opportunity to be creative and to meet broad baselines in ways that celebrate place is a far cry from command and control ecosystem management, and acknowledges that people know their own land and resources better than those who live and work in far away locations.[105]

For cities, this more loosely-structured hierarchy holds promise. It recognizes that cities are included within ecosystems and that their sense of place within those ecosystems, from which their cultures develop, is theirs to determine. Yet cities located within ecosystems must be free to define themselves without becoming lost in the rush to regionalize. Regional ecosystem planning carries with it the danger of de-emphasizing cities with the attendant loss of cultural specificity and diversity. Additionally, some warn that it could only deepen our environmental problems.[106] Eminent urban studies scholars similarly caution that, while the future of our cities may lie in metropolitan planning, cities must remain important

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105. *See* Duane, *supra* note 55, at 795-97.
106. *See* Eisen, *supra* note 4, at 7-8.

centers within areas having many centers.[107] To put it in the concise words of Professor Eisen, Awe must have cities.@[108]

If cities are to be a primary focus of ecosystem planning, then what place do humans have in urban ecosystem planning? As mentioned, Oliver Houck has cast doubts on any definition of ecosystem that includes humans, pointing out that to do so places too much importance on our over-consumptive needs.[109] Professor Houck's focus, however, has been on public land management, where the human drive to produce threatens untouched natural resources. In that context, a bifurcated approach to ecosystem management, which would omit humans from the definition of ecosystem while still including them in management planning, makes sense. Yet it is illogical to ignore humans as part of an ecosystem when the area to be managed includes a city, where humans are the dominant species.

Not surprisingly, a number of scholars believe that all aspects of ecosystem management must include humans. Among them is J.B. Ruhl, whose pro-human argument is made in the context of ecosystem management in suburbia.[110] Others see humans and the human economy as part of nature=s economy and therefore believe that human needs must be considered in all phases of ecosystem management.[111] The breadth of the latter view clearly conflicts with Professor Houck=s bifurcated analysis and poses precisely the dangers that concern him. What is argued here is not that all ecosystems should be viewed as having a human component; rather that the definition of ecosystem cannot exclude humans when urban ecosystem planning is at hand. Humans do not merely use a city=s resources, as is the case with public land use. They live in cities. Human-dominated subregions of ecosystems need to be recognized for what they are: eco-regions where humans are the dominant species whose habitat must be protected and preserved with their well-being in mind. In the urban environment, human needs must be considered along with all the other components of the ecosystem.

It would be tempting to resolve this issue by drawing urban ecosystem boundaries to match those of individual cities and thus restrict consideration of human interests to those areas. However, the error of that kind of manipulation is apparent. Further, giving

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107. WITOLD RYBCZYNSKI, CITY LIFE: URBAN EXPECTATIONS IN A NEW WORLD 228 (1995).

108. Eisen, *supra* note 4, at 8.

109. *See* Houck, *supra* note 2, at 876-77. *See generally* Houck, *supra* note 46.

110. *See* Ruhl, *supra* note 3, at 78, where he states Athat the human factor must play a large role at every stage of sustainable development policies.@

111. *See* Breckenridge, *supra* note 23, at 375-77.

urban areas their own artificially-defined ecosystems would remove cities from their natural context and invite them to ignore the important task of integrating their ecosystem planning with that of the ecosystem at large.

To accept the idea that cities must play an important role in ecosystem planning and that urban eco-regions must recognize their human inhabitants is to understand the basis of the two urban ecosystem principles endorsed in this article. The dual emphasis on cities and humans means that ecosystem management in a river city such as the one described at the beginning of this article should reflect concerns not only for the distant tributaries and upriver portions of the city=s waterways, but also for the busy river corridors near the heart of the city. Additionally, it must strive to protect the habitat and living conditions of city residents, who represent an important component of the biomass of that ecosystem.

II. URBAN WOES:
OF PLASTIC DUCKS, BURGLAR ALARMS, AND BUS EXHAUST

Stating that cities must be partners in ecosystem management is easy. Conceptualizing it is another thing. Cities have, after all, been described as Atool[s],@ and as Athe only possible ideal machine[s].@[112] These are not descriptions that spring to mind for rich biotic and abiotic communities; they sadly lack any hint at the human, sociological aspect of cities. How can cities, with all their noise, pollution, and visual blight, be considered parts of ecosystems? We might begin by recognizing that cities, despite their problems, are working systems just like ecosystems. That similarity is important, but obvious and significant differences exist between cities and other eco-regions. Before discussing how ecosystem planning can meaningfully include cities, it is helpful to explore the environmental and sociological problems that plague cities, since it is primarily those problems that differentiate cities from other eco-regions.

Pollution is perhaps the most obvious problem. Cities are dirty and noisy; the quality of their air, water, and soil is compromised to varying degrees.[113] They are unsustainable places where nature has been forgotten.[114] Yet this has not always been the case. During

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112. JOHN K. GRANDE, BALANCE: ART AND NATURE 73 (1994) (referring to the city descriptions of Le Corbusier and Frank Lloyd Wright).

113. *See* Jerry Frug, *The Geography of Community*, 48 STAN. L. REV. 1047, 1055-56; Eisen, *supra* note 4, at 7.

114. *See* Eisen, *supra* note 4, at 7-8.

colonial times natural landscape techniques were purposely employed in ways that dominated architecture. For example, it was a common practice to use trees to shade city streets in hot and humid climates.[115] And in Williamsburg, shallow trenches were required to be left in their natural state in order to separate residential lots from one another.[116] Efforts to Anaturaliz[e]@ American cities[117] fell by the wayside, however, as cities grew into industrial centers.

The enormous industry-fed growth experienced by American cities in the twentieth century left them urbanized and in a dismal state that many fear is worsening.[118] Cars are often singled out as a major source of urban decline. Their noise and hazardous emissions have brought health problems and visual blight to cities. In addition, cars have changed the face of urban design.[119] In the last fifty years, cities have been built for cars and suburbs have become more accessible and appealing places to live.[120] This evolution caused many cities to deteriorate in the years following World War II even when urban industry remained strong.[121]

Other culprits have contributed to urban decline. Even before automobiles became commonplace, skyscrapers had a negative impact on cities. Soon after their introduction, skyscrapers were recognized as the most profitable type of structure to build on high-priced city property. Row houses and other human-sized buildings were built less frequently[122] as urban developers increasingly favored function and profit over beauty.[123] The combination of the car and skyscraper makes today=s cities places to work, shop, and recreate, but not places in which to live.[124]

Post-war federal highway funding has both hastened and facilitated this state of affairs. New infrastructure has brought unsightly elevated roadways into cities, often robbing residents of views and easy access to waterfronts.[125] Urban renewal efforts have further contributed to this trend by confining people to pedestrian malls and plazas, leaving streets for cars alone.[126] Redevelopment

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115. RYBCZYNSKI, *supra* note 107, at 81.
116. *Id.* at 71.
117. *Id.* at 80.
118. *See* JAMES HOWARD KUNSTLER, HOME FROM NOWHERE 35 (1996).
119. *Id.* at 64-66.
120. *Id.*
121. RYBCZYNSKI, *supra* note 107, at 200.
122. *See id.* at 119, 153.
123. KUNSTLER, *supra* note 118, at 88.
124. RYBCZYNSKI, *supra* note 107, at 120.
125. *Id.* at 161.
126. *Id.* at 162.

efforts have also left cities with even bigger buildings, including stark public housing towers that have replaced entire neighborhoods and isolated individuals from city life.[127] Thus, highway and urban renewal subsidies have also aided the rebuilding of American cities for cars and colossal buildings.[128]

The decline of American cities can also be traced to single-use zoning, which has increased our reliance on cars by making it necessary to travel significant distances from home to work.[129] Property tax structures also contribute by encouraging urban landowners to either hold on to vacant city property or build structures that will not endure.[130] These practices combine to make decent city housing more scarce, which in turn results in high rents that prevent middle and lower-income people from living in the city.[131] James Kunstler, an urban studies scholar who is particularly critical of these forces, frankly states that it has become illegal to build real and traditional city structures.[132] He believes that whenever such a structure is built, it is the likely result of Acultural agreement@ rather than the law.[133]

Our cities are ugly, polluted, car-dominated and are designed for workers, not residents. Those who do live in them are packed into unsightly towers that are out of scale to humans. Jerry Frug argues that the dominant pattern in urban land use, which treats cities as places for economic growth rather than community building, has divided people based on race and income level.[134] Traditionally, urban living has been viewed as diverse, even erotic, arising from the heterogeneous make-up of city residents and their many subcultures;[135] yet the lure of the city has been largely lost. Government programs at all levels have prompted many individuals to reject cities as places to live and to instead choose the isolation of the suburbs.[136] As a result, we have become a more fragmented

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127. *Id.* at 164-65.

128. *Id.*

129. KUNSTLER, *supra* note 118, at 94.

130. *Id.* at 196-97. As Kunstler puts it, AOur system of property taxes punishes anyone who puts up a decent building made of durable materials. It rewards those who let existing buildings go to hell. It favors speculators who sit on vacant or underutilized land in the hearts of our cities and towns.@ *Id.*

131. *Id.* at 196-200.

132. *Id.* at 109-10.

133. *Id.*

134. *See generally* Frug, *supra* note 113.

135. *Id.* at 1051, 1060.

136. *Id.* at 1052, 1074-75. Professor Frug cites the federal government=s housing subsidies and public housing efforts, state laws allowing suburbs to become autonomous and engage in

society and along the way have fueled sprawl by creating an endemic suburbanite fear of the Aothers@ who live in the city.[137]

More often than not, those Aothers@ are the minority poor,[138] who live almost entirely among people like themselves despite the Fair Housing Act=s promise to ensure racial integration.[139] Urban ghetto dwellers are as isolated as suburbanites and the United States, despite its many efforts, is increasingly divided by race and economic class.[140] We no longer embrace diversity as an asset of the city, but instead fear it and flee in our cars. And as Professor Frug points out, all of us pay a heavy sociological cost for this pattern of isolation and fragmentation: urban humans have evolved to a point where they interact neither with their environment nor with many of their own species.[141]

At this point, it is fair to ask whether there is anything at all redeeming about America=s cities. Apart from their obvious contribution to industry and commerce, one might argue that many American cities are wellsprings of the best in the visual and performing arts. This positive attribute is hard to ignore and arguably softens the otherwise harsh image of cities described thus far. Yet a view of the city as a cultural Mecca is hardly universal. Some critics believe that the media and the influence of big business have made today=s art increasingly bland, incomplete, and homogenous.[142] Art critic John Grande, for example, points to the current belief that art is something to consume rather than appreciate,[143] making today=s artists little more than manufacturers whose success depends on their work fitting the universal mold of the international art world.[144] Artists create without looking to their surroundings for inspiration; instead, internationalism and modernism have made today=s art Ainterchangeable@ and less place-

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exclusionary zoning, and unwise city urban renewal programs and transportation projects as some of the sources of urban decline. *Id.* at 1069-72.

137. *Id.* at 1074.

138. *Id.* at 1064.

139. *See* James A. Kushner, *A Comparative Vision of the Convergence of Ecology, Empowerment, and the Quest for a Just Society*, 52 U. MIAMI L. REV. 931, 937-39 (1998).

140. *See* Frug, *supra* note 113, at 1067.

141. *Id.* at 1107-08.

142. *See generally* GRANDE, *supra* note 112. John Grande is an award-winning art critic and prolific writer whose work has been described as both Acontroversial@ and Athought-provoking.@ *Black Rose Books Authors*, *at* http://www.web.net/blackrosebooks/grande.htm (last visited Mar. 2, 2001).

143. GRANDE, *supra* note 112, at 15.

144. *Id.* at 19.

specific,[145] leaving us a cultural climate that is Aaesthetic[ally] depriv[ed].@[146] Even the city=s reputation as a haven for the arts is thus less than sterling.

Cities, these entities that need to be included within ecosystems, appear to be quite dysfunctional. They are dirty, uncivilized, and shackled by zoning and tax laws that cater to cars and commerce. Their cultural attributes are less and less satisfying. Their residents are largely poor, underprivileged, and shunned by the majority who choose to live elsewhere. These problems, while largely the result of failed urban policies and laws at all levels, are slowly being addressed by a new generation of urban designers and artists who have taken up the dual principles of celebration of place and respect for human kind.

Some of today=s urban scholars and designers, including James Kunstler and groups such as the Congress for the New Urbanism,[147] are proponents of ATraditional Neighborhood Development@ (TND), a movement that attempts to restore a pedestrian focus to cities.[148] TND uses neighborhoods as building blocks,[149] promoting the design of small scale urban areas to create communities.[150] Moreover, TND adheres to Aprinciples of civic art,@ reflected in small neighborhoods with focused centers that can be reached easily on foot from any other part of the neighborhood.[151] Each TND neighborhood has a public transit stop, its civic buildings are built in focused places such as squares, and moving from one neighborhood to another is encouraged and facilitated by pedestrian corridors. TND neighborhoods are also mixed-use; apartments are built over shops and job sites of all sorts are a walk away.[152] Because TND streets are envisioned as spaces that pedestrians commonly use, they are treated as outdoor rooms, embellished by landscaping and buildings.[153]

TND responds to the present state of urban decay by focusing on the basic human desire to be happy where one lives and to be surrounded by beauty.[154] It recognizes that our aesthetic sense arises in part from our ability to recognize intersecting patterns, many of

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145. *Id.*
146. *Id.* at 13.
147. *See* KUNSTLER, *supra* note 118, at 19-20.
148. RYBCZYNSKI, *supra* note 107, at 230-31.
149. KUNSTLER, *supra* note 118, at 160-63.
150. *Id.*
151. *Id.* at 115-18.
152. *Id.*
153. *Id.* at 127.
154. *Id.* at 122.

which we observe in nature.[155] TND=s principles of civic art strive to integrate the various functions of human cultures,[156] connect with the past,[157] and recapture the charm that existed in villages and towns.[158] TND practitioners believe the degradation of city life is caused by the deterioration of the city=s Apublic realm,@ which refers to A[t]he connective tissue of our everyday world.@[159] It is this deterioration that TND seeks to reverse.[160]

On another front, a new breed of artists is spearheading an effort that addresses the shortcomings of urban art. They embrace styles of art that are more directly tied to place[161] and reinvigorate their work by focusing on the connections between people and their immediate natural surroundings. They see a value in their Abio-regional culture@ and believe that by using that creative fodder and communicating its value to a new audience they will help all people reconnect with nature.[162] Their art is also rich in mythical and spiritual connections which are often lacking in postmodern art.[163] These connections force artists to pay attention to their Adirect intuitive experience@ and require them to get closer to and more fully appreciate nature.[164] These artists do more than use nature as a design source; rather, they Areintegrat[e] the natural world into the urban centres of the twenty-first century@[165] by focusing on cultural permanence and identity.[166]

This new approach to art not only merges the economy of culture with the environment,[167] it also subtly changes an observer's sense of aesthetics, making it more attuned to the natural environment. Its promotion of place-specific works also responds to Grande=s lament that our art is bland and homogenous. It is an art that both preserves and celebrates local cultures without threatening goals of cultural integration.[168]

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155. *Id.* at 82-83.
156. *Id.* at 125.
157. *Id.* at 88-89.
158. *Id.* at 78.
159. *Id.* at 35-36.
160. *Id.* at 36-38.
161. *See generally* GRANDE, *supra* note 112.
162. *Id.* at 35-36.
163. *See id.* at 43-44.
164. *See id.* at 73.
165. *Id.* at 65.
166. *Id.* at 79.
167. *Id.* at 96.
168. *Id.* at 122.

The TND and new art movements address weaknesses in the human portion of the connective tissue that holds our urban ecosystems together. Together they suggest that current urban maladies can be cured by thinking locally, in a small scale, and by fostering diversity. Both initiatives show a willingness to deal with urban problems and provide actual alternatives that are being implemented to address those problems. The question becomes whether these new design and cultural models are at all relevant to ecosystem planning and the law. This article concludes that, to the extent they endorse a recognition of place, including a respect for environmental and human diversity, they are very relevant. This conclusion is supported by theories from the arts and sciences, philosophy, and the law that ultimately point toward a new paradigm for urban ecosystem management.

III. INTERDISCIPLINARY PERSPECTIVES: HINTS OF DEGRADATION AND RICHNESS

Recent scholarship in the arts and sciences, teachings from the philosophical school of phenomenology, and current trends in legal theory all buttress the argument that cities, the human-dense subregions within ecosystems, should be included in and can contribute to ecosystem management. The literature also hints at ways to accomplish this improvement. Writers whose thoughts contribute to the discussion in the arts and sciences represent the seemingly diverse fields of evolutionary biology, astronomy, math, and music. Surprisingly, their work reveals some common insights.

A. Arts and Sciences

Over-emphasizing the importance of patterns in science would be difficult; patterns are, as one scientist has stated, Athe very stuff of science.@[169] Another scholar has similarly noted that A[t]he laws of Nature are based upon the existence of a pattern, linking one state of affairs to another; and where there is pattern, there is symmetry.@[170] It was, after all, patterns in the fossil record and elsewhere that led Darwin to theorize about evolution,[171] and patterns in the earth=s

169. NILES ELDREDGE, THE PATTERN OF EVOLUTION 23 (1999).
170. JOHN D. BARROW, THE ARTFUL UNIVERSE 36 (1995).
171. ELDREDGE, *supra* note 169, at 75, 80.

geologic structure encouraged Wegener to promote the theory of continental drift.[172]

Niles Eldredge, an expert in evolutionary theory and biodiversity, criticizes the reluctance of evolutionary biologists to look beyond a reductionist Darwinian approach to evolution[173] and in particular their failure to consider other larger patterns reflected in the earth=s physical history. He notes that this narrow focus persists even in the face of growing evidence that major events in the earth=s history have played an important role in the history of life on earth.[174] Eldredge believes that the earth and life are linked in a Alawlike@ progression[175] and that to make Darwin=s theory consistent with the earth=s historical patterns, scientists must Aconnect evolution with the rest of the physical realm.@[176]

A full exploration of this linkage is at the heart of Eldredge=s argument for a more complete and accurate theory of evolution.[177] He points to various patterns that suggest the earth and species are equally important in evolutionary theory, including one that indicates evolutionary changes occur when ecosystems become degraded and rebuilt.[178] The interrelationship between species and ecosystems culminates in a theory Eldredge refers to as Apunctuated equilibria@ or Acoordinated stasis,@ which posits that ecosystem disruption results in sometimes abrupt changes in species amid otherwise long periods of stasis.[179] Eldredge=s desire is that others who work in both his and other related scientific disciplines reject reductionism and reach across disciplines to focus on a broader array of patterns.

Similarly, astronomer John Barrow argues that the arts could benefit by studying patterns as the sciences do.[180] The art-science

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172. *Id.* at 101, 104. Wegener=s theory was not well received due to flawed measurements and to the fact that he was an outsider to the field; however, by 1960 plate tectonic theory had gained acceptance. *Id.* at 101, 107.

173. *Id.* at 94-95. Niles Eldredge is the curator of the American Museum of Natural History=s Department of Invertebrates. His other works include two 1998 books, *Life in the Balance: Humanity and the Biodiversity Crisis* and *Dominion*. *Niles Eldredge*, *at* http://research.amnh.org/biodiversity/Climate/bioeldredge.html (last visited July 12, 2000).

174. ELDREDGE, *supra* note 169, at 115-17.

175. *Id.* at 147.

176. *Id.* at 145.

177. *Id.* at 151.

178. *Id.* at 159-61.

179. *Id.* at 157-58, 160-61. Eldredge also suggests that connections between endogenous energy and evolution need more full exploration. *Id.* at 173.

180. BARROW, *supra* note 170, at vii. John Barrow is a Professor of Astronomy and Director of the Astronomy Center at the University of Sussex, England. He is a prolific writer and

link should come as no surprise; our capacity for both scientific thought and aesthetic appreciation is the probable result of evolutionary adaptations that allowed us to recognize and appreciate patterns in nature.[181] His premise is that the universe has shaped both biological evolution and our cultural development.[182]

Barrow notes, for example, that we enjoy looking at paintings of pastoral landscapes and often design open spaces such as parks with savannah-like features.[183] He demonstrates that our aesthetic attraction to these settings can be traced to a distant past when savannahs were ideal habitats for human survival.[184] Aesthetic responses that have evolved from early adaptations to environmental conditions establish the scientific underpinnings of the visual arts.[185] Barrow regrets that urban planners ignore this link, and he believes that because aesthetics are Aa fusion of instinct and experience,@ we should both study and make use of the aesthetic-environment connection.[186]

Barrow strongly promotes the role of the environment and adaptation in the development of our aesthetic instincts in the visual arts and also sees, to a lesser extent, similar patterns in the development of music.[187] While music is clearly pattern-based,[188] its development as an adaptive mechanism is unclear. It may have developed as a way to contact the spirits, or it may have reflected emotions or natural rhythms such as the human heartbeat.[189] Darwin believed that nature inspired music,[190] and Plato felt it was a "pale reflection" of celestial harmony.[191] Others believe that music, like all of the arts, reflects a human response to the environment and that patterns in early music were intended to create images of actions and feelings in listeners.[192]

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international lecturer. *Science and the Spiritual Quest Conference, at* http://www.ssq.net/html/bios.html (last visited Mar. 2, 2001).

181. BARROW, *supra* note 170, at 30. Barrow claims that recognizing certain patterns were likely needed at one time for survival and that adaptive mechanism has resulted in our enjoyment of creating and discovering order in things. *Id.*

182. *Id.* at 34.

183. *Id.* at 91-92.

184. *Id.*

185. *Id.* at 100-01.

186. *Id.* at 95.

187. *Id.* at 187.

188. *Id.* at 230-31.

189. *Id.* at 189.

190. *Id.* at 190-91.

191. *Id.* at 202.

192. SIDNEY FINKELSTEIN, HOW MUSIC EXPRESSES IDEAS 9, 17 (2d ed. 1970).

Barrow does, however, provide some proof that musical taste is related to adaptive properties. He points out that the music people tend to enjoy exhibits similarities in pitch, volume, and intervals, and he surmises that at one time our survival may have depended on an ability to detect and react to similar features of natural noises.[193] As is the case with visual aesthetics, there likely is a common denominator of sorts in the field of auditory aesthetics, which leads to a linkage with the sciences and, in particular, environmental sciences. Barrow=s point, like Eldredge=s, is that aesthetic theoreticians can benefit by focusing on patterns from other disciplines.

At one point Barrow notes that complex environmental patterns led to the development of math as well as aesthetics.[194] Edward Rothstein agrees, noting that math ultimately seeks to put the universe in order.[195] Rothstein exposes the similarities between math and music, primarily their reliance on patterns[196] and Amapping,@ which refers to the process of comparing objects to define similarities.[197] While early developments in both disciplines resulted from the exploration of basic patterns, more current efforts have dealt with increasing levels of abstraction.[198] By carefully detailing the connections between the evolution of math and music and their reliance on mapping in a quest for truth, Rothstein provides yet another example of the value of interdisciplinary exploration.[199]

These glimpses at scientific and aesthetic critiques and commentary, while admittedly selective, are nevertheless remarkable in their common themes. First, they all stress pattern, in particular the foundational importance of nature=s primordial patterns. Second, they show that humans, throughout their evolution, have used patterns from their world, mapping them in diverse ways that have led to advancements in the arts and sciences. Third, they show the need for scholars to be creative and broad minded: Eldredge argues that the sciences should look at historical patterns in related fields, Barrow maintains that the arts should look at scientific and

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193. BARROW, *supra* note 170, at 240.

194. *See id.* at 112.

195. EDWARD ROTHSTEIN, EMBLEMS OF MIND 42 (1995). Mr. Rothstein is the mathematically and musically trained cultural critic at large for the New York Times. *Diary by Edward Rothstein, Cultural Critic, at* http://www.slate.lycos.com/Diary2/98-03-03/Diary.asp (last visited Mar. 2, 2001).

196. ROTHSTEIN, *supra* note 195, at 48, 57.

197. *Id.* at 47.

198. *Id.* at 43, 119-20.

199. *Id.* at 242.

historical patterns, and Rothstein shows us that looking at patterns in related fields can yield new insights and levels of understanding.

How do these themes relate to urban ecosystem management? First, they suggest that city planners and designers should become more conscious of ecological patterns and of ecosystem science and that ecosystem scientists should become more conscious of sociological patterns in cities. They would arguably reject as impoverished any narrowly-focused approach to ecosystem management, hinting instead at the richness to be gained from exploring the linkages between patterns in city life and those in the natural environment. Second, the themes suggest an undeniable potential for mapping related patterns into urban ecosystem management strategies.

Encouraging the cross examination of patterns by urban planners and ecosystem scientists may be a useful step in developing a framework for urban ecosystem management, but it is a limited one. A search for meaningful patterns would entail a complex but basically mechanical exercise, the outcome of which would be more interdisciplinary and informed urban ecosystem planning. Although that result would be a significant improvement over current practice, it would likely face strong resistance from some sectors as yet another over-zealous regulatory imposition on urban development. City residents might be reluctant to embrace more expansive regulation, even if in the interest of their health, if they believed the new standards would force business interests to move out of town. Cities need a further underpinning for urban ecosystem management to make it more appealing. In this regard it is helpful to turn to philosophical theories that reinforce the human-environment connection in illuminating ways.

B. Philosophy

In his book, *The Spell of the Sensuous*, David Abram describes how ancient humans were slowly pulled away from their close relationship with nature by the development of language and the written word.[200] Drawing on the writings of prominent members of the philosophical school of phenomenology, Abram argues in favor of a deeply philosophical ecology and sees a need for humans to

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200. *See* ABRAM, *supra* note 7.

recapture an immediate experience with the natural environment in order to address the global ecological crisis.[201]

Phenomenology differs from science in that it does not attempt to explain the world; instead, it seeks Ato describe as closely as possible the way the world makes itself evident to awareness, the way things first arise in our direct, sensorial experience.@[202] By promoting a subjective experience of our surroundings as a way to explore the patterns of experience,[203] phenomenology rejects the Cartesian separation of mind and objects.[204] Abram traces the development of this branch of philosophy, which first developed as a way to address science=s failure to pay attention to the experiential world.[205]

Abram ultimately arrives at a nature-based model of phenomenology, which suggests that it is our bodies, or humans as living organisms, that experience the world.[206] It is a view that places humans directly within their organism-packed environments rather than seeing them as separate from their surroundings.[207] He points out that a true experience of nature is reciprocal because it entails a response not only from us, but also from other organisms in the environment who must adjust to us.[208] Such an experience is participatory and synaesthetic, simultaneously involving multiple senses.[209]

The result of this mode of experience is heightened awareness of the vitality of living things and a corresponding decline in interest for inanimate objects. The experience leaves us energized by the patterns that nature exposes to us and leaves us bored by the built environment.[210] Abram points out repeatedly that this nature-based experience is common to indigenous peoples who share a sense of the sacredness of place.[211] This Amagic of place@ recognizes the uniqueness of the earth=s many ecosystems even to the extent of

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201. *Id.* at 31-32. Abram relies on the writings of Edmund Husserl, Maurice Merleau-Ponty, and Martin Heidegger.

202. *Id.* at 35.

203. *Id.* at 33.

204. *Id.* at 31-32.

205. *Id.* at 41-42.

206. *Id.* at 45. Here Abram relies heavily on the writings of Merleau-Ponty, in particular his work, *Phenomenology of Perception*. Abram admits, however, that his own views move beyond those of Merleau-Ponty. *Id.* at 277 nn.11, 13.

207. *Id.* at 46-47.

208. *Id.* at 52.

209. *Id.* at 57-60.

210. *Id.* at 63-65.

211. *See id.* at 161 (referring to the Apache), 167 (referring to the Australian Aborigine).

imposing personalities upon them.[212] Civilized cultures have moved far away from an experience-based closeness to the earth. To the extent we experience the environment at all it is abrupt and one-sided, not meaningful and reciprocal.[213]

City life perhaps best exemplifies the ultimate degradation of the spiritual connection between humans and their natural surroundings. In Abram=s words, we have Aforgotten@ the air and no longer recognize that special connection between the life-giving environment and ourselves.[214] It is no surprise to him that urban air is polluted; that condition, along with other ecological problems, suggests that we no longer know how to experience nature.[215] To rectify this incapacity we need to experience our physical place on earth and realize that each place has its own mind, what Abram describes as Aa place-specific intelligence shared by all the humans that dwell therein ….@[216]

A wide-scale implementation of a phenomenology of nature is, of course, improbable. Discovering a place-specific spirit, however it may be done, would take a good deal of time and in any event is at odds with today=s global agenda.[217] Yet it is difficult to dismiss Abram out of hand. He is insistent on rediscovering a reciprocal experience with nature: A[I]t is only at the scale of our direct, sensory interactions with the land around us that we can appropriately notice and respond to the immediate needs of the living world.@[218] Abram endorses much more than the science and arts scholars who stress an interdisciplinary branching out and examination of nature=s patterns. He instead sees a need for fostering a place-centered ideal that can arise only from individual, reciprocal experiences with the environment.

John Grande=s arts argument bears another mention here. His belief is that today=s woeful arts climate is the result of artists who ignore their internal, nature-based creative forces.[219] He suggests bringing artists closer to nature, forcing them to be rely on their intuitive creativity rather than the many external distractions of today=s society.[220] This suggestion is a feminist, creative innovation

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212. *Id.* at 182.
213. *Id.* at 71.
214. *Id.* at 258-60.
215. *Id.* at 260.
216. *Id.* at 262.
217. *Id.* at 266-67.
218. *Id.* at 268.
219. *See* GRANDE, *supra* note 112, at 66.
220. *Id.* at 73.

that stands in sharp contrast to the entrenched, appropriative creative process.[221] But even more importantly, Grande seems to endorse something very similar to Abram=s reciprocal experience with the spirit of nature as a way to reinvigorate the creative process.

This article does not suggest that city residents should become avid ecological phenomenologists. It does, however, submit that working with the nature-experience concept can assist in bringing ecosystem management to cities in a meaningful way.

C. Charm

The place-based, reciprocal experiential philosophy that builds upon the spirit of nature can be described as a philosophy of charm. Charm provides an urban-ecosystem construct that accommodates arts= and sciences= current emphases on broad, interdisciplinary exposure to nature=s patterns as well as phenomenology=s quest for a heightened experience of nature. Charm can take a city=s hints at richness and use them to address its underlying degradation.

Charm is not to be confused with beauty, and the difference is pivotal. We all know beautiful people whom we would never describe as charming, and the opposite is also true. Beauty is a quality that pleases our sense of aesthetics, often arising from an object=s line, color, or design.[222] It is something public that leaves us with a sense of harmony.[223] Charm, on the other hand, touches us in a much deeper way. It is a quality that pleases in an irresistible way; it allures us and pulls at our hearts.[224] It is magical and enchanting.[225] Charm accomplishes something that beauty does not; it invites us to a greater experience, it holds promise.

Rothstein suggests that there is a quality that transcends charm, a sort of ultimate experience that he labels the Asublime.@[226] AThe sublime is tremendous, awful, and humbling, yet also elevating … [it] subvert[s] our judgment,@ leaving us nearly ecstatic.[227] The sublime is part of our inner life, and to Rothstein it is something sought by both math and music.[228] To Rothstein, charm might be defined as a quality that suggests and invites us to the sublime.

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221. *Id.* at 76-77.

222. WEBSTER=S NEW UNIVERSAL UNABRIDGED DICTIONARY 164 (2d ed. 1983).

223. *See* ROTHSTEIN, *supra* note 195, at 186.

224. WEBSTER=S, *supra* note 222, at 305.

225. *Id.*

226. ROTHSTEIN, *supra* note 195, at 187.

227. *Id.*

228. *See id.* It is no coincidence that charm is also defined as a song or melody. WEBSTER=S, *supra* note 222, at 305.

James Kunstler tellingly describes the charm of villages and towns as Athe quality of inviting us to participate in another pattern, … to glimpse the pattern of another personality through the veil of manners, customs, pretense.@[229] He also notes that a charming person "makes himself permeable, and … invites you to do likewise, so that the two patterns of your personalities may intersect for awhile.@[230] To Kunstler, the many intersecting patterns in our environment provide an Aaliveness@ by drawing us to them.[231] They create charm and grace, as do connections and patterns from our past.[232]

Beauty is very much one-sided; it is a pleasing quality that appeals to our sense of aesthetics. Charm elicits much more. It invites, engages, and attracts us. Charm puts us under its spell and draws us out. A charming person or thing invites us to respond in some way. Charm is two-way and reciprocal, unlike beauty. Perhaps it is the hint or suggestion of the sublime that leads us to respond, but whatever it is, it is more than a pleasing line, form, or color.

Abram=s Aspell of the sensuous@ is essentially the charm of nature. It is more than nature=s beauty; it is the spiritual quality of nature that beckons toward the sublime. Kunstler=s charm of the village is similar; it is both spiritual and welcoming and is what today=s cities and sprawling suburbs lack. He urges us, as does Abram, to revive charm by developing a new appreciation for our environment.[233] Kunstler=s endorsement of traditional neighborhood development makes sense because its principles are charm-based, from its focus on local communities and its celebration of and respect for place to its goal of creating engaging neighborhoods that invite residents to walk about and interact with one another.[234]

Abram=s phenomenological premise reiterates themes from the arts and sciences, but it does more. It stresses the importance of locality and natural elements and also focuses on pattern. But its encouragement of a new, focused, experiential way of being moves beyond those disciplines by demanding more than an appreciation of nature. It seeks an interaction with nature that will allow us to be

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229. KUNSTLER, *supra* note 118, at 82.
230. *Id.* at 82-83.
231. *Id.* at 83.
232. *Id.* at 89.
233. *See id.* at 107.
234. *Id.* at 115-18.

charmed by it. It is this charm, arising from nature=s place-specific and unique patterns, that cities should attempt to capture.

Bringing charm to the city is a key to urban ecosystem management. It has the potential to both protect the surrounding ecosystem and improve the lives of those human beings who live in the city. It is fair, however, to ask whether the law can realistically respond to all this stuff of pattern, experience, and charm. Current legal scholarship reveals a slow awakening to broader perspectives that could provide some inroads.

D. The Law

A full characterization of the current legal climate is not the purpose of this section. Instead, the goal is to present threads from selective legal perspectives and philosophies to suggest that charm is not as strange a legal bedfellow as it may first appear. After all, pattern, which is at the very foundation of the charm concept, is no less loved by the law than it is by science.[235] Any lawyer knows the law is replete with taxonomies, formulas, and multipart tests.[236] Just as scientists, mathematicians, and artists are drawn to patterns and mapping, so too are lawyers. Some legal commentators are even willing to look beyond the law for patterns, suggesting, for example, that extralegal patterns provide a backdrop that aids in statutory interpretation.[237]

The legal backdrop idea is anathema to classical formalism, however, which champions clear-cut, all-answering rules.[238] Even today, neo-formalists who embrace Aapurposive rule-following@[239] assert that legal analysis cannot be informed by Amoral knowledge@ because it does not exist.[240] In a related vein, the positivist tradition admonishes against mingling morality with law and instead relishes pure, enlightened laws that promote the values of power and choice.[241] Formalists and positivists promote ideals of beauty, not charm. They are uncomfortable with legal perspectives that suggest, hint, or invite further exploration of extralegal considerations. Their beauty lies in their simplicity; they strive for a level of certainty,

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235. *See* Louise Harmon, *Law, Art, and the Killing Jar*, 79 IOWA L. REV. 367, 393 (1994).

236. *See, e.g.*, Ugo Mattei, *Three Patterns of Law: Taxonomy and Change in the World=s Legal Systems*, 45 AM. J. COMP. L. 5, 5-7 (1997) (outlining taxonomical approach to understand and analyze dynamic nature of the world=s major legal systems).

237. *See* Richard H. Pildes, *Forms of Formalism*, 66 U. CHI. L. REV. 607, 615 (1999).

238. *Id.*

239. *Id.* at 612 (referring to the views of Larry Alexander).

240. *Id.* at 615.

241. Robin West, *Three Positivisms*, 78 B.U. L. REV. 791, 799-800 (1998).

believing the law cannot be informed by nonexistent morals or community-imposed duties.[242] A legal culture that is so closed and predisposed to clarity and certainty would not seem hospitable to the introduction of the charm concept. This seems especially true in the already spongy world of ecosystem management.

Yet dissatisfaction with the positivistic, pseudoscientific model of law abounds. Natural law proponents challenge positivism, pointing to the negative impact science has had on the law.[243] While they admit that science has given the legal profession accessible theories that can be readily relied upon by the courts,[244] natural law proponents argue that the resulting relativistic and pseudoscientific rules wrongly elevate pattern over other significant principles.[245] Other scholars point out that the scientific application of the law Aturns away from the self; it does not engage in the business of introspection or revelation.@[246] Especially when applied to disputes involving areas of expression and the human inner world, positivistic principles prove wanting and can even lead to incorrect decisions.[247] Feminist legal scholars also attack the law=s limitations, which they believe arise from the law=s genesis and evolution within the masculine cultural tradition.[248] To them, the patriarchal workings of the law perpetuate an image of the law as Aapolitical, neutral, and objective.@[249] In addition, they believe the law=s discomfort with and usual rejection of the invisible realm poses a problem for justice.[250] All these critiques target the law=s traditional resistance to philosophies whose A[u]nderstanding may elude and transcend language,@[251] a resistance that would arguably disregard a philosophy of charm.

Yet the law has, at times, retreated from pseudoscientific, unbending models and settled on more flexible and inclusive paradigms, and a number of those instances have occurred in response to environmental problems. Since the 1970's,

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242. *See id.*

243. *See generally* Stanley L. Jaki, *Patterns Over Principles: The Pseudoscientific Roots of Law=s Debacle,* 38 AM. J. JURIS. 135 (1993).

244. *See id.* at 140.

245. *Id.* at 157.

246. Harmon, *supra* note 235, at 367.

247. *See id.* at 405. Harmon demonstrates this thesis in the context of a dispute involving copyright infringement in the art world.

248. Alda Facio, *The Law: An Art or a Science?,* 7 AM. U. J. GENDER SOC. POL=Y & L. 355, 358 (1999).

249. *Id.* at 361.

250. *See id.*

251. Harmon, *supra* note 235, at 410.

environmentalism has forged a new understanding of the relationship between humans and the environment, and the law has changed dramatically. Not only has this engendered the development of an entirely new field of law, but it has transformed established areas of law as well. Developments in property law, for example, illustrate how environmental concerns have revised the context within which individual property rights can be exercised.[252]

Yet even more creative and aggressive approaches have been called for, and some of the alternatives demonstrate an increased respect for localities, custom, and nature as well as a willingness to borrow from other disciplines. Carol Rose has recently addressed the Apropertization@ of environmental law[253] and concluded that there are limits to this trend.[254] In its place, she sees opportunities for limited common property arrangements where property could be Aheld as a commons among the members of a group, but exclusively vis-à-vis the outside world.@[255] The restriction of common property principles to small groups not only addresses the problems inherent in large-scale commons schemes, but also reflects a belief in the ability of small, local groups to self-govern.

Limited common property entities are also an example of decentralization, which is touted as a more broad-based cure for the law=s ills.[256] Decentralization arguably has advantages over federally-dominated regulation, but it nevertheless conflicts with newer global perspectives. Resolving this tension will not be easy, and it is at this point that more radical changes in the law might be necessary. Some believe that nothing less than a legal renaissance is in order,[257] one characterized by a redesigned legal architecture that reflects the "intense connectivity between humans and nature, humans and the spirit … and humans and humans all over the globe."[258] Under this view, decentralization would not only empower local communities, but it would also lead to a shift in legal

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252. *See* Richard J. Lazarus, *Debunking Environmental Feudalism: Promoting the Individual Through the Collective Pursuit of Environmental Quality*, 77 IOWA L. REV. 1739, 1756 (1992).

253. *See* Carol M. Rose, *The Several Futures of Property: Of Cyberspace and Folk Tales, Emission Trades and Ecosystems*, 83 MINN. L. REV. 129, 167-69 (1998).

254. *See id.* at 132.

255. *Id.*

256. *See* Lazarus, *supra* note 252, at 1771-72.

257. *See* James M. Cooper, *Towards a New Architecture: Creative Problem Solving and the Evolution of Law*, 34 CAL. W. L. REV. 297, 307 (1998).

258. *See id.* at 301 (quoting Jon Spayde, *The New Renaissance*, UTNE READER, Feb. 1998, at 42-43).

thought that would tie it more closely to nature and the human spirit.

Other proposed responses to the law=s intransigence borrow from the arts or promote feminist principles. Modernism, for example, would allow deconstruction of entrenched legal rules. Once their abstract essentials are revealed, laws could then be rebuilt using new compositional principles dictated by changed norms.[259] A feminist approach would, in contrast, turn to nature-based traditions to reinvent the law.[260] Like radical decentralization, these models require a creative style of lawmaking that would allow the exploration of spiritual and natural connections.

The legal perspectives that focus on local interests are both contextual and instrumental, and as such they arguably fall within the realm of modern legal pragmatism, which has enjoyed increased attention over the past twenty years.[261] Pragmatism=s melding of context and purpose is eclectic;[262] it is an inclusive approach that embraces diverse legal theories Aas perspectives, each of which can add to the understanding of law.@[263] Thus, the repeatedly emphasized local and nature-based underpinnings that appear in Rose=s new property paradigms, decentralization, and feminism might also be viewed as no more than differing perspectives within a more enlightened pragmatic mold.

These critiques and suggestions are a few among many,[264] but they nevertheless demonstrate the law=s capacity for adaptation and flexibility. Their novelty also reflects the creativity that is fundamental to democracy itself.[265] The strong belief in Athe irreducibility of individuality within participatory communities@ not only protects individuals from majority abuse, but it is likewise true that as the law seeks justice it adapts in creative ways.[266] The law=s

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259. *See* Laura S. Fitzgerald, *Towards a Modern Art of Law*, 96 YALE L.J. 2051, 2055-57, 2060 (1987).

260. *See* Facio, *supra* note 248, at 358.

261. *See, e.g.*, Craig Anthony Arnold, *How Do Law Students Really Learn? Problem-Solving, Modern Pragmatism, and Property Law*, 22 SEATTLE U. L. REV. 891, 903-04 (1999) (reviewing EDWARD H. RABIN & ROBERTA ROSENTHAL KUALL, FUNDAMENTALS OF MODERN REAL PROPERTY LAW (3d ed. 1992)) .

262. Thomas C. Grey, *Freestanding Legal Pragmatism*, 18 CARDOZO L. REV. 21, 25 (1996).

263. *Id.* at 26.

264. *See id.* at 25-26 (mentioning numerous theoretical approaches, including law and economics, critical legal studies, and natural law).

265. *See* Erin Rahne Kidwell, *The Paths of the Law: Historical Consciousness, Creative Democracy, and Judicial Review*, 62 ALB. L. REV. 91, 110-11 (1998).

266. *Id.* at 111.

evolution is thus an ongoing search for harmony, balance and diversity, making it essentially an aesthetic undertaking.[267]

Environmental law has repeatedly demonstrated that creativity and the law go hand in hand.[268] The paradigm shift that occurred with the acceptance of ecosystem management is just one example.[269] Other examples might not have gone as far as restructuring paradigms, but are no less creative. They include the Clean Water Act=s mimicking of the Refuse Act of 1899 and the risk-taking toxic tort litigation tactics of Jan Schlictman.[270] Still other creative environmental lawmaking has occurred at the hands of Asubversive attorneys,"[271] as well as through the use of symbolism and pattern to fashion clever acronyms.[272]

The law is thus inherently creative, and environmental law is no exception. Nothing prevents environmental lawyers from relying on renewed natural law principles, feminism, decentralization, modernism, or other pragmatic perspectives to deal with any number of current or future ecological challenges. It also seems clear that lawyering in general is increasingly requiring attorneys to employ more holistic, interdisciplinary techniques.[273] More and more, lawyers are reaching out to fields as diverse as sociology, anthropology, and psychology,[274] requiring them to "think outside the box."[275] The practice of law is thus becoming a broader and more exhilarating undertaking, what some describe as "a pure creation of the spirit."[276]

While the law=s ability, or even readiness, to take up charm as a way to bring ecosystem management to cities can be fairly questioned, it should not be quickly rejected. The belief that a legal renaissance is at hand, characterized as it may be by any one or more of the foregoing perspectives, at the very least points toward a more

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267. Gordon A. Christenson, *Looking Back AIn Pursuit of the Art of Law@*, 45 AM. U. L. REV. 1015, 1020 (1996).

268. *See generally* William H. Rodgers, Jr., *The Most Creative Moments in the History of Environmental Law: The Who=s*, 39 WASHBURN L.J. 1 (1999).

269. *Id.* at 22-24.

270. *Id.* at 5.

271. *Id.* at 15-16 (mentioning the scientist-lawyers who founded the Environmental Defense Fund).

272. *Id.* at 9-10 (mentioning the attorneys who have invented some of environmental law=s most clever acronyms).

273. *See* Cooper, *supra* note 257, at 307, 312 (arguing that lawyers in this new age will require new skills, chief among them problem solving).

274. *Id.* at 312.

275. *Id.* at 317.

276. *Id.* at 323 (quoting Le Corbusier).

broad minded approach to dealing with environmental problems. Charm, with its emphasis on the local environment and the well-being of the human species, seems compatible with the new legal culture. Adopting a community focus would reflect a respect for localities and foster decentralization; focusing on human living conditions and well-being within the local environment would merge principles from many disciplines including science, sociology, and the design arts; and attempting to reconstruct urban planning to realize charm, defined as a quality that arises from the human environmental experience, would be an exercise in philosophy, modernism, and feminism. Bringing charm to the city would also require lawyers to Athink outside the box@ in ways that have been acknowledged to be part of the law=s future.

IV. THE BEGINNINGS OF URBAN ECOSYSTEM MANAGEMENT: *OF HAZEL NUT TREES AND COFFEE SHOPS*

Suggestions for implementing charm as a guiding concept for urban ecosystem management are in order. The conclusions reached thus far include the need to include cities within ecosystems and to give them an important role in ecosystem-wide planning; to address the needs of city residents as members of the dominant species living within the urban regions of ecosystems; and to devise urban ecosystem management principles by striving for charm, a quality which arises from the unique environmental features within and surrounding the urban area. These conclusions, when applied to ecosystem management strategies that have proved successful, provide the beginnings of a framework that cities can follow.

Urban ecosystem planning first needs a starting point, such as a hook or bottom line, to capture people=s attention. The starting point needs to be positive; it cannot be a directive from the federal or state government mandating that those who live or conduct business within city boundaries must do more to protect remote ecosystem resources. A logical place to look for a starting point is a city=s ecosystem. Planners should begin by simply recognizing that their city is part of an ecosystem. They should then carefully consider all of the amenities provided by that ecosystem, including aesthetic benefits plus other ecosystem services such as biodiversity and water and air purification. The first step thus includes determining not only what ecosystem the city is dealing with, but also what that ecosystem means to the city. To make that determination, city planners need to fully experience and reflect on their surrounding environment.

A second step in devising a starting point will require a city to recognize that its residents, as the dominant species within its region of the ecosystem, are to be protected and nurtured. Ecosystem protection for the human species should aim beyond existing, health-based environmental regulations and strive to improve the quality of life within the city. It is here that the concept of charm can further inform and enrich the ecosystem management starting point. City planners must view ecosystem services, including the unique make-up and diversity of the city=s human population, as things not merely to be protected, but celebrated. A starting point that simply describes the surrounding ecosystem will have little impact on a city=s populace. Research has shown that people understand basic ecosystem concepts but do not understand them in a specific manner.[277] City planners need to emphasize the novelty of a city=s natural setting and tie city residents and their neighborhood habitats into that ecosystem while at the same time making them aware of the full array of ecosystem services. In this way, city ecosystem planning will become more immediate and meaningful to the people.

The starting point, then, should be connected to the ecosystem at large and the services that beneficially impact a city in both a general and unique way. It should be one of creating, maintaining, and augmenting a citified charm derived from ecosystem amenities. It should include respect for the ecosystem, including people, and should seek to attain diversity among city residents in terms of race, ethnicity and income levels. Working with a starting point tied to charm would be far more palatable than implementing a baseline made up of mandatory protective standards below which a city could not fall. The latter type of directive, cast in the negative, smacks of command and control, suggests the infringement of private property rights, and at best would produce public apathy.

With a charm-based starting point in place, players in the urban ecosystem management plan and their respective roles would require attention. Depending on the boundaries of the ecosystem at issue, the players might include officials from all levels of government. The addition of private interest groups representing community, business, and environmental interests would help further define the needed partnership. As already mentioned, a bottom-heavy organizational structure is needed to make cities and local residents feel they play important roles in such a collaboration.

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277. Jeffrey K. Lazo et al., *Expert and Lay Mental Models of Ecosystems: Inferences for Risk Communication*, 10 RISK 45, 62 (1999).

A hierarchy would still be in place, but it would reflect the uniquely local nature of charm and its position as the linchpin in any urban ecosystem management scheme. As a result, the higher up a player sits in the collaborative chain, the less hands-on would be the involvement.

The ideal organizational structure would limit the role of the federal government to setting national ecosystem policy, defining ecosystem boundaries throughout the country, providing scientific data regarding ecosystem processes and services, establishing the broadest possible minimum standards or baselines to ensure the continued health of the nation=s ecosystems, and monitoring the overall functioning of ecosystems to determine if adaptive management strategies are in order. States, in turn, would apply the national information and baselines within their own boundaries and would be free to adopt more protective baseline standards.

Cities would then use the data and baseline standards in their self-defining efforts to devise their concepts of charm. Because this process would involve the participation of many interests, cities should seek the assistance of nongovernmental organizations to coordinate lateral networks to facilitate efficiency and inclusiveness.[278] Additionally, cities must elicit the participation of all neighborhoods and interest sectors and endeavor to make participants understand that the undertaking will improve both their health and the quality of life within the city. Urban ecosystem planning would thus become a positive, though challenging, initiative that would leave residents believing that they are beneficiaries of the plan, rather than pawns who are powerless in the face of mandatory federal or state directives.

Once a city gives careful attention to a starting point and partnership, it could then turn its attention to the ecosystem management plan itself. To recap, a successful plan must at the very least include specifics, deal honestly with costs and benefits, provide for monitoring and flexibility, and contain mandatory provisions. It also seems clear that a fifth component—one targeting public education—would prove beneficial. It is in devising the plan that the law can become particularly creative by devising flexible mechanisms to help a city realize its vision of charm.

The national ecosystem baseline standards, as modified by the state, will offer an important level of specificity for the city. Still, as

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278. *See* Lee P. Breckenridge, *Nonprofit Environmental Organizations and the Restructuring of Institutions for Ecosystem Management*, 25 ECOLOGY L.Q. 692, 695-701 (1999).

mentioned, those standards should merely reflect what is necessary, at a minimum, to assure the functioning of ecosystem processes. The city must accept those standards, but should use them to define its charm-based starting point. Baseline standards thus represent a crucial level of specificity, but are really no more than a foundation upon which a city will build its starting point. For urban ecosystem management plans to work in a way that will truly make a change in the lives of city residents, the specificity must be furnished by the city=s ultimate starting point, which should be a charm-based vision of itself into which the baselines are subsumed.

The methods chosen to implement charm must also contain specifics. The adoption of traditional neighborhood development strategies would promote charm in a meaningful and specific way. TND's focus on neighborhood design, decreased car use, connective corridors between city sectors, diversity, and increased human interaction embodies the human-environment connection that is the basis of charm. City development at all levels should reflect these principles in striving for charm. This could be accomplished by recycling land and materials, designing structures to limit energy use, and making use of locally-obtainable renewable resources. The result would be conservation biology at the urban level aimed at the protection and enhancement of habitat for the sustainable well-being of the human species. Environmentally conscious design that would encourage the renovation of unoccupied buildings into welcoming commercial enterprises—such as a neighborhood coffee shop—and urban landscaping that relies on native plant species—such as my area=s hazel nut trees—should be part of a mix of strategies that would not only meet the ecosystem baseline standards set by the federal or state government, but would also, when taken together, make the city a uniquely attractive and very livable habitat for the human species.

City governments will have to work with, integrate, and possibly revise numerous laws to accommodate charm-based ecosystem management. They will have to consider the wisdom of existing single-use zoning and property tax laws. Brownfield laws and local government laws governing special districts, regional coordination, and project funding must also be used. It is crucial that cities take advantage of the current climate of legal decentralization, interdisciplinary research, and creative lawyering to devise specific means to reach their stated goals.

Ecosystem management carries a price tag, and cities will have to address the distribution of costs and benefits. At the outset,

however, efforts such as the decentralized model of urban ecosystem planning endorsed here are more equitable than are centralized models.[279] Environmental policymakers often overlook this reality. But additional steps can be taken to deal fairly with costs and benefits. Cities should explore innovative funding mechanisms and place a priority on using incentives to encourage pro-environment behavior. For example, cities that meet or exceed the federal or state-imposed ecosystem baselines might be entitled to additional government funding for related programs, which could include everything from tourism to eco-friendly infrastructure and public transportation projects.

Other cost-benefit distribution techniques could mandate environmental justice reviews for all ecosystem planning projects as well as cost-benefit analyses that accurately value losses and gains in ecosystem services. It is clear, however, that the best results require a mix of market-based approaches and collective response.[280]

Monitoring is a third component that cities cannot overlook. While the federal government should be the ultimate monitor of ecosystem health, cities have many opportunities to participate in a comprehensive monitoring program. Cities should be directly responsible for routine monitoring. This type of hands-on assessment is preferable to the indirect involvement that would arise if federal or state agencies conducted all testing. City monitoring would impose additional costs, but a city could defray these costs by enlisting volunteers such as individual city residents, local environmental groups, seniors organizations, and school groups. A city's reliance on residents and local groups would have an added advantage, because their experience of the ecosystem while monitoring would help them understand and appreciate their city's concept of charm.[281]

Finally, plans should contain mandatory provisions. There is little good in devising specific provisions if they serve as goals rather than requirements. In addition, optional compliance weakens monitoring provisions. Mandatory provisions will increase a plan's costs, however, since enforcement mechanisms are necessary. But

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279. Lazarus, *supra* note 252, at 1772.

280. *See id.* at 1756; Rose, *supra* note 253, at 132.

281. An example of a very successful volunteer monitoring network is Dickinson College's Alliance for Aquatic Resource Monitoring (ALLARM), which relies on college students to recruit and train volunteers to gather data on the pH and alkalinity of Pennsylvania's streams. *See generally* STREAM OF CONSCIOUSNESS (The Newsletter of the Alliance for Aquatic Resource Monitoring, Dickinson College), Spring / Summer 2000 (on file with the author).

enforcement could largely be handled at the state level where enforcement structures are already in place. In addition, the benefits that a mandatory plan would bring to the ecosystem in general and the city in particular would likely outweigh any incremental enforcement costs a state would incur.

Bringing the concept of charm home to its people is one hurdle facing any city that approaches urban ecosystem management in the proposed manner. Many city residents, when asked, might quickly respond that they would favor enhancing the charm of their city. But when asked what charm means, they would likely have difficulty responding. They might even remark that charm, like beauty, is in the eye of the beholder. Yet the ecosystem-based concept of charm, while certainly flexible and capable of being achieved in many ways, is clearly derived from some fixed principles that need to be reinforced with the public.

Some previously mentioned components will address this need. For example, volunteers who assist in monitoring activities will begin to understand charm, as will individuals who are fortunate enough to live in TND neighborhoods. But charm should not be confined to a handful of residents and residential areas throughout the city. Cities will have a broader impact if, in addition, their own structures and those of major institutions are designed in furtherance of charm. In this way hundreds, if not thousands, of building workers and visitors will experience charm on a daily basis. Cities could also provide incentives for private developers to look to their ecosystems for design, building material, and landscaping ideas. Remembering that ties to the past are also a component of charm, cities should also encourage the use of old, vacant buildings as resources to use in efficient and charmed ways.[282] Finally, cities should treat their streets as outdoor rooms to be enjoyed by people, not merely used by cars.

Still other opportunities exist for more direct public exposure to charm. In particular, urban ecosystem management plans could be enhanced by including a separate public education component, which might require city school districts to include local ecosystem science in their curricula. Field trips that help school children experience their urban world and local ecosystem should be encouraged. Billboard, public transportation, and radio and

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282. In Pittsburgh, developers are discovering that rehabilitating old buildings can be more efficient than building new ones. Dan Fitzpatrick, *Back to Life; Developers Find Restoration Beats Building Anew*, PITTSBURGH POST-GAZETTE, June 30, 2000, at C1.

television advertising can make the general population aware of what is being undertaken. Citywide signage programs can also be developed to inform people about everything from native plant species and ecosystem services to structures that have been built or remodeled with charm in mind. Cities can further educate their citizens and expose them to charm by instituting public art programs that require artists to incorporate the concept of charm in their work. An additional, subtle technique would be to require every deed and other real estate document to include the name of the region=s ecosystem in its legal description. Also, since planning is an ongoing process, citizens will have repeated opportunities to learn from public meetings and news reports as charm is refined over the years.

These are but a few ideas for cities to consider. What is of paramount importance, however, is that a city=s ecosystem management plan include mandatory charm-based specifics, deal as fully as possible with costs and benefits, and provide for monitoring. Beyond that, efforts to educate city residents should be pursued.

CONCLUSION: *AWAITING THE CHARM*

We cannot deny that our urban eco-regions are stressed and densely populated with people who suffer from several sociological ills. These maladies have fed the related problems of sprawl and racial and class fragmentation. In short, urban policies have put our species at risk in significant portions of our nation=s ecosystems. Allowing ecosystem management to operate to the exclusion of our cities will only perpetuate our cities= ills and further fragment national environmental policy. Instead, ecosystem management must be implemented in ways that include cities and recognize that humans are the dominant species for whose survival and well-being the urban habitat should be designed and preserved.

Ecosystem management offers a satisfactory vehicle to help confront the city-sprawl conundrum, but before it is imposed on cities it must be retooled to incorporate a conceptual framework that will accommodate ecosystem protection as well as human well-being. One way to achieve this result is through the concept of charm, which has been defined to be tied to both nature and the betterment of the human spirit. Charm promises to make cities willing, rather than reluctant, players in ecosystem management by allowing them the flexibility to define themselves in unique ways that will offer protection not only for natural resources, but for their citizens as well.

By recognizing our undeniable affinity for nature=s patterns and encouraging the personal experience of our ecosystems, we can meaningfully expand ecosystem management into our urban centers. This expansion will result in charmed American cities, unique and environmentally conscious in their design and inhabited by increasing numbers of people with a heightened environmental consciousness and sense of well-being.

WASTEWATER IN THE FLORIDA KEYS: A CALL FOR STRICTER REGULATION OF NONPOINT SOURCE POLLUTION

HEATHER DARDEN*

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INTRODUCTION

As you stand out on the dock at the Islamorada Marina near Key Largo in Monroe County, Florida, you see the sun rising over the Atlantic Ocean, boats slowly meandering down the mangrove canals, crystal blue waters teeming with plant and animal life, and beautiful coral reefs beneath the clear water. What you cannot see are the human feces, viruses, bacteria, and high mineral concentrations that are killing this unique environment.[1] Recent scientific studies have identified raw sewage, leaking from cesspools and septic tanks, as the main source of this pollution.[2] These troubles are compounded by the already problematic underground shallow injection wells.[3]

One environmental resource increasingly affected by the wastewater problem is the Florida Keys National Marine Sanctuary, which Congress created in 1990.[4] The Sanctuary encompasses the nearshore waters of the entire chain of islands in the Florida Keys, and is home to the nation's only barrier coral reef.[5] The Sanctuary is also home to mangrove islands and seagrass meadows, and provides habitat for several endangered species.[6] In addition to its environmental value, the Sanctuary hosts much of the booming tourist industry that sustains these island economies.[7] Monroe County has taken one large step forward combatting this problem in signing a contract for the construction of a new centralized wastewater facility to serve over 12,000 residents in the Key Largo area. The facility will provide advanced treatment of wastes, and will require the abandonment of a large portion of some 30,000 septic tanks currently in use in the Florida Keys.[8]

This Article reviews the sources of water pollution, the different resources for federal and local regulation of such pollution and recommends strengthening these regulatory schemes. The first part

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1. *See* Dale W. Griffin et al., *Detection of Viral Pathogens by Reverse Transcriptase PCR and of Microbial Indicators by Standard Methods in the Canals of the Florida Keys*, 65 APPLIED AND ENVTL. MICROBIOLOGY 4118 (1999).

2. John H. Paul et al., *Viral Tracer Studies Indicate Contamination of Marine Waters by Sewage Disposal Practices in Key Largo, Florida*, 61 APPLIED AND ENVTL. MICROBIOLOGY 2230 (1995).

3. *Id*.

4. Florida Keys National Marine Sanctuary and Protection Act, Pub. L. No. 101-605, 104 Stat. 3089 (1990) [hereinafter Sanctuary Act].

5. BARBARA H. LIDZ, U.S. DEP'T OF THE INTERIOR, PUB. NO. OFR-97-453, ENVIRONMENTAL QUALITY AND PRESERVATION — FRAGILE CORAL REEFS OF THE FLORIDA KEYS: PRESERVING THE LARGEST REEF ECOSYSTEM IN THE CONTINENTAL U.S. (1997).

6. *Id.*

7. *Id*.

8. For a more detailed discussion of the wastewater facility planned for Key Largo, see *infra* text accompanying notes 139-49.

discusses the two basic types of water pollution: point and nonpoint sources. Point sources, those typically caused by industrial facilities, are more easily identified and traced than nonpoint sources, which are typically caused by water picking up pollutants as it moves over and through the ground. Part II of the Article discusses the particular impacts of nonpoint source pollution in the Florida Keys, which have few of the municipal wastewater treatment systems so commonly found in other urban areas. The movement of wastewater through the extremely porous islands presents a wealth of potential danger for the sensitive coral reefs located in the Atlantic Ocean. Parts III and IV then discuss current sources of federal and local regulation of water pollution. The bulk of federal water pollution regulation is aimed at the more readily identifiable point sources. In contrast, much of the legislative language dealing with nonpoint sources of pollution comes in the form of recommendations for states and other local government entities to identify their own particular problems and develop individual plans of action. Part IV also includes a summary of state legislative activity in the 2000 session, and then evaluates the likelihood of using these provisions in protecting the Florida Keys.

A new wastewater treatment plant has been proposed for Key Largo to combat recent findings of water pollution in the area. Part V describes the plans for the new facility, as well as reactions to the plan by local residents and businesses. Finally, Part VI discusses recommendations for strengthening regulation of nonpoint source water pollution so as to aid efforts to protect national waters, particularly the Florida Keys area. Specific provisions need to be made for financing efforts to combat nonpoint sources of water pollution. In particular, funding must be earmarked expressly for these purposes, so that local governments will be able to identify and remedy their own nonpoint source problems.

I. SOURCES OF WATER POLLUTION

Water pollution is typically divided into two basic categories: point source and nonpoint source pollution. Point source pollution, as the name suggests, includes pollution that is released from a stationary or fixed facility, such as industrial or municipal waste discharged through pipes, ditches, lagoons, or wells.[9] Nonpoint source (NPS) pollution on the other hand, has many diffuse origins.

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9. OFFICE OF WATER, U.S. ENVTL. PROT. AGENCY, PUB. NO. 841-F-94-005, POLLUTED (1994), *available at* http://www.epa.gov/epahome/pubsearch.html (last visited May 22, 2001).

NPS pollution is often caused by runoff moving over the ground that picks up pollutants and deposits them in water bodies, but it can also be caused by underground sources. NPS pollutants include: fertilizers and other agricultural products; oil and chemicals from urban runoff and energy production; sediment from construction sites, crops and forest land; salt from irrigation; acid from abandoned mines; and bacteria and nutrients from livestock, pet wastes and faulty septic systems.[10] The pollution from point sources, such as municipal wastewater treatment facilities, and from nonpoint sources, such as septic tanks and cesspits, is of particular importance in the Florida Keys because of the many environmental resources held within this area.

The domestic wastewater systems currently in use in the Keys include two municipal wastewater treatment plants, over 250 small package plants, approximately 24,000 regulated on-site wastewater treatment systems, also called septic tanks, and an estimated 8,000 unregulated cesspits.[11] The EPA estimates that the septic tanks and cesspits alone introduce over 1,200 pounds of nitrogen and 326 pounds of phosphorus each day into the surrounding marine environment, accounting for over half of the total nutrient loading in these waters.[12]

Originally, onsite wastewater treatment in the Florida Keys was accomplished through the use of cesspits followed by conventional septic systems, but recently the islands have begun to use aerobic treatment units.[13] Centralized municipal treatment facilities are common in most urban areas, but because of the difficulty and expense of digging holes and trenches in solid rock and then stringing a sewage system through 120 miles of islands, it has not been a popular option in the Florida Keys and residents have instead been using septic tanks since the 1950s.[14] "Before 1989, raw, untreated waste from Key West was pumped directly into the Atlantic."[15] Only within the last ten years have centralized treatment

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10. *Id*.

11. AYRES ASSOCIATES, MONROE COUNTY SANITARY WASTEWATER MASTER PLAN, SUMMARY REPORT: TECHNOLOGY ASSESSMENT OF ONSITE WASTEWATER TREATMENT SYSTEMS (OWTS), at 2 (1998), *available at* http://www.keyswastewater.org/summary1.htm [hereinafter SUMMARY REPORT] (citing U.S. ENVTL. PROT. AGENCY, WATER QUALITY PROTECTION PROGRAM DOCUMENT FOR THE FLORIDA KEYS NATIONAL MARINE SANCTUARY (1996)).

12. *Id*.

13. *Id.* at 8.

14. June Wiaz, *From the Ground Up*, FLA. ST. U. RES. IN REV., Spring/Summer 1999, *available at* http://www.research.fsu.edu/whatsnew/researchr/springsummer99/features/fromthefoundup.html (last visited May 22, 2001).

15. *Id*.

facilities come into use in the Keys.[16] Individually, each of these sources poses little threat to the environment. However, on small islands, with rapidly increasing populations, the collective impact of the various wastewater treatment options is beginning to take its toll.

A. Point Sources

Point sources of pollution are those originating from stationary, identifiable sources, typically from ground pipes or wells. Scattered throughout the Keys are various injection wells and treatment systems that fall under the point source classification.

There are five categories of underground injection wells: (a) Class I wells are used to inject hazardous waste, non-hazardous waste, or municipal waste; (b) Class II wells are used to inject fluids associated with the production of oil and natural gas or fluids used to enhance hydrocarbon recovery; (c) Class III wells are used to inject fluids for extraction of minerals; (d) Class IV wells are used to dispose of hazardous or radioactive wastes, but are banned in Florida; and (e) Class V wells are other wells used generally to inject non-hazardous fluid.[17]

Today there are roughly 750 sewage disposal wells, ranging in depth from 30 to 90 feet operating in the Florida Keys.[18] Florida's Department of Environmental Protection regulates underground injection wells according to the federal Safe Drinking Water Act, and addresses construction, operation, and maintenance of these wells.[19] Some studies have shown that injected wastewater is actually "polished" as it works its way through the limestone substrate beneath the islands.[20] The polishing process occurs when phosphate and nitrate molecules (both of which are extremely harmful to the coral reefs) stick to the limestone, and are naturally filtered out before the wastewater reaches local surface water bodies.[21] There are, however, questions as to the extent of this "polishing" process, and whether the injection system as a whole is sufficient, or whether

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16. *Id*.

17. BUREAU OF WATER FACILITIES REGULATION, FLA. DEP'T OF ENVTL. PROT., UNDERGROUND INJECTION CONTROL PROGRAM, *at* http://www8.myflorida.com/environment/learn/waterprograms/uic/index.html (last visited May 22, 2001).

18. Wiaz, *supra* note 14.

19. Florida Internet Center for Understanding Sustainability, *Underground Injection Wells in Florida, at* http://www.ficus.usf.edu/docs/injection_well/underground.htm (last visited May 22, 2001).

20. Wiaz, *supra* note 14.

21. *Id*.

the entire Keys region should be forced to convert to centralized sewage treatment.[22]

Private operators of package plants, scattered throughout the Keys, consolidate residential and municipal sewage, treat it, and pump it below ground.[23] Roughly 350 package plants operate, mostly in the Upper Keys region, to treat wastewater to conform to secondary treatment standards before it is pumped into the ground.[24] "These plants turn slurries of thick brown gunk, basically immense bacterial cultures, into clear, heavily chlorinated effluent."[25] The settled out solids, or sludge, is then sent to Miami for further treatment. One owner states that his effluents, on average, test at 17 to 20 milligrams per liter for nitrate composition and 5 milligrams per liter for phosphates.[26] These figures "are up to six times the state standard for an advanced wastewater treatment plant, which limits nitrates to three milligrams per liter and phosphates to only one."[27]

These standards are applied primarily to inland waterway discharges; conflict remains over what the target standard should be in the Florida Keys.[28]

B. Nonpoint Sources

Most of the concern over nonpoint sources of water pollution has traditionally been centered around agricultural and urban development sources. In the Florida Keys, however, septic systems also pose an enormous threat to local waters.[29] The unique geology of the environment, and the extreme cost of establishing centralized sewage associated with this environment, have forced developers to utilize septic systems and cesspits as the primary means of household wastewater disposal in this area. The same unique geology, however, exaggerates the effects of these nonpoint sources of pollution, creating a hazard for the surrounding marine environment.

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22. *Id*.

23. *A Conch Dilemma*, FLA. ST. U. RES. IN REV., Spring/Summer 1999, *available at* http://www.research.fsu.edu/whatsnew/reseacher/springsummer99/features/sb_conch.html [hereinafter *Conch*] (last visited May 22, 2001).

24. Wiaz, *supra* note 14.

25. *Conch*, *supra* note 23.

26. *Id*. (quoting Chris Schrader, owner of Ecosystematics, Inc., which operates more than 100 package plants).

27. *Id*.

28. *See id*.

29. Paul, et al. *supra* note 2.

1. Cesspits

Cesspits were the major method of wastewater treatment and disposal in the Florida Keys until the 1970s.[30] Cesspits are basically large holes made in the limestone substrate, into which raw wastewater is discharged and thus they constitute more of a disposal technique than a treatment method.[31] The idea of the cesspits was that wastewater would seep out of the pit into the natural rock or groundwater, and natural pollutant removal would occur as it moved through the substrate, much like the "polishing" effect in the wells.[32] The porous nature of the Keys' substrate and the tidally influenced groundwater movement, however, reduce the polishing effects and results in significant pollutant loading into surrounding waters.[33] For these reasons, eliminating cesspits has been a major priority in upgrading wastewater treatment in the Keys.[34]

2. On-site Wastewater Treatment Systems

Beginning in the 1970s, more conventional on-site wastewater treatment systems (OWTS) began to appear in the Keys.[35] OWTS consist of two primary parts: 1) a septic tank; and 2) a subsurface wastewater infiltration system (drainfields or leachfields).[36] Wastewater flows through the septic tank and into the drainfield where it is absorbed into the soil and then makes its way through the substrate.[37] "When at least two feet of unsaturated soil exists below the drainfield, the treatment provided by this process generally exceeds secondary treatment standards typically utilized in wastewater treatment plants."[38] However, in the Florida Keys, the substrate is almost completely limestone and very little soil exists for treatment by the drainfields.[39] As with the cesspits, the wastewater travels quickly through the substrate and out into surrounding waters. Travel times from septic systems to canals in the Keys has

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30. SUMMARY REPORT, *supra* note 11.
31. *Id*.
32. *Id*.
33. Id. For a discussion of the tidal movement of groundwater in the Keys, see *infra* text accompanying notes 54-65.
34. MONROE COUNTY, FLA., CODE, ch. 15.5, art. II (1999) (banning the use of cesspits and providing a replacement program as a requirement for obtaining additional disposal permits).
35. SUMMARY REPORT, *supra* note 11.
36. *Id*.
37. *Id*.
38. *Id*. at 9.
39. *Id*.

been shown to be a matter of hours,[40] an extremely accelerated process compared to travel time elsewhere in Florida, usually several hundred days.[41]

Because of this unique geology, septic tanks are not an ideal method of disposal in the Keys. In fact, scientists speculate that these tanks are one of the major causes of pollution in the near shore waters of the islands.[42] With the exception of Key West, which has already moved to sewered disposal, there are approximately 30,000 septic tanks across the region.[43] Both federal and local governments need to examine the current regulatory scheme of the septic systems commonly used in the Keys, and evaluate the costs and benefits of eliminating these disposal methods completely.

II. IMPACTS OF NONPOINT SOURCE WATER POLLUTION IN THE FLORIDA KEYS

Because the Florida Keys are home to a plethora of environmental treasures, an examination of the particular effects of nonpoint source water pollution is necessary. The contaminants carried by nonpoint source pollution can be detrimental to the natural flora and fauna, as well as to the health of humans. One recent study found that fecal indicator bacteria were present in the surface waters of over half of all sites surveyed in the Florida Keys.[44] Coral reef colonies are extremely sensitive to changes in ambient water quality and are therefore a good indicator of potential threats caused by water contamination. Coral reefs in the Florida Keys are already exhibiting symptoms of coral diseases that often result from increased nutrient and bacteria levels.[45]

A. The Coral Reefs

The Florida Keys are home to the only living barrier coral reef ecosystem in the continental United States.[46] The reef is located

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40. *See* Paul, et al. *supra* note 2, at 2230. *See also* SUMMARY REPORT, *supra* note 11 at 9.

41. SUMMARY REPORT, *supra* note 11 (citing J. I. McNeillie et al., *Investigation of the Surface Water Contamination Potential from On-site Wastewater Treatment Systems (OWTS) in the Indian River Lagoon Basin, in* 7TH INTERNATIONAL SYMPOSIUM ON INDIVIDUAL AND SMALL COMMUNITY SEWAGE SYSTEMS 154 (Dec. 11, 1994)).

42. Paul, et al. *supra* note 2, at 2231-32 (septic tank seed study).

43. Brian E. Lapointe et al., *Nutrient Couplings Between On-site Sewage Disposal Systems, Groundwaters, and Nearshore Surface Waters of the Florida Keys*, 10 BIOGEOCHEMISTRY 289, 290 (1990).

44. *See* Paul, et al. *supra* note 2, at 2230, 2232.

45. REEF RELIEF, THE KEYS ARE IN OUR HANDS (1994) [hereinafter REEF RELIEF], *available at* http://www.ficus.usf.edu/docs/keys/hands.htm (last visited May 22, 2001).

46. LIDZ, *supra* note 5.

between four and seven miles offshore of the islands in the Atlantic Ocean, and its physical framework serves as an essential "structural barrier to catastrophic waves and storm surges."[47] The reefs are contained within the boundaries of several state and national parks including Biscayne National Park, John Pennekamp Coral Reef State Park, Key Largo National Marine Sanctuary, Looe Key National Marine Sanctuary, and part of the Florida Keys National Marine Sanctuary.[48]

Coral reefs are some of the oldest, and most biologically diverse ecosystems on earth, but are also some of the most fragile ecosystems.[49] Coral reefs are colonies of coral polyps, small animals similar to jellyfish and anemones, with a hard outer coral structure that is formed from the calcium carbonate skeletons secreted by these polyps.[50] Corals typically grow in nutrient-poor, tropical waters, which contain very little plankton.[51] Corals rely on a symbiotic relationship with the algae cells contained in each polyp, which in turn depend on the clear (nutrient-free) water for absorbing sunlight.[52] Because of this need for sunlight, coral reefs are usually located in shallow waters, relatively close to land, and consequently are sensitive to a variety of environmental stresses such as shore development, water pollution from runoff and groundwater seepage, boat discharges and collisions, and physical harm from divers.[53]

B. Geology and Hydrology

The Florida Keys and Florida Bay sit on a thick layer of limestone through which groundwater can flow with relative ease.[54] The rise and fall of tides in the Atlantic Ocean, compared with the near constant water level in Florida Bay, creates a phenomenon called "tidal pumping" that continually moves groundwater back and forth between the two bodies of water, through the limestone bedrock.[55]

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47. *Id*.
48. *Id*.
49. Robin Kundis Craig, *The Coral Reef Task Force: Protecting the Environment Through Executive Order*, 30 ENVTL. L. REP. 10343, at 10343-44 (May 2000).
50. *Id*. at 10344.
51. *Id.*
52. *Id*.
53. *Id*.
54. Wiaz, *supra* note 14.
55. EUGENE A. SHINN ET AL., U.S. DEP'T OF THE INTERIOR, GEOLOGY AND HYDROLOGY OF THE FLORIDA KEYS: GROUND WATER FLOW AND SEEPAGE (1999), *available at* http://sofia.usgs.gov/projects/grndwtr_flow/grflowab1.html (last visited May 22, 2001).

When the Atlantic Ocean, on the east side of the islands, is at high tide, water is pushed through the limestone into Florida Bay on the west side of the islands, where water level is lower.[56] At mean tide and low tide Florida Bay is higher, and water moves back towards the Atlantic in the same manner.[57] Most of the time, water levels in the Florida Bay are slightly higher than those in the Atlantic Ocean, resulting in a general eastward "downhill" flow of water toward the Atlantic Ocean.[58] This direction indicates that if any pollutant enters the groundwater system on land, there is a great possibility that it will be transported eastward toward the reef tract in the Atlantic Ocean.

"Because the upper 1 to 2 m[eters] of limestone are relatively impermeable compared to the underlying limestone, tidal springs occur wherever there are small sinkholes, fractures, or man-made breaks in the upper surface …."[59] Consequently, the years of dredge and fill operations in the Keys have taken their toll on the environment.[60] Much of the dredging occurred in the 1950s to create available land to support the increasing population; in the process, dozens of canals broke through the coral barriers, creating a virtual highway for underground water, and consequently the wastes, to reach Florida Bay and the Atlantic, home of the coral reefs.[61] "Collectively, these man-made conduits cut into natural subsurface water routes, allowing oxygen-poor and hydrogen sulfide-rich waters" from the surface to invade the groundwater system.[62] These manmade conduits, the extremely permeable upper layer of limestone, and the constant sloshing of water back and forth through the islands, increase the amount of nutrients and pollutants in the groundwater. As a result, the wastes move faster from the point of disposal out into surface water, reducing the amount of time for pollutants to be removed by natural polishing from the limestone.

"Corals require clear, clean, nutrient-free waters to thrive."[63] Nutrients, including nitrates and phosphates found in municipal wastes, suffocate the corals by depleting the available oxygen from marine waters and promoting increased numbers of plankton,

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56. *Id.*
57. *Id*.
58. *Id*.
59. *Id*
60. *See* Wiaz, *supra* note 14.
61. *See id*.
62. *Id*.
63. REEF RELIEF, *supra* note 45.

bacteria, viruses, and other small organisms.[64] These factors combine to reduce the overall clarity of the water and prevent needed sunlight from reaching the algae cells living inside the coral polyps. The death of the algae, with which the coral shares a symbiotic relationship, and the increased numbers of bacteria in the water, produce coral diseases such as black band, yellow band, white band, and coral bleaching.[65] The effects of waste disposal in the Florida Keys are multiplied by the geology and hydrology of the area, and thus pose a greater threat to the surrounding environment.

III. FEDERAL REGULATION OF NONPOINT SOURCE POLLUTION IN THE FLORIDA KEYS

There are several federal resources addressing the problem of water pollution both generally for the United States, and also specifically in the Florida Keys. The bulk of actual federal *regulation* of this pollution is aimed at point sources, which are easier to identify and control. Nonpoint sources are not only hard to identify, but they are also difficult to classify and therefore difficult to fit into a regulatory scheme. Much of the law relating to nonpoint source pollution is targeted at encouraging states to identify their own individualized NPS pollution problems and to develop their own plans for control and restoration. In this respect, the federal government's regulatory hold over NPS pollution is weak and insufficient for solving problems such as the one faced in the Florida Keys.

A. Florida Keys National Marine Sanctuary and Protection Act

The National Marine Sanctuary and Protection Act designated the Florida Keys National Marine Sanctuary in 1990, recognizing that the coral reef ecosystem adjacent to the Florida Keys encompasses a diverse and valuable environment, which is "the marine equivalent of tropical rain forests" in supporting biological diversity.[66] The Act directs the Secretary of Commerce to develop a comprehensive management plan, in consultation with federal, state and local government authorities, and with the Advisory Council, to implement regulations for achieving the policy and purposes of the Act.[67] The Act specifies that the comprehensive plan shall address

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64. *See id*.
65. *Id*. *See also* Craig, *supra* note 49.
66. Sanctuary Act, *supra* note 4 at § 2.
67. *Id*. at § 7.

areas of public and private use, zoning, enforcement regulation, research and monitoring, funding, intergovernmental coordination, and promotion of education among Sanctuary users.[68]

The Act also directs the Administrator of the EPA and the Governor of Florida to develop a comprehensive Water Quality Protection Program (WQPP) for the Sanctuary, to recommend priority corrective actions and compliance schedules addressing pollution sources, so that they may restore and maintain the biological integrity of the Sanctuary.[69] The Act specifies that the WQPP should use a variety of methods for achieving its goals, including adopting new water quality standards for the Sanctuary, adopting new pollution control measures, establishing a water monitoring program, allowing public participation, and identifying funding.[70] "Since 1996, a WQPP Steering Committee has recommended priority corrective actions and compliance schedules addressing pollution sources and aims to restore and maintain the balance of life found in and on the water."[71] The EPA has also issued millions of dollars in grants to fund projects identified by the WQPP, but not specifically for eliminating nonpoint sources of pollution.[72]

B. Clean Water Act

The Clean Water Act[73] has been in effect for over twenty-five years, yet remains ineffective in combating all sources of water pollution. The Act regulates the discharge of pollutants into the nation's waters, and its stated objective is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters."[74] The Act's enforceable regulatory provisions are directed only at discharges from point sources, and the primary regulatory mechanism of the Act is the National Pollutant Discharge Elimination System (NPDES), which requires permits to be issued for discharges of any pollutant or combination of pollutants from point sources into navigable waters.[75]

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68. *Id*.
69. *Id*.
70. *Id*. at § 8.
71. Donald Sutherland, *The Florida Keys National Marine Sanctuary Threatened by Sewage* (1999) *at* http://www.deeperblue.net/content/1999/travel/floridakeys/1.shtml (last visited May 22, 2001) (quoting Chris Rich, USGS researcher).
72. *See id.*
73. Clean Water Act, 33 U. S. C. §§ 1251-1387 (1999).
74. *Id*.
75. *Id*. at § 1342.

Nonpoint sources, in contrast, are addressed primarily through non-regulatory means, often as directives for states to implement their own regulation and enforcement. Section 319 of the Act directs each state to provide assessment reports and to coordinate the development of nonpoint source management programs.[76] The purposes of the reports and programs are: to identify waters within the state that are not expected to attain applicable water quality standards; to identify the sources of nonpoint source pollution that are problematic; and to anticipate processes that will be necessary for the control of these sources.[77] While providing particular provisions for nonpoint source pollution indicates the importance of such pollution as a factor in our nation's water quality, this section provides no regulatory enforcement provisions such as those with the NPDES permitting. Rather, the Act only attempts to encourage states to identify their own individual nonpoint source problems and to design individual methods for addressing such problems.[78]

C. Coastal Zone Management Act

The Coastal Zone Management Act (CZMA)[79] was amended in 1990 to address the nonpoint source pollution problem in coastal waters.[80] The Act requires the coastal states to develop Coastal Nonpoint Pollution Control Programs, describing plans for implementing nonpoint source pollution controls.[81] These programs are designed to expand and update any management programs developed under section 319 of the Clean Water Act, as discussed earlier.[82] While not explicitly providing enforceable mechanisms for compliance and control on nonpoint source pollution, the 1990 Amendments provided more of a push for states to develop their own enforceable mechanisms than previous direction from the Clean Water Act.[83]

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76. *Id*. at § 1329.

77. *See id*.

78. For more detailed information concerning section 319 of the Clean Water Act visit the Environmental Protection Agency's website *at* http://www.epa.gov/owow/nps (last visited May 22, 2001).

79. 6 U. S. C. §§ 1451-1465 (1999).

80. *Id*. at § 1455(b).

81. *Id*. *See also* OFFICE OF WATER, U.S. ENVTL. PROT. AGENCY, COASTAL ZONE ACT REAUTHORIZATION AMENDMENTS SECTION 6217, *at* http://www.epa.gov/owow/nps/czmact.html (last modified 09/15/1999).

82. *See* U.S. ENVTL. PROT. AGENCY, PUB. NO. 841-F-96-004E, PROTECTING COASTAL WATERS FROM NONPOINT SOURCE POLLUTION (1996).

83. *See* ENVTL. L. INST., ENFORCEABLE STATE MECHANISMS FOR THE CONTROL OF NONPOINT SOURCE WATER POLLUTION 1 (1997).

D. Endangered Species Act

In enacting the Endangered Species Act (ESA), Congress provided a broad mechanism of protection for species that were considered threatened or endangered, and the ESA has the potential for use in regulating water pollution.[84] One of the primary enforceable provisions within the ESA is section 7, prohibiting any discretionary federal action that would likely result in jeopardizing the continued existence of listed species or result in the adverse modification of critical habitat.[85] This restriction most likely extends to the NPDES permit program, the power of which is delegated to states from the federal government under the Clean Water Act.[86] As discussed earlier, however, these provisions only apply to point sources of pollution.

The ESA may be also applied to nonpoint source water pollution. The critical habitat provisions allow the U.S. Fish and Wildlife Service to designate "critical habitat" for endangered or listed species when it is deemed beneficial to do so.[87] The effect of such designation under section 7 is that federal agencies must ensure their actions do not "result in the destruction or adverse modification" of the designated critical habitat.[88] The West Indian Manatee, a listed species, has designated critical habitat in the Florida Keys, and therefore section 7 could be used as enforcement against federal actions allowing waste disposal in this area.[89] The largest problem with nonpoint source pollution in the Florida Keys, however, stems from septic tanks, cesspits, and other on-site disposal mechanisms, which are almost completely owned by private residents and businesses, and do not constitute federal action triggering section 7.

The ESA also includes an enforcement mechanism against private actions in section 9.[90] This section prohibits actions by individuals that constitute a "take" of a listed animal species, which is in turn defined to include "harm."[91] The U.S. Fish and Wildlife Service regulations state that "harm" in this context includes

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84. Endangered Species Act, 16 U. S. C. §§ 1531-44 (1999).

85. *Id*. at § 1536(a)(2).

86. *See* Keith G. Wagner, *State NPDES Programs and the ESA: Protecting Listed Species Under the Clean Water Act*, 23 ENVIRONS ENVTL. L. & POL'Y J. 3 (1999).

87. 16 U. S. C. § 1533.

88. *Id*. at § 1536.

89. *See* Final Critical Habitat, 41 Fed. Reg. 41914 (1976), 42 Fed. Reg. 47840 (1977) (designating critical habitat for the West Indian Manatee).

90. 16 U. S. C. § 1538.

91. *Id*. "Take" is defined to include "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." *Id*. at § 1532(19).

"significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering."[92]

While section 9 of the ESA can be a strong weapon against private actions that pose a threat to listed species, it would be extremely difficult, if not impossible, to use it against owners of septic tanks in the Florida Keys. Although studies have shown that septic tank effluent is one major source of nutrient loading and other contamination in the waters of the Florida Keys, there have been no studies alleging that the effluent constitutes "harm" to the manatees or any other listed species living in the area. Further, the very nature of a nonpoint source is that it is hard to identify and trace to one origin, making it all but impossible to show that one single septic tank was responsible for the "take" of any animal. The ESA might become a stronger resource for combating nonpoint source pollution in the Florida Keys if one or more of the coral species located in the area were listed as "endangered," thereby triggering the protections contained within the Act.

E. Recent Legislation

Various bills were proposed in the 2000 Florida Legislature that would have provided increased funding for cleaning up national waters. Attempts were also made to include specific provisions for the financing of projects in the Florida Keys area. The Estuaries and Clean Waters Act and the Water Resources Development Act were both successfully passed by the 106th Congress, but the language directed at the Florida Keys was dropped from the final versions of both laws.

1. The Proposed Florida Keys Water Quality Improvement Act

The first attempt at codifying specific funding provisions for the Florida Keys was made by the U.S. House of Representatives in approving the Proposed Florida Keys Water Quality Improvement Act 2000.[93] The Congressional findings estimate the costs of improving nearshore water quality around the Keys to be between $184 million and $418 million, depending on the treatment standards

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92. 50 C.F.R. § 17.3 (1998). The Supreme Court has upheld the authority of the USFWS to define "harm" in this way. *See* Babbitt v. Sweet Home Chapter of Communities for a Great Or., 515 U.S. 687 (1995).

93. H.R. 673, 106th Cong. (2000).

required.[94] Realizing that this cost is "an insurmountable burden to the 85,000 permanent residents of Monroe County," this bill sought to provide federal assistance in the form of fund matching to replace inadequate wastewater treatment systems.[95]

The Act, proposed as an amendment to the Clean Water Act, authorized the Administrator of the EPA to make grants to the Florida Keys Aqueduct Authority and "other appropriate agencies for the purpose of improving water quality throughout the marine ecosystem of the Florida Keys."[96] The Act authorized appropriation of a total of $213 million in federal funds to the Administrator of the EPA for making these grants: $32 million for fiscal year 2001; $31 million for fiscal year 2002; and $50 million for each of fiscal years 2003 through 2005. Non-federal contributions of costs for approved projects were to be a minimum of 25% of the total cost.[97]

Unfortunately, no action was taken on this bill after it was passed by the House of Representatives and was referred to the Senate.[98] It has been suggested that the Senate preferred more comprehensive legislation allowing all states to prioritize their clean-water needs and to seek federal funds for such projects, rather than singling out one area of concern. Several attempts were made to attach the basic language of this bill into other more comprehensive water related legislation, but it was ultimately dropped from the final text of the bills passed by Congress this session.

2. The Estuaries and Clean Waters Act of 2000

There was hope that the Keys Water Quality Act might be rolled into a more comprehensive bill, as it was initially added as a provision of the Senate's Proposed Clean Waters and Bays Act.[99] However, the Keys Wastewater title was removed from this bill at the request of Senate conferees, and they agreed to consider it as a provision of the Proposed Water Resources Development Act 2000.[100]

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94. *Id*.
95. *Id*.
96. *Id*.
97. *Id*.
98. *See* Laurie Karnatz, *Water-quality Bill Remains in Jeopardy*, FLORIDA KEYS KEYNOTER (Aug. 30, 2000).
99. *See* S. 835, 106th Cong. (2000).
100. *See* Memorandum from Nina Oviedo, Washington Correspondent, to the Florida Legislative Committee on Intergovernmental Relations (Oct. 16, 2000) (on file with author).

After removing the Keys Water Quality title from the Clean Waters and Bays Act, and then altering other minor provisions and changing the title to the Estuaries and Clean Waters Act of 2000, the Senate passed the bill. At the time of this writing, the bill was in final enrolled version, awaiting signature by the President.[101] The primary purpose of the bill is habitat restoration in estuary ecosystems, and the bill provides for the creation of the National Estuary Program to develop and provide funding for projects to effectuate this goal. The bill also includes specific provisions for restoration in the Chesapeake Bay, Long Island Sound, Lake Pontchartrain Basin, and the Tijuana River Valley, but includes no specific provisions for Florida projects.[102]

3. Water Resources Development Act of 2000

The Senate also proposed a new Water Resources Development Act of 2000, which initially included a significant portion of the provisions from the Proposed Florida Wastewater Act.[103] The adopted language increased the required non-federal share from 25% to 35% for project financing, and changed the total appropriation from $214 million over 4 years, to $100 million total.[104] Again, the language relating specifically to financing for the Florida Keys was dropped from the final approved version of the bill, and at the time of this writing, the bill was awaiting signature by the President.[105]

IV. LOCAL REGULATION OF NONPOINT SOURCE POLLUTION IN THE FLORIDA KEYS

The Florida Legislature has made it a State priority to "improve and restore the quality of waters not presently meeting water quality standards," and to "protect surface and groundwater quality and quantity."[106] Further, it is the "public policy of this state to … protect, maintain, and improve the quality [of the waters of the state] … [and] that no wastes be discharged into any waters of the state without first being given the degree of treatment necessary to protect the beneficial uses of such water."[107] The Legislature has further stated that all sanitary sewage must meet secondary waste treatment

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101. S. 835, 106th Cong. (2000) (enacted).
102. *Id.* at titles II, IV, V, VIII.
103. *See* S. 2796, 106th Cong. (2000).
104. *See id.* at § 517.
105. *See* S. 2796 (enacted).
106. FLA. STAT. §§ 187.201(8)(a), (b)(10) (1999).
107. FLA. STAT. § 403.021(2) (1999).

standards, and in certain circumstances may be required to meet advanced treatment standards.[108] The regulation of nonpoint sources of water pollution in Florida falls under the authority of several state agencies.

A. Florida's Surface Water Improvement and Management Act

In finding that nonpoint source pollution is one of the contributing factors in the decline of both ecological and economic values of the state's surface waters, the Legislature adopted the Surface Water Improvement and Management Act in 1987.[109] The Act directs the water management districts, in cooperation with the Florida Fish and Wildlife Conservation Commission, the Department of Community Affairs, and the Department of Agriculture and Consumer Services, to maintain prioritized lists of significant water bodies, and to develop surface water improvement and management plans for these areas.[110] Much like the federal regulation of nonpoint sources, this Act directs localized governmental units and state agencies to identify their own water pollution problems and to begin to prioritize remedial measures.

B. Department of Health

The Department of Health has been charged with regulating the septic tank industry in Florida.[111] The Department is responsible for adopting rules for septic tank design and construction, permitting requirements for those who build or repair the systems, to conduct inspection of such systems, and to develop a comprehensive program to protect the public health from harmful effects of septic tank use.[112] Florida nuisance law further states that it is prima facie evidence of "maint[enance of] a nuisance injurious to health" if improperly treated waste exists or is "permitted, maintained, kept, or caused by any individual," or if septic tanks are improperly built or

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108. *Id*. at § 403.086 (establishing numerical values for advanced treatment requirements, and listing various water bodies into which waste may not be disposed without advanced treatment, but not including any waters of the Florida Keys in this delineation).

109. FLA. STAT. §§ 373.451-4595 (1999).

110. *Id.* § 373.453.

111. FLA. STAT. § 381.0065 (1999). Septic tank contracting has its own chapter in the Florida Statutes, apart from general, electrical, and alarm contracting, which are regulated by the Department of Business and Professional Regulation. *See* FLA. STAT. §§ 489.551-558 (1999).

112. FLA. STAT. § 381.0065(3) (1999).

maintained, such that they become "harmful to human or animal life."[113]

While this regulatory scheme is beneficial in its own right, even properly installed and maintained septic tanks are problematic.[114] Because of the unique geology of the islands, the effluent released from underground disposal may not be thoroughly treated in the limestone as intended with normal septic systems, and may be prematurely released into surrounding waters.[115]

C. Department of Community Affairs

Florida's statutes provide that the state land-planning agency, the Department of Community Affairs (DCA), may recommend to the Governor and Cabinet, sitting as the Administration Committee, that a particular area be designated as an "Area of Critical State Concern."[116] DCA must include in such recommendation: the detailed boundaries of the area; principles for guiding development; a statement of the purpose for designation; a checklist of actions which when completed will repeal the designation; a list of programs for which implementation mechanisms must be in place; and a list of state agencies which administer programs that affect the purpose of the designation.[117] Under the Act, DCA reviews local land development orders in Areas of Critical State Concern and may appeal those orders to the Florida Land and Water Adjudicatory Commission.[118]

To be designated an Area of Critical State Concern, the area must be one containing environmental or natural resources, or historical or archeological resources, of regional or statewide importance, or it must be an area that is affected by an existing or proposed major public facility or investment.[119] Once the designation is complete, the local government must submit its existing or newly proposed land development regulations, and DCA must approve them as consistent with the principles for guiding the development of the area. If these regulations are not consistent, DCA has the authority

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113. FLA. STAT. § 386.041(1) (1999).
114. *See* Paul, *supra* note 2.
115. Wiaz, *supra* note 14. For a discussion of the geology and hydrology of the Florida Keys as it exaggerates the septic tank problem, see *supra* text accompanying notes 50-65.
116. FLA. STAT. § 380.05 (1999).
117. *Id*. at § 380.05(1)(b).
118. *Id*. at § 380.07.
119. *Id.* at § 380.05(2).

to devise its own land development regulations for the area.[120] DCA is also given enforcement powers through judicial proceedings for upholding these land development regulations.[121] In addition, the statute imposes a duty on all state agencies with rulemaking authority for programs that affect a designated area to review those programs for consistency with the purpose of the designation and the guiding principles therein. These agencies "shall adopt specific permitting standards and criteria applicable in the designated area, or otherwise amend the program."[122]

The Florida Keys Area was designated an Area of Critical State Concern under these processes in 1979.[123] This designation gives Monroe County the land-use planning tools for guiding development in this area, and ensures that local decisions will conform to the guidelines as set out in the statute. Overall, the designation as an Area of Critical State Concern makes the State of Florida the ultimate authority for land use decisions in the Florida Keys to ensure that local decisions are consistent with the State Comprehensive Plan and in furthering its purposes of assigning special consideration for the Florida Keys.

D. Department of Environmental Protection

The Florida Legislature has given the Department of Environmental Protection (DEP) the authority to control and prohibit air and water pollution by developing current and long-range management plans and establishing water quality standards.[124] DEP has also been granted authority to adopt stricter permitting and enforcement for areas in the state that have been designated Areas of Critical State Concern, Outstanding Florida Waters, and Class II Shellfish Harvesting Waters, all of which have been so designated for the Florida Keys.[125]

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120. *Id*. at § 380.05(5), (6), (8).

121. FLA. STAT. § 380.05(13) (1999).

122. *Id*. at § 380.05(22).

123. *Id.* at § 380.0552(3)(1999). To date, only three other areas have been designated as areas of critical state concern. *See* FLA. STAT. §§ 380.055 (designating Big Cypress Swamp in 1973), 380.0551 (designating Green Swamp in 1979), and 380.0555 (designating Apalachicola Bay in 1985) (1999).

124. *See* FLA. STAT. § 403.061 (1999).

125. *Id. See also* FLA. STAT. § 380.0552 (1999) (designating the Keys as an Area of Critical State Concern); FLA. ADMIN. CODE ANN. r. 62-302.700 (1999) (designating the waters and canals of the Keys as Outstanding Florida Waters); FLA. ADMIN. CODE ANN. r. 62-302.400 (2000) (designating waters of the Keys as Class II Shellfish Harvesting Waters).

DEP has stated that the nutrient loading from excessive levels of nitrogen and phosphorous is "one of the most severe water quality problems facing the State."[126] In an effort to combat the nutrient loading problem as well as other water quality issues, DEP has classified all the surface waters in the State based on use, at levels I (Potable Water Use) through V (Industrial Use), and has assigned coordinating water quality standards, with Class I waters receiving the most stringent water quality criteria.[127] In general, most surface waters are classified as Class III, but exceptions are made for increased designation and heightened water quality standards in certain areas, including the entire Monroe County coastline, which is a Class II (Shellfish Harvesting) water.[128] The highest level of protection of the waters and canals of the Florida Keys is accomplished through its designation as an Outstanding Florida Water, of which no degradation of water quality is to be allowed.[129] Through the mechanisms at its disposal, DEP has made water quality in the area of the Florida Keys an issue of utmost priority.

E. Monroe County

Through local regulations, Monroe County officials are fighting to curtail the sewage pollution with stricter nutrient removal treatment regulations. Illegal cesspits have been banned, and building permits have been capped at 255 per year, with each permit obtained under a cesspit replacement credit system.[130] Because increased development presents an additional threat to the quality of water in Florida Bay and the Florida Keys, adequate wastewater treatment must not inadvertently increase development pressure in the Keys in creating a false notion that the problem is solved. Monroe County must adhere to the guidelines outlined in its comprehensive plan. Monroe County, however, does not have the resources to implement a full-scale replacement of all countywide sewage treatment. It must look to the federal government and other possible funding sources before an increase in treatment standards will be possible.

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126. FLA. ADMIN. CODE ANN. r. 62-302.300(13) (1999).

127. FLA. ADMIN. CODE ANN. r. 62-302.400 (1999).

128. *Id*. For a table listing surface water quality criteria for all classifications, see FLA. ADMIN. CODE ANN. r. 62-302.530 (1999).

129. FLA. ADMIN. CODE ANN. r. 62-302.700 (1999).

130. MONROE COUNTY, FLA. CODE, ch. 9.5, art. IV, div. 1.5 (1999) (outlining the Rate of Growth Ordinance for the County), and ch. 15.5, art. II (1999) (listing unpermitted on-site treatment and disposal systems).

F. Florida Keys Aqueduct Authority

The Florida Keys Aqueduct Authority (FKAA) was first created as the Florida Keys Aqueduct Commission by the Florida Legislature in 1937.[131] In 1970, the Legislature abolished the Commission and recreated it as the Aqueduct Authority, whose responsibilities included oversight of wastewater services in Monroe County.[132] In 1976, the Legislature once again abolished and recreated the Authority to expand its authority and powers, and in 1998 amended the enabling act to reinforce the FKAA's involvement in wastewater for Monroe County.[133] Pursuant to that legislation, Monroe County identifies priority areas and establishes treatment plant sites; FKAA implements the County's plan by designing, constructing and operating those wastewater treatment systems. The FKAA's primary goal is an increase in the area's wastewater treatment levels, and FKAA works through Monroe County to implement management plans. FKAA has already obtained a contract with Ogden Water Systems to build a centralized municipal wastewater treatment facility in Key Largo, as discussed below in more detail.

V. THE OGDEN FACILITY

As a step to combat the growing problem of wastewater in the Florida Keys, FKAA and Monroe County at the time of this writing had executed a formal agreement with Ogden Water Systems for the construction of a municipal wastewater treatment plant in Key Largo.[134]

A. The Proposal

The Ogden facility will remove pollution levels not just to secondary standards as typically required, but also to advanced treatment standards.[135] This will require all residents and businesses in this area, the largest unincorporated area in Monroe County, to

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131. Act effective June 11, 1937, ch. 18530, 1937 FLA. LAWS 358.

132. Act effective July 1, 1970, ch. 70-810, 1970 FLA. LAWS 915.

133. Act effective Sept. 15, 1976, ch. 76-441, 1976 FLA. LAWS 304, as amended by an Act effective May 23, 1998, ch. 98-519, Volume II, 1998 FLA. LAWS 294 (published, without attribution, at the back of Volume I, Part Four, 1998 FLA. LAWS).

134. Key Largo Wastewater Treatment System Design/Build Contract, FKAA Project No. 4004-00 (July 5, 2000) (on file with author) [hereinafter Contract].

135. *See, e.g.*, FLA. STAT. § 403.086 (1999) (establishing standards for secondary and advanced treatment).

abandon the use of all septic tanks and other waste treatment methods.[136]

The proposed service area for the new system includes the entire area between Mile Marker 106 and Mile Marker 90, servicing an estimated 12,200 equivalent dwelling units (EDUs).[137] The Ogden proposal is for a 3.0 Million Gallons per Day wastewater treatment facility, where the treated wastewater effluent would be injected into a Class V deep injection well, and residual sludge waste would then be transported back to Miami and placed in a landfill.[138]

The agreed upon purchase price for the facility was $59.8 million, which includes the treatment plant, collection systems, disposal of effluent and residual wastes, decommissioning of on-site systems and hook-ups to residences. This will result in an average cost of $4,905 per EDU, and Ogden proposes a $2,500 one-time hook-up fee and a $35 continuing monthly fee for residential customers.[139] Residents are outraged at the costs, and are in the process of filing suit against Monroe County Commissioners for a violation under Florida's Sunshine Law.[140]

B. The Problem of Costs

Because the microscopic nutrients, viruses and bacteria that are contaminating the waters in and around the Keys are not visible with the human eye, residents don't often recognize that a problem exists. Even those who concede that wastewater does pose a threat to the local environment are not often willing to pay the costs associated with remediation.

1. Residents of Key Largo

In a recent survey of local residents conducted for the Florida Keys Water Quality Report in March 2000, 95% of those surveyed

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136. *Id.*

137. An equivalent dwelling unit (EDU) is the average typical flow measured in gallons per day from a single residential dwelling unit. To calculate the EDU values for non-residential uses, this average gallons per day figure is divided by the total flows expected from the business or industry. Contract, *supra* note 134.

138. *Id*.

139. *Id*.

140. *Florida Keys Water Quality Report, Florida Keys Survey Results* (March 2000), *at* http://www.keyswaterquality.org/report1s.htm (last visited May. 22, 2001) [hereinafter *Survey*]. Residents have filed suit under Florida's Sunshine Law, which requires all meetings of two or more state officials to be noticed and open to the public, claiming that most of the decisions for the Ogden facility were made in private phone conversations between members of the Monroe County Commission. *Id*.

reported that they are concerned about the quality of local waters.[141] Sixty percent indicated that they believed leakage of wastewater entering the marine system from cesspits, septic tanks and inadequate sewage treatment in the Keys was a major problem contributing to the water quality; 77% noted that damage to coral reefs, wildlife, and the environment were serious problems associated with a decline in water quality.[142]

Even though residents appear to be concerned about the wastewater problem, they do not appear to be quite as willing to pay for a solution. Increasing wastewater treatment standards with the Ogden facility would require residents to abandon their septic and cesspit systems and hook into new municipal systems. As noted above, the Ogden plans estimate the hooking into the new facility will cost residents $2,500, in addition to a continuing $35 monthly operation and maintenance fee.[143]

When asked about their willingness to pay for an upgrade of wastewater services, only 45% of those polled indicated that they would support such a change at the proposed fee levels. That support drops to 23% with hypothetical fees of $3,500 and $45, and drops further to 15% with fees of $4,500 and $55.[144] As one resident recently commented, the inevitable costs are "like a wave that's going to crash and wipe out the family mom-and-pop vacation area … Key Largo will become a playground for the rich and famous."[145] Residents, who do not often see the immediate effects of the pollution, have waged a war against County efforts to upgrade to a centralized system, preferring to remain on their current methods.[146] Not all residents are dissuaded by the cost issues. Many residents express concerns over the threatened environment, and think that centralized sewage, which is standard in most metropolitan areas, is long overdue in the Keys. "[W]e need some kind of a sewer or it's going to completely ruin the ecosystem down here … [S]omething needs to be done."[147]

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141. *Id.*

142. *Id.*

143. Contract, *supra* note 134.

144. *Survey*, *supra* note 140.

145. Jennifer Babson, *Sewer Project Talk of the Town*, MIAMI HERALD, July 30, 2000, at 1B (quoting Linda Popp, owner of Popp's Motel).

146. Karnatz, *supra* note 98 (discussion of sunshine law).

147. Babson, *supra* note 145 (quoting Chuck Walsh, a resident of Key Largo for over 10 years).

2. Tourism-based Businesses

Over 3 million tourists visit the Keys each year, and protecting the marine environment is a must for local eco-tourism based businesses.[148] According to an economic survey of the tourist industry and its reliance on recreation and the Sanctuary's resources, water recreational activities sustains the majority of the $1.3 billion spent in Monroe County and 46 percent of the employment in the Keys.[149] These businesses stand to lose more over the next few years if the marine environment is depleted and the tourism business fades than they would spend to hook into a centralized system such as the one proposed by Ogden for Key Largo.

CONCLUSION AND RECOMMENDATIONS

The beautiful waters of the Florida Keys contain an exceptional yet finite environmental resource. As more and more people visit the Keys each year, and the number of permanent residents increases, the volume of wastes that must be disposed will continue to increase. The coral reefs are sensitive creations and in the Florida Keys they are already sending the warning that all is not well in the marine environment. Studies have already shown significant increases in viral pathogens, bacteria levels, and nutrient loading in the canals and offshore waters, and have attributed these findings to septic tanks and cesspits commonly used throughout the islands. Municipal wastewater treatment systems, common in most urban areas, were never installed in the islands, and because of the unique geology and hydrology of the Keys, the impacts of the wastewater are multiplied on the environment.

Septic tanks, cesspits, and other nonpoint sources of water pollution come under a variety of federal and state regulation. Congress has recognized that water pollution as a whole is an issue in the United States, and has even singled out nonpoint source pollution as a particular problem. Because of the difficulties in even classifying nonpoint sources, however, most federal "regulation" comes in the form of directives to states for development of localized control plans, rather than enforceable provisions as they have outlined for point sources.

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148. VERNON R. LEEWORTHY & PETER C. WILEY, U.S. DEP'T OF COMMERCE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, VISITOR PROFILES: FLORIDA KEY/KEY WEST (1996).

149. *Survey*, *supra* note 140.

The nonpoint source problem in the Florida Keys is not yet at state of emergency proportions, but it is nevertheless a problem. If we are to avoid addressing the problem retroactively once the environment is destroyed, stricter regulatory measures must be put into place today to prevent an emergency status from ever developing. The new Ogden water treatment facility proposed for Key Largo is a large step in the right direction in that it will eliminate thousands of septic tanks on the island, but this is only a small portion of a larger situation.

The State of Florida must examine its regulation of nonpoint source pollution and increase efforts at protecting the waters of the Florida Keys from the strains of growth and development. As an Area of Critical State Concern, the State has the power to force Monroe County to adopt stricter development regulations and treatment standards to help protect this valuable environmental resource. Until stricter federal regulation is in place, specifically for providing enforceable mechanisms of controlling nonpoint sources of pollution, the primary responsibility rests with Monroe County to acknowledge their unique situation and to continue taking steps to prevent the deterioration of their ecosystem.

FROM LUCAS TO PALAZZOLO: A CASE STUDY OF TITLE LIMITATIONS

BRITTANY ADAMS*

Table of Contents

I. INTRODUCTION

The right to own property is one of the most important individual rights that the Constitution guarantees the American people.[1] The Founders of the Constitution believed in a Lockean approach to the concept of property,[2] which is espoused in the Fifth Amendment to the Constitution.[3] They believed that the right to own property without government interference was essential to the success of a democratic government, and it gave people the power to

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*J.D., The Florida State University College of Law, 2001; B.A., The Florida State University, 1998. The author wishes to thank Associate Dean Donna Christie and Professor J.B. Ruhl for helpful comments on drafts of this work.

1. U.S. Const. amend. V. *See also, e.g.*, W. Blackstone, COMMENTARIES *134 (Stanley N. Katz ed., Univ. of Chicago Press 1979) (1765) ("The third absolute right, inherent in every Englishman, is that of property, which consists in the free use, enjoyment, and disposal of all his acquisitions, without any control or diminution, save only by the laws of the land.").

2. *E.g.*, RICHARD A. EPSTEIN, TAKINGS: PRIVATE PROPERTY AND THE POWER OF EMINENT DOMAIN 7—31 (1985) (examining the Lockean view of property and its influence on the Founders of the Constitution); *see also* JOHN LOCKE, TWO TREATISES OF CIVIL GOVERNMENT (J.M. Dent & Sons 1962) (1690).

3. U.S. CONST. amend. V ("No person shall … be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation.").

pursue liberty.[4] This idea has been upheld through the years by the courts.[5]

Although it is true that the government has the right to regulate the use of property for the safety and welfare of the people, this does not mean that it has the right to take property without compensation. In fact, the Fifth Amendment guarantees that "No person shall … be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation."[6] It is important to remember that the government must give just compensation when it takes land. There are critics today that embrace a more lenient standard of takings and would allow the government to regulate property in such a way that it denies the owner the use of the land, but does not have to compensate the landowner because it is for public benefit.[7] While I readily admit that the government has the right —even the duty —to protect the public, it cannot do so at the expense of the individual.

Throughout the history of private property the idea arose that not only was an *appropriation* of property a taking, but in some cases, a *regulation* of property could constitute a taking.[8] However, it has been extremely difficult for courts to determine when a regulation has regulated a property in such a way that requires just compensation. In *Lucas v. South Carolina Coastal Council*,[9] the Court announced a new rule that categorically required compensation when the property owner had been deprived of all economically beneficial use of the property. It included an exception: When background principles of state property or nuisance law would have limited the use of the land in the same way, there was no taking that

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4. *See, e.g.*, THE FEDERALIST NO. 10 (James Madison) ("The protection of [property] is the first object of the Government."); Noah Webster, *An examination into the Leading Principles of the Federal Constitution Proposed by the Late Convention Held at Philadelphia* … (Philadelphia, 1787) *in* PAUL L. FORD, PAMPHLETS ON THE CONSTITUTION OF THE UNITED STATES, PUBLISHED DURING ITS DISCUSSION BY THE PEOPLE, 1787—88, at 60, 61 (DA CAPO PRESS 1968) (1888) ("Let the people have property, and they *will* have power.").

5. *See* Lucas v. South Carolina Coastal Council, 505 U.S. 1003 (1992) (holding that denying a landowner all economically beneficial use of the land results in a taking that must be compensated); Nollan v. California Coastal Comm'n, 483 U.S. 825 (1987) (holding that the commission could not require a landowner to grant an easement across his land without compensation); Pennsylvania Coal v. Mahon, 260 U.S. 393 (1922) (explaining that if a regulation goes too far it will require compensation).

6. U.S. CONST. amend. V.

7. *See, e.g.*, Philip A. Talmadge, *The Myth of Property Absolutism and Modern Government: The Interaction of Police Power and Property Rights*, 75 WASH. L. REV. 857 (2000) (arguing that the government's police power is more important than property rights).

8. *E.g.*, Pennsylvania Coal v. Mahon, 260 U.S. 393 (1922).

9. 505 U.S. 1003 (1992).

required compensation.[10] Both nuisance and property law are governed by state law, so this decision left to state courts the difficult determination of when a regulation amounts to a taking.

The courts have had almost nine years to interpret and apply this rule and its exception. This Note examines what state courts and lower federal courts have found to be "background principles" of property and nuisance law that fit into the *Lucas* exception. The Note examines recent case law that applies the *Lucas* exception to determine how the law has developed.[11] The Note then explains the facts of *Palazzolo v. Rhode* Island[12] and discusses how the Court should rule on the issues in light of the difficulty the courts have had in applying *Lucas*. The Note concludes that the Court must consider the importance of the right to own property in America. The Court should take a firm stance to protect property rights—and democracy—by making sure that the government follows the Constitutional mandate to pay just compensation when it regulates property in a way that results in a taking.

II. BRIEF OVERVIEW OF TAKINGS LAW THROUGH *LUCAS*

A. Prior to Lucas

The courts have had a difficult time deciding which regulations of private property should require compensation.[13] Although courts faced many issues, this brief history focuses only on the cases that influenced the Supreme Court's determination that a regulation depriving an owner of all value of the land is always a taking.

The Fifth Amendment to the United States Constitution states, "private property [shall not] be taken for public use, without just compensation."[14] This provision has come to be known as the "Takings Clause." Initially, the Takings Clause only applied when there was a direct appropriation of property.[15] In *Pennsylvania Coal*

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10. *Id*. at 1022—23.

11. This Note only addresses cases that apply the Takings clause of the U.S. Constitution. It does not examine cases that are decided under state constitutional takings clauses.

12. 746 A.2d 707 (2000), *cert. granted*, 121 S. Ct. 296 (2000).

13. *See* David L. Callies, *Regulatory Takings and the Supreme Court: How Perspectives on Property Rights Have Changed from* Penn Central *to* Dolan*, and What State and Federal Courts are Doing About It*, 28 STETSON L. REV. 523, 525 (1999) (suggesting that the Supreme Court was divided over what direction to take in takings jurisprudence; therefore, it accepted regulatory cases after *Penn Central* but did not decide them).

14. U.S. CONST. amend. V.

15. *See Lucas*, 505 U.S. at 1014; *see also* John F. Hart, *Land Use Law in the Early Republic and the Original Meaning of the Takings Clause*, 94 NW. U. L. REV. 1099 (2000) (arguing that the

v. Mahon,[16] however, the United States Supreme Court decided that a government regulation of private property may result in a taking that requires compensation.[17] Justice Holmes explained that local and state government regulations could be so intrusive that they have the same result as a direct appropriation of property.[18] He stated that a regulation of private property could be compensable under the Fifth Amendment when the regulation goes "too far."[19] However, he and the Court provided little guidance as to the meaning of "too far."

The Supreme Court elaborated on this principle in *Penn Central Transportation Co. v. New York*.[20] The Court explained that there is no set formula in determining how far is too far; a court should look at the facts in the particular case and "engage in … essentially ad hoc, factual inquiries …."[21] The Court listed three factors to consider when making this determination: the economic impact of the regulation on the property owner, the extent to which the regulation interferes with investment-backed expectations, and the character of the government action.[22] The consideration of these factors became known as the *Penn Central* balancing test.

This long awaited decision had little effect on the courts at first.[23] In fact, for a decade after this decision courts avoided deciding takings cases on the merits by developing procedural thresholds to decide cases.[24] When the courts attempted to decide the merits of a takings case, the part of *Penn Central* that was utilized to guide their decisions was the requirement that the court conduct ad-hoc, factual inquiries.[25]

In the 1980s, one bright line rule emerged concerning takings that applied to cases involving a permanent physical intrusion. In *Loretto*

Takings Clause was only intended to be applied to appropriations of property and that it never should have been applied to regulation of land uses).

16. 260 U.S. 393 (1922).

17. *Id.* at 415—16.

18. *Id.* at 416 ("We are in danger of forgetting that a strong public desire to improve the public condition is not enough to warrant achieving the desire by a shorter cut than the constitutional way of paying for the change.").

19. *Id.* at 415

20. 438 U.S. 104, 123—24 (1978).

21. *Id.* at 124.

22. *Id*.

23. *See* Roger Marzulla & Nancie Marzulla, *Regulatory Takings in the United States Claims Court: Adjusting the Burdens That in Fairness and Equity Ought to Be Borne by Society as a Whole*, 40 CATH. U. L. REV. 549, 552—53 (1991).

24. *See also* Callies, *supra* note 13.

25. Marzulla & Marzulla, *supra* note 23, at 552.

v. Teleprompter Manhattan CATV Corp.,[26] the Supreme Court held that when a government regulation requires a permanent physical intrusion on the property it is a "per se" taking that always requires compensation, regardless of how minor the intrusion.[27] The Court explained that a physical intrusion on the property destroys the "bundle" of property rights.[28]

The Supreme Court also addressed the issue of regulatory takings in *Agins v. City of Tiburon*,[29] and for the first time, the Court stated (in dicta) that a regulation resulted in a taking if it deprived the owner of all economically viable use of the land. The appellants claimed that the City's zoning ordinances completely destroyed the value of their property.[30] The Court avoided the issue of whether all value was destroyed because the owners still had the opportunity to develop part of their property.[31] In holding that the ordinance was not a taking the Court stated, "the application of a general zoning law to a particular property effects a taking if the ordinance does not substantially advance legitimate state interests … or denies an owner economically viable use of his land."[32] The Court reiterated its analysis by saying that "no precise rule determines when property has been taken," and then it weighed the public and private interests as required by the *Penn Central* balancing test.[33]

The Supreme Court decided several other cases during the time between *Penn Central* and *Lucas*.[34] However, the above cases are the most relevant to the determination in *Lucas* that a regulation that denies the owner of all economically beneficial use of the land is a categorical taking.

B. Lucas v. South Carolina Coastal Council

This Part first explains the facts and the holding in *Lucas*. Next it discusses the effect that *Lucas* had on takings jurisprudence and some potential concerns about these effects.

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26. 458 U.S. 419 (1982).
27. *Id.* at 435, 441.
28. *Id.* at 435.
29. 447 U.S. 255 (1980).
30. *Id.* at 258.
31. *Id.* at 260.
32. *Id.*
33. *Id.* at 260—63.
34. For a history of the important Supreme Court cases between *Penn Central* and *Lucas*, see generally Callies, *supra* note 24.

1. Facts

David Lucas bought two residential lots on a South Carolina barrier island in 1986, on which he planned to build single family houses.[35] In 1988, the South Carolina Legislature passed the Beachfront Management Act,[36] which prohibited construction seaward of a line drawn twenty feet landward of the baseline, with no exceptions.[37] The baseline was determined by connecting the landward-most points of historical erosion.[38] Lucas' lots were seaward of this line; therefore, he was prohibited from constructing any permanent habitable structures on his two lots.[39] He filed suit claiming that this provision was a taking of his property without just compensation.[40] The trial court found that the Act "deprived Lucas of any reasonable economic use of the lots … and rendered them valueless."[41] The trial court concluded that there had been a taking that required just compensation.[42] The South Carolina Supreme Court reversed, stating that the regulation was designed to prevent serious public harm; therefore, no compensation was required.[43]

The United States Supreme Court disagreed with the South Carolina Supreme Court. The Court briefly discussed the history of takings law and proceeded to define two instances when a regulation was compensable without the necessity of balancing the public and private interests.[44] First, if the regulation requires the owner to suffer a permanent physical invasion of property, he should be compensated, regardless of how minor the intrusion is or the public purpose behind it.[45] Second, the Court found that "where regulation denies all economically beneficial or productive use of the land" categorical treatment was appropriate.[46] The Court cited *Agins* as authority for this rule. One reason the Court espoused was that a regulation of this type was the "equivalent of a physical appropriation."[47] The Court clarified that when all economic value

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35. *Lucas*, 505 U.S.1003 at 1007.

36. Beachfront Management Act, #0634, June 7, 1988 (codified as amended at S.C. CODE ANN. § 48-39-250 (Supp. 1990)).

37. *See Lucas*, 505 U.S. 1003 at 1008—09.

38. *Id.* at 1009 n.1

39. *Id.* at 1009.

40. *Id*.

41. *Id*.

42. *Id*.

43. *Id*. at 1010.

44. *Id*. at 1014—15.

45. *Id*. at 1015.

46. *Id*. at 1015—16.

47. *Id*. at 1017.

of the property was not lost, the analysis should follow the guidelines set out in *Penn Central*.[48]

Although the Court found that loss of all economically beneficial use of the property was a categorical taking, it formulated an exception to this rule. The government can resist compensation only if the "proscribed use interests were not part of his title to begin with."[49] The Court explained:

> Any limitation so severe cannot be newly legislated or decreed (without compensation), but must 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. A law or decree with such an effect must, in other words, do no more than duplicate the result that could have been achieved in the courts—by adjacent landowners (or other uniquely affected persons) under the State's law of private nuisance, or by the State under its complementary power to abate nuisances that affect the public generally, or otherwise.[50]

The Court gave several examples that would fit into this exception: 1) an owner would not be entitled to compensation for denial of a permit that would allow him to flood another person's land; and 2) the Court would enforce a preexisting easement on the property.[51] The Court also listed factors typically analyzed when determining whether the use of the land is a nuisance.[52] Referring to the Restatement of Torts,[53] the Supreme Court directed courts to look at the degree of harm to adjacent public and private lands, the social value of the activities, and the relative ease with which the harm can be avoided.[54] Additionally, if other owners who are similarly situated have engaged in the contested use, it suggests the lack of a common law prohibition.[55]

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48. *Id*. at 1019 n.8 (citing 438 U.S. 104 (1978)); *see also supra* text accompanying note 20.
49. *Id*. at 1027.
50. *Id*. at 1029.
51. *Id.* at 1028—29.
52. *Id*. at 1030—31.
53. RESTATEMENT (SECOND) OF TORTS §§ 826—31 (1977).
54. *Lucas*, 505 U.S. at 1030—31.
55. *Id.*

The Court remanded the case to the South Carolina Supreme Court to determine whether there were any background principles of law that would have prohibited Lucas from building on the land.[56] It instructed the lower court that it must do more than just find that Lucas' use of the land is inconsistent with public policy—it must find background principles of property or nuisance law that would prevent Lucas from building houses.[57] On remand, the South Carolina Supreme Court found no background principles of property or nuisance law that would prohibit Lucas from building houses on his property.[58] Therefore, the court found a taking which required compensation.[59]

2. Implications

The Court in *Lucas* developed a new, categorical taking when the regulation deprives an owner of all economically beneficial use of the land. Although the Court said that it derived the rule from *Agins*,[60] it is not at all clear that *Agins* supports this proposition. In *Agins*, the Court simply applied the *Penn Central* balancing test stating that no precise rule determines when property has been taken.[61] The Court in *Lucas* ignored that part of *Agins* and relied solely on the sentence that there is a taking if the regulation deprives the owner of economically viable use of his land.[62] Justice Blackmun explained that this "in no way suggest[s] that the public interest is irrelevant if total value has been taken."[63] The Court took a single sentence, out of context, to formulate this new rule.

Several difficulties have arisen as courts apply the *Lucas* analysis. First, the Court stated that it is rare that a regulation will deprive a property owner of all economically beneficial use of his property.[64] The Court admitted that the deprivation of the economically beneficial use rule was imprecise because the rule did not clarify what property interests the loss of value was to be measured

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56. *Id*. at 1031.
57. *Id*.
58. Lucas v. South Carolina Coastal Council, 424 S.E.2d 484, 486 (S.C. 1992).
59. *Id*.
60. *See Lucas*, 505 U.S. at 1015—16 (citing Agins v. City of Tiburon, 447 U.S. 255 (1980).
61. *See* Agins v. City of Tiburon, 447 U.S. 255, 260—61 (1980).
62. *See Lucas*, 505 U.S. at 1049 n.11 (Blackmun, J., dissenting) (pointing out that the majority's precedent does not support its ideas).
63. *Id*.
64. *Id*. at 1018.

against.[65] Consequently, lower courts have had difficulty determining what constitutes loss of all value of property.[66]

The other problem courts have had is applying the "exception" to the rule. The Supreme Court announced a bright line rule that, at first glance, appears easy to apply. However, the nuisance exception muddles this bright line rule. The Court shifted the analysis from a balancing of public and private interests to an analysis of what constitutes a nuisance in a state's common law. Justice Blackmun's dissent pointed out that the Court was trying to move away from an analysis of whether the use of the land is harmful or beneficial, but examining the common law of nuisance basically does the same thing.[67] The difference is that we are looking at what judges decided long ago instead of today.[68] He argues that judges today can identify a harm just as well as judges from the past.[69] Finally, he points out that it is very difficult to find a principle of the common law of nuisance.[70]

An important principle that courts must consider is that although the state's law determines what limits are inherent in the title due to nuisance and property law, a state may not "deny rights protected under the Federal Constitution … by invoking nonexistent rules of state substantive law."[71] In other words, the State cannot make up a law and retroactively apply it to take away a property right.

III. HOW STATES HAVE DEFINED "BACKGROUND PRINCIPLES" OF PROPERTY AND NUISANCE LAW

Lower courts have relied on *Lucas* and applied the loss of all economically beneficial use rule and its exceptions. Some courts have strictly applied the exception, looking at only common law and

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65. *Id*. at 1016 n.7. The Court gave the following example:

> When, for example, a regulation requires a developer to leave 90% of a rural tract in its natural state, it is unclear whether we would analyze the situation as one in which the owner has been deprived of all economically beneficial use of the burdened portion of the tract, or as one in which the owner has suffered a mere diminution in value of the tract as a whole.

Id.

66. *See, e.g.*, Machipongo Land & Coal Co., Inc. v. Commonwealth of Pennsylvania, 719 A.2d 19, 26—28 (Pa. Commw. Ct. 1998) (discussing what property interests should be considered when determining whether a regulation deprived the owner of all value economically beneficial use of the land).

67. *Lucas*, 505 U.S. at 1054—55 (Blackmun, J., dissenting).

68. *Id*.

69. *Id*.

70. *Id*.

71. Stevens v. City of Cannon Beach, 114 S. Ct. 1332, 1334 (1994).

background principles of property law. Other courts have gone substantially further and considered any regulation existing when the owner obtained the property to be a background principle of property law that fits into the *Lucas* exception. Finally, some courts have begun applying the nuisance exception even though all value of the land has not been destroyed. The following sections discuss cases that apply *Lucas* in each of these ways. They also address whether these are correct applications of *Lucas* and whether *Lucas* should be interpreted in these ways.

A. Limitations Inherent in Title from Common Law of Nuisance

It is clear under *Lucas* is that if a state could have replicated the effect of the regulation by using the state's common law of nuisance, then the regulation does not constitute a taking that is compensable. This part discusses cases that have addressed the issue of whether common law nuisance prohibits the use of the property in a particular way.

Department of Health v. The Mill[72] was one of the first cases to use the *Lucas* exception to find the use of the land was proscribed by nuisance law.[73] The property was subject to regulations by the Colorado Department of Health (CDH) because the property was used as a uranium mill tailings disposal site.[74] In 1978, Congress passed the Uranium Mill Tailings Radiation Control Act,[75] which required the cleaning-up of uranium disposal sites, and the Mill property qualified for clean-up under the Act.[76] Subsequently, the CDH placed restrictions on the mill yard that effectively denied any reasonable economic use of the land.[77] Although the mill was authorized for unrestricted use when it was acquired, the CDH sent copies of the regulations to the owners for the maintenance of uranium mill tailings when they purchased the property.[78]

The case began in 1983 and went back and forth in the courts until it finally ended up in the Colorado Supreme Court after *Lucas* was decided. The court found that all economically beneficial use of the property was destroyed, and then it applied the nuisance

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72. 887 P.2d 993 (Colo. 1994).
73. *Id.* at 1001—02.
74. *Id*. at 997—98.
75. Uranium Mill Tailings Radiation Control Act of 1978, 92 Stat. 3021 (1978).
76. 887 P.2d 993 at 997—98.
77. *Id*.
78. *Id*. The regulations included such things as posting warning signs, using gates to secure the tailings pile, and so on.

exception.[79] The court decided that under Colorado common law a landowner did not have the right to use the land in a way that created an unreasonable risk for others.[80] It also said that land uses that caused pollution constituted a nuisance and that radioactive materials in particular were treated as a nuisance under Colorado solid waste laws.[81] Therefore, the Mill's acquired title did not grant them the right to use the property in a way that was hazardous to public health by spreading radioactive contamination.[82] Thus, the limitations the CDH put on the property restricting the spreading of radioactive contamination did not constitute a taking.[83]

This case correctly applied the *Lucas* analysis. First, it found that all economically beneficial use of the property was lost. Then, it searched for background principles of Colorado law that may have prohibited using the land as a dumping ground for radioactive waste. Finding that radioactive materials can be considered a nuisance certainly makes sense and invites little controversy.

Three Florida cases produced conflicting applications of a common law of nuisance. The issue in all three cases involved apartment complexes that were closed temporarily due to pervasive drug use on the property. The Second District Court of Appeal, in *City of St. Petersburg v. Bowen*,[84] found a temporary loss of all ~~se~~ economically beneficial use.[85] The court stated that the closure of an apartment complex did not prevent any nuisance; it only prevented the use of the apartment building, and preventing the use of an apartment building was not a nuisance at common law.[86] The court explained that *Lucas* limited the nuisance exception to only *common law* nuisances.[87]

In contrast to the Second District's *Bowen* decision, the Third District Court of Appeal held the opposite in *City of Miami v. Keshbro, Inc.*[88] The court applied *Lucas* and found that the owners had been denied all economically beneficial use value of the property.[89]

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79. *Id*. at 1001—02.

80. *Id*. ("Under Colorado common law, landowners have a duty to prevent activities and conditions on their land from creating an unreasonable risk of harm to others.") (citing Moore v. Standard Paint & Glass, 358 P.2d 33, 36 (1960)).

81. *Id*. at 1002.

82. *Id.*

83. *See id.*

84. 675 So. 2d 626 (Fla. 2d DCA 1996).

85. *Id.* at 631.

86. *Id.*

87. *Id.*

88. 717 So. 2d 601 (Fla. 3d DCA 1998), *rev. granted,* 729 So. 2d 392 (Fla. 1999).

89. *Id.* at 604.

However, it then decided that the motel was essentially used as a drughouse and a brothel, and that brothels and drughouses acquired no protection at common law.[90] Therefore, it constituted a public nuisance, and the closure did not require compensation.[91] The court distinguished this case from *Bowen* by saying that the Second District Court of Appeal had not included a discussion of "inextricable intertwining of proscribed uses with other, valid, uses."[92]

After *Keshbro*, the Second District Court of Appeal again addressed this issue in *City of St. Petersburg v. Kablinger*.[93] The court found this case to be indistinguishable from *Bowen*; therefore, there was a compensable taking.[94] The court stated that although the court in *Keshbro* attempted to distinguish it from *Bowen*, the decisions were in conflict, and it certified that the decisions conflicted.[95] The Florida Supreme Court's grant of review of *Keshbro* will hopefully provide an opportunity for the court to resolve the conflict as to whether closing an apartment house due to drug use fits into the nuisance exception of *Lucas*.

Similarly, a Washington appellate court examined a drug nuisance statute to determine if an abatement order of a restaurant and lounge due to known drug problems resulted in a taking of the owners' property.[96] In this case the McCoys owned a restaurant and lounge, and they had worked with the police for many years to stop the drug activities that took place on the property.[97] Eventually, because the police resources were limited, the police quit helping the McCoys fight the drug problem.[98] As a result, the City of Seattle filed a complaint against the McCoys for violating the drug nuisance statute which prohibited permitting drug use on the property.[99] The restaurant was declared a drug nuisance, and the trial court ordered that it be closed for one year, explaining that the McCoys were not permitted to "re-enter [the restaurant] for any reason."[100]

The McCoys argued that all economic use of the property was taken; therefore, the City was required to pay them just

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90. *Id*.
91. *Id*. at 604—05.
92. *Id.* at 604 n.8.
93. 730 So. 2d 409 (Fla. 2d DCA 1999) *rev. granted*, 737 So. 2d 551 (Fla. 1999).
94. *Id*. at 410.
95. *Id*.
96. City of Seattle v. McCoy, 4 P.3d 159 (Wash. App. Ct. 2000).
97. *Id*. at 162—63.
98. *Id*. at 163.
99. *Id*. at 163—64.
100. *Id.* at 164.

compensation.[101] The court agreed that the closing of the restaurant denied them tem (temporarily) of all economic use of the land.[102] The City argued there was no taking because the restaurant was a nuisance.[103] The court reviewed the common law of nuisance in Washington and other states and determined that when an owner had taken reasonable steps to prevent the illegal activity (as they had in this case), there was no common law nuisance.[104] Based on this, the City had not met its burden in proving that there was a common law nuisance; therefore, there was a taking that required compensation.[105]

Each of these cases correctly applied *Lucas* and examined the common law of nuisance to see if the closure of an apartment complex or restaurant due to drug use is a nuisance; however, they arrived at different conclusions. This is a good example of how confusing nuisance law can be. For example, *Prosser and Keeton on Torts* states that "there is perhaps no more impenetrable jungle in the entire law than that which surrounds the word 'nuisance'".[106] It is becoming increasingly clear that a state's law of nuisance is not a simple way of determining whether a regulation has resulted in a taking.

Other courts around the country have found that regulation of certain uses does not constitute a nuisance, and the loss of all economically beneficial use requires compensation. The Court of Appeals of Michigan addressed the issue in *K & K Construction, Inc. v. Department of Natural Resources*.[107] The plaintiff applied for a permit to build a restaurant on an area of wetlands, but the permit was denied because the property was protected under the Wetlands Protection Act (WPA).[108] The Court of Claims determined that the WPA denied the plaintiffs all economically beneficial use of the land.[109] The Court of Appeals applied *Lucas* and analyzed whether

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101. *Id*. at 166 (citing *Lucas* and a Washington case which outlined the framework for regulatory takings in Washington).

102. *Id*. (explaining that because the McCoys were not in possession of the property—i.e., they were not allowed to enter it for one year—they could not "put the property to any economically viable use").

103. *Id*. at 167.

104. *Id*. at 167—72.

105. *Id*. at 171—72.

106. W. PAGE KEETON ET AL., PROSSER AND KEETON ON THE LAW OF TORTS § 86 (5th ed. 1984).

107. 551 N.W.2d 413 (Mich. Ct. App. 1995).

108. Wetlands Protection Act, MICH. COMP. LAWS § 281.701 (2000); MICH. STAT. ANN. § 18.595(51) (Michie 2000).

109. *K & K Construction, Inc.*, 551 N.W.2d at 416.

building a restaurant on the land would have been considered a nuisance under common law.[110] The defendants claimed that the common law principle was found in the Michigan Constitution,[111] where it declared that conservation and development of natural resources of the state was a paramount public concern.[112] The court rejected this argument because in *Lucas* the Court said that a state must do more than rely on the legislature's declaration that the landowner's uses were inconsistent with public interests.[113] The court then determined there was no common law nuisance principle that would prohibit someone from building a restaurant on their land.[114]

However, this case was reversed in part when the Supreme Court of Michigan determined the denial of the permit had not destroyed all economically beneficial use of the land because the appellate court had incorrectly analyzed the wetlands portion of the land separately from the entire parcel.[115] The case was remanded to the lower court to perform a *Penn Central* balancing test.[116]

The Ohio Court of Appeals considered nuisance law principles in an unpublished opinion, *State ex rel. R.T.G. Inc. v. State*.[117] R.T.G. owned land on which it planned to mine for coal.[118] The Division of Mines and Reclamation petitioned that a majority of this land be declared unsuitable for mining.[119] After numerous appeals and direction from the Ohio Supreme Court, the Reclamation Board of Review determined that the entire 833 acres was unsuitable for mining because of the impact that the mining might have on the city's aquifer.[120] The plaintiffs filed a complaint alleging that this was a compensable taking.[121] The lower court granted the defendant's motion to dismiss, and the plaintiffs appealed.[122] The

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110. *Id.* at 416—17.

111. MICH. CONST. of 1963, art. IV, § 52.

112. *K & K Construction, Inc.*, 551 N.W.2d at 417.

113. *Id.* (citing *Lucas*, 505 U.S. at 1030-31).

114. *Id.*

115. K & K Construction, Inc. v. Dep't of Natural Res., 575 N.W.2d 531, 536—38 (Mich. 1998). The landowner owned four contiguous parcels of property, but the permit denial only applied to one of them. The lower court examined that parcel separately to determine that all value was gone. The Michigan Supreme Court stated that this was wrong according to long-standing principles of "nonsegmentation." Therefore all value was not lost. *Id.*

116. *Id.* at 538 (citing 438 U.S. 104 (1978)); *see also supra* text accompanying note 20.

117. No. 96 APE05-662, 1997 WL 142363 (Ohio Ct. App. 1997).

118. *Id.* at *1.

119. *Id.*

120. *Id.* at *1—2.

121. *Id.*

122. *Id.*

court decided that there were too many factual issues to be decided for the case to be dismissed.[123]

Although the court did not decide the issues, in dicta it gave the lower court some guidance when reconsidering the case. The court began by stating the categorical taking principle and the nuisance exception in *Lucas*.[124] It then discussed how Ohio courts have defined nuisances. A nuisance under Ohio law is an "unreasonable, unwarrantable, or unlawful use … of … property … which produces material annoyance, inconvenience, discomfort or hurt."[125] The court cited *Cline v. American Aggregates Corp.*,[126] which found that draining another person's water supply was a nuisance.[127] Additionally, the court clarified that strip mining was a potential nuisance.[128] It stated that whether the use constituted a nuisance was a factual issue for the trial court to decide.[129] Finally, it directed the lower court to decide, as a threshold issue, whether there was a complete or partial taking before determining whether to apply *Lucas* or *Penn Central*.[130]

Recently, the Court of Appeals of Oregon dealt with the issue of whether timber harvesting was a nuisance under state law.[131] Boise Cascade (Boise) acquired timberlands in 1988.[132] In 1990, the State Forester adopted an administrative policy which precluded timber harvesting within a seventy-acre area around spotted owl nesting sites.[133] Boise submitted a harvesting plan, but it was not approved because it did not provide protection for an area where spotted owls nested.[134] Boise was prohibited from harvesting while spotted owls were nesting in this area.[135] Boise argued that this denial of a permit to log where the owls nested was a taking that required just compensation.[136] A jury found in favor of Boise and the state

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123. *Id.*
124. *Id.* at *4.
125. *Id.* at *5.
126. 474 N.E.2d 324 (Ohio 1984).
127. *See* State *ex rel.* R.T.G., 1997 WL 142363 at *6.
128. *Id.*
129. *Id.*
130. *Id.* at *6—8.
131. Boise Cascade Corp. v. State, 991 P.2d 563 (Or. Ct. App. 1999).
132. *Id.* at 564.
133. *Id.*
134. *Id.* at 565.
135. *Id.*
136. *Id.*

appealed, claiming that the trial court should have dismissed the action and granted partial summary judgment to the state.[137]

The court of appeals stated that the court properly denied the plaintiff's motion to dismiss because Boise had a valid claim that the regulation denied Boise of all economically beneficial use of the land.[138] The trial court also struck down the state's defense that the logging would constitute a nuisance under Oregon law.[139] The court of appeals upheld this decision saying that knocking down a bird's nest on one's property has never been considered a nuisance.[140] Additionally, the court said that violating an environmental statute does not constitute a public nuisance.[141] The case was remanded on other grounds.

The U.S. Court of Federal Claims first addressed the nuisance exception issue in *Bowles v. United States*.[142] Bowles attempted to get a permit to fill his lot so that he could install a septic tank and build his home on the property.[143] His permit was denied by the Army Corps of Engineers because his property was considered a wetland.[144] All other property owners in his subdivision had been allowed to fill their properties and build, so he filed a complaint alleging a taking that deprived him of all economically beneficial use of the property.[145] The court analyzed the taking under the *Lucas* exception, but found that it had little relevance because building a home just as everyone else in the neighborhood had done was not a nuisance.[146] The court continued to analyze the case in the event that there had not been total deprivation of all economically beneficial use.[147] It then looked at the investment-backed expectations and still concluded that there was a compensable taking.[148]

Each of these cases followed *Lucas* by first determining whether the landowner has been deprived of all economically beneficial use of the land and then looking to state law for rules of nuisance law

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137. *Id.*
138. *Id.* at 569.
139. *Id.* at 570.
140. *Id.*
141. *Id.* at 571.
142. 31 Fed. Cl. 37 (Fed. Cl. 1994).
143. *Id.* at 40.
144. *Id.*
145. *Id.*
146. *Id.* at 46. ([The "so-called nuisance exception has little relevance. All Mr. Bowles wanted to do was the same exact use as his surrounding neighbors; build a home in a residential subdivision.")
147. *See id.* at 46—49.
148. *Id.* at 49—50.

that would prohibit the use anyway. The cases that look to common law principles are relatively uncontroversial. No one argues that this is the wrong interpretation of *Lucas*. The only argument is whether the use really was a nuisance at common law. This determination is left to each state to interpret its own common law. A good example is the split in the Florida courts about whether shutting down an apartment complex due to drug use is a valid application of nuisance common law.[149] There are good arguments on both sides of the issue as to whether this should be considered a nuisance. The state is the proper place to decide these issues, unless the state reaches beyond its power to violate Federal rights. The only instance where the Supreme Court might get involved with a state's determination of nuisance law is if the State had "made up" a rule of law and applied it retroactively to property owners. Then the Supreme Court would have the duty to determine whether the state is violating the Constitution by denying a person the right to property.[150]

B. Other Limitations Inherent in Title from Property Law

The Supreme Court instructed state courts to inquire not only into common law nuisance, but also into limitations on the land placed there by other background principles of property law. Often courts examine what rights a landowner obtains when acquiring the property. This Part of the Note examines other limitations of property law, excluding preexisting regulations.

The Court of Appeals of Oregon addressed the issue of what rights a property owner obtains when he acquires land. The plaintiff in *Kinross Copper Corp. v. State*,[151] leased unpatented mining claims from Amoco Minerals Co. and developed a plan to mine for copper ore.[152] The plan required the plaintiffs to discharge water pumped from the mine into the North Santiam River Basin.[153] This activity required an NPDES permit, but the plaintiff's application for the permit was denied because the new "Three Basin Rule" prohibited

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149. *See* 675 So. 2d 626 (Fla. 2d DCA 1996); 717 So. 2d 601 (Fla. 3d DCA 1998), *rev. granted*, 729 So. 2d 392 (Fla. 1999); 730 So. 2d 409 (Fla. 2d DCA 1999) *rev. granted* 737 So. 2d 551 (Fla. 1999); *see also supra* text accompanying notes 84 through 95.

150. *See, e.g.*, Stevens v. City of Cannon Beach, 114 S. Ct. 1332, 1334 (1994) (Scalia, J. dissenting).

151. 981 P.2d 833 (Or. Ct. App. 1999), *adhered to on reconsideration*, 988 P.2d 400 (Or. 1999), *rev. denied* 994 P.2d 133 (Or. 2000), *and cert. Denied*, 121 S. Ct. 387 (2000).

152. *Id.* at 835.

153. *Id.*

any new water discharges into the river.[154] The plaintiffs alleged that the denial of this permit rendered the unpatented mining claim worthless and constituted a per se taking.[155] The parties stipulated that all economically beneficial use was gone as a result of the denial.[156] The trial court granted the state's motion for summary judgment because the denial of the permit took no property right of the plaintiff.[157] The plaintiffs appealed, arguing that unpatented mining claims were recognized as a property right.[158]

The court analyzed the common law riparian rights in Oregon to determine if the right to discharge waste water into the river was a right that the plaintiffs acquired with the title. Originally, under mining customs, the landowner had a right to use the water in mining operations; however, this was changed with the enactment of the Mining Law of 1872[159] and the Desert Land Act of 1877.[160] The cumulative effect of these acts on Oregon mining water rights to unpatented mining claims was to establish that water rights were *not* granted as part of the claim.[161] Instead, they had to be "obtained as provided in the water rights laws of the state in which the site of the claim [was] located."[162] In 1909, the Oregon legislature declared that "'[a]ll water within the state … belong[ed] to the public' …. The legislature … [also] established a comprehensive permit system for appropriating water."[163] Therefore, when the plaintiff acquired the mining patent, it did not acquire any water rights; those rights had to be granted by the state.[164]

The right to interfere with the navigational servitude is another right that is not inherent in land title. The Third Circuit explained this in *United States v. 30.54 Acres of Land*.[165] The Army Corps of Engineers prohibited landowners from using their coal loading facility and tipple because it posed a threat to navigation.[166] The landowners alleged that this prohibition deprived them of all

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154. *Id.* The Three Basin Rule was an administrative rule promulgated by the Oregon Environmental Quality Commission. *Id.*
155. *Id.*
156. *Id.* at 836.
157. *Id.*
158. *Id.*
159. 30 U.S.C. §§ 22—47 (1994 & Supp. IV 1998).
160. 43 U.S.C. §§ 321—339 (1994).
161. *See Kinross Copper Corp.*, 981 P.2d 833 at 839.
162. *Id.* at 839.
163. *Id.* (quoting OR. REV. STAT. §537.110 (1999)).
164. *See Kinross Copper Corp.*, 981 P.2d at 840.
165. 90 F.3d 790 (3d Cir. 1996).
166. *Id.* at 792—93.

economic use of the remaining land.[167] The court held that navigational servitude was a preexisting limitation on riparian landowners' properties.[168] It quoted *Lucas* for this proposition because of the language it used to explain the exceptions: "[W]e assuredly *would* permit the government to assert a permanent easement that was a pre-existing limitation upon the landowner's title."[169] The court concluded that the navigational servitude was just such a limitation as it was "almost as old as the Republic itself."[170] Even if the regulation denied the owners of all economically beneficial use of the land, it did not require compensation because the landowner had no right to interfere with the navigational servitude.[171]

Navigational servitude as a preexisting limitation in title was also recently addressed by the Federal Circuit Court of Appeals in *Palm Beach Isles Associates v. United States*.[172] The Army Corps of Engineers denied the landowner dredge and fill permits for a lake that was subject to the navigational servitude.[173] The government argued that although this denied the landowner of all economically beneficial use of the land, this was not a taking because the navigational servitude was a preexisting limitation on the landowner's title under *Lucas*.[174] The court had no difficulty holding that the "navigational servitude may constitute part of the 'background principles' to which a property owner's rights are subject."[175] However, the court did not end the analysis there. Instead, the court also explained that the government's purpose for regulating must be related to navigation for the government to avoid paying compensation.[176] The court remanded the case because the issue of whether the government had a navigational purpose was a disputed issue of fact.[177]

These cases, like the common law nuisance cases, arouse little controversy. Again, the courts look to state law to determine limitations present when the landowner obtained the property. The Supreme Court intended state courts to look at the rights a

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167. *Id.* at 793.
168. *Id.* at 795.
169. *Id.* (quoting Lucas v. South Carolina Coastal Council, 505 U.S. 1003, 1028—29 (1992)).
170. *30.54 Acres of Land*, 90 F.3d at 795.
171. *Id.*
172. 208 F.3d 1374 (Fed. Cir. 2000).
173. *Id.* at 1378.
174. *Id.* The Court of Federal Claims had agreed with the government. *Id.*
175. *Id.* at 1384.
176. *Id.*
177. *Id.* at 1386.

landowner did and did not obtain when he acquired the land. The Court explained that citizens acquire a "bundle of rights" when they obtain land.[178] The landowner has no claim for compensation for rights that were never acquired when he purchased the land.

The Oregon Supreme Court applied the exception in a unique way. The court applied the doctrine of customary use of public beach access to justify a limitation of the use of property without compensation. In *Stevens v. City of Cannon Beach*,[179] the plaintiffs owned two vacant lots on Cannon Beach.[180] The lots were zoned for residential or motel use, but they were subject to the Active Dune and Beach Overlay Zone.[181] Additionally, part of the property was located on the dry sand portion of the beach, and the City required a permit to make improvements on that portion of the beach.[182] The City denied the plaintiff's application to build a seawall because the eventual commercial use of the property conflicted with a goal of the Land Conservation and Development Committee.[183] The plaintiffs alleged this was a compensable taking.[184]

The court based its decision on *State ex rel. Thornton v. Hay*[185] in light of *Lucas*. In *Thornton*, the Oregon Supreme Court held that the state could prevent enclosures of dry sand areas of beaches because these areas were customarily used by the people.[186] The law of custom in the state applied because the public, historically, always used the beaches, and people reasonably believed they had a right to use the beaches.[187] Additionally, the fact that the public use was so notorious put landowners on notice of the custom.[188] Therefore, no person could interfere with the public's right to use the dry sand areas of the beaches in Oregon.[189]

After the explanation of *Thornton*, the court analyzed this common law right of the public to use the beach in light of the Court's decision in *Lucas*. Because of the common law doctrine of custom, the plaintiff never had the right to exclusively use the dry

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178. *See* Lucas v. South Carolina Coastal Council, 505 U.S. 1003, 1027 (1992).
179. 854 P.2d 449 (Or. 1993).
180. *Id.* at 450.
181. *Id.* at 451.
182. *Id.*
183. *Id.*
184. *Id.*
185. 462 P.2d 671 (Or. 1969).
186. *Id.* at 673.
187. *Id.*
188. *Id.* at 678.
189. *See id.*

sand portion of the beaches.[190] The court explained that this was not "newly legislated or decreed."[191] *Thornton* did not create a new law—it "merely enunciated one of Oregon's 'background principles of … the law of property.'"[192]

The United State Supreme Court denied certiorari with a strong dissent by Justice Scalia.[193] He pointed out several problems with the Oregon Supreme Court's analysis. First, he took issue, procedurally, with the idea that the doctrine of customary use applied to every beach in Oregon, particularly because the Oregon Supreme Court had announced in a subsequent case that the doctrine of custom of the right to use the beach did not apply to the entire Oregon coast.[194] More importantly, he was concerned with the constitutionality of the decision. He disagreed with the Oregon Supreme Court that this was a background principle of law, instead he was concerned that it was a "new-found" doctrine—a potential pretext that unconstitutionally takes property without just compensation.[195]

Scalia is not the only one concerned about this application of *Lucas*. One author uses *Stevens* to point out flaws in the *Lucas* exception.[196] He argues that courts may take advantage of the exception and "contrive means to fit state common law doctrines within the nuisance exception."[197] This is a valid argument, especially considering the *Stevens* case. The plaintiff in *Stevens* acquired the property *before* the Oregon Supreme Court decided *Thornton* and thus reasonably expected to build on the property. The Oregon Supreme Court stated that *Thornton* did not create a new law—it merely applied an existing principle of easement. This leads to the concern shared by Scalia: when a property owner invests in the land with reasonable investment-backed expectations, it is unfair for a state to deprive the owner of all economically beneficial use by inventing a doctrine and pretending that it is preexisting common law.

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190. *See Thornton*, 854 P.2d 449, at 456—57 (Or. 1993).

191. *Id.* at 456.

192. *Id.* (quoting Lucas v. South Carolina Coastal Council, 505 U.S. 1003, 1029 (1992)).

193. *See* Stevens v. City of Cannon Beach, 510 U.S. 1207 (1994).

194. *See id.* at 1209; *see also* McDonald v. Halvorson, 780 P.2d 714, 724 (Or. 1989) (explaining that there may be areas of dry-sand beaches in Oregon to which the doctrine of customs does not apply because there are no facts to show that the particular area was used by the public).

195. *Stevens*, 510 U.S. at 1213 (Scalia, J., dissenting).

196. *See* Peter C. Meier, Stevens v. City of Cannon Beach: *Taking Takings into the Post*-Lucas *Era*, 22 ECOLOGY L.Q. 413, 432—38 (1995).

197. *Id.* at 433.

C. Existing Regulations When Owner Obtains Property

An unsettling, recent interpretation of background principles of law is that they include any restrictions placed on the use of the land when the owner acquired it. At first glance, it makes sense, but it was not how courts originally interpreted *Lucas*, and it sometimes leads to unfair results. Given these concerns, there is a growing debate on whether this should be the interpretation.

The leading case on this issue is from the Virginia Supreme Court. In *City of Virginia Beach v. Bell*,[198] Seawall Enterprises, Inc. (Seawall) purchased two lots on the Chesapeake Bay Shore in 1979. The Bells owned fifty percent of the company, and intended to build residential houses on the property.[199] Seawall submitted a plan for development of the property to the City in 1979, but the City did not approve the plan.[200] In 1980, the City passed an ordinance that required developers to obtain a permit to use or change any sand dune in the city.[201] Seawall dissolved in 1982, and the Bells took title to the two lots by deed.[202] Mr. Bell submitted several plans to develop the two lots and was informed by the City that he must first obtain a dune permit.[203] He applied for the permit, but his application was denied.[204] After his appeal was also denied, he filed a motion against the city, alleging that the denial of the permit was a taking because it denied him of all economically beneficial use of the land.[205] A jury found in favor of the plaintiff and the City appealed.[206]

The Virginia Supreme Court evaluated the case in light of the decision in *Lucas*. The court admitted that all economically beneficial use of the land was gone; however, it found that the case fit into the narrow exception that *Lucas* created.[207] Because the ordinance predated the Bell's acquisition of the property, it was a background principle of property law.[208] In other words, the right to build on the

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198. 498 S.E.2d 414 (Va. 1998).
199. *Id*. at 415.
200. *Id.*
201. *Id*.
202. *Id.*
203. *Id*.
204. *Id*.
205. *Id.* at 415—16. The Bells divorced and they transferred the property into the Bell Land Trust. Mr. Bell was the Trustee.
206. *Id*. at 416.
207. *Id*. at 417—18.
208. *See id.* "[T]he City, by enacting the [o]rdinance, took no property rights from Bell or the Trustee since they cannot suffer a taking of rights never possessed." *Id.* at 418.

land was not part of the "bundle of rights" that the Bell's acquired when they obtained the property.[209]

Other courts around the country have also applied the *Lucas* exception when a regulation was in place before the owner took title to the property. *Tahoe-Sierra Preservation Council, Inc. v. Tahoe Regional Planning Agency*,[210] a complex case, involved regulations of private property around the Lake Tahoe Basin.[211] The plaintiffs wanted to build on property around the Tahoe Lake Basin; numerous restrictions (enacted over many years), prevented building around the basin because building caused sediment to enter into the lake and destroy its natural beauty.[212] The United States District Court consolidated the cases from Nevada and California[213] and determined that plaintiffs were deprived of all economically beneficial use of the land.[214] The court proceeded to the issue of whether the uses of the land would fit into the exception created by *Lucas*. The court stated that if a use would be considered a nuisance under state law then it would fit into the exception.[215] It also stated that most courts had accepted the idea that if restrictions existed before the property was purchased, then those restrictions can also be considered background principles of property law.[216]

The court found no law in Nevada that classified pollution a nuisance; therefore, there was no exception to the categorical takings rule.[217] In California, there was a law that considered water pollution a nuisance; however, the definition of water pollution, only included the direct discharge of waste into water, it did not include simply building a house.[218] The court, however, also said that if someone had purchased the property *after* the restrictions that prohibited the use of the land had been enacted, then they would not be entitled to compensation because they would have knowledge of the restrictions.[219]

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209. *See id.* at 417.
210. 34 F. Supp. 2d 1226 (D. Nev. 1999).
211. *Id.* at 1229. (This case began in the mid-1980s and has been on-going over the years.)
212. *Id.* at 1231—36.
213. *Id.* at 1237.
214. *Id*. at 1245.
215. *Id.* at 1251.
216. *Id.*
217. *Id.* at 1254.
218. *Id.*
219. *Id.* at 1255. The case was appealed to the Ninth Circuit Court of Appeals which held that the temporary moratorium was not a taking because all value was not lost during the moratorium. *See* Tahoe-Sierra Preservation Council, Inc. v. Tahoe Reg'l Planning Agency, 216

The Supreme Court of Iowa addressed this issue in *Hunzicker v. State*.[220] The Iowa legislature passed a law in 1976 that gave the state archeologist authority to deny permission to people to "disinter" human remains which are found to have historical significance.[221] The plaintiffs purchased fifty-nine acres of land which they planned to develop.[222] They sold one lot, but were forced to refund the money and take the lot back when the state archeologist determined that there was a Native American burial mound on the lot, and thus he prohibited the disinterment of the mound.[223] The court determined that this denied the landowner of all economically beneficial use of the land. However, the court also decided that because the plaintiffs acquired the property after the Act was passed, the plaintiffs did not acquire the right to use the land in a way contrary to provisions in the Iowa code.[224] The state could have prevented disinterment at the time the plaintiff took title to the land; therefore, the restriction on the use of the land was inherent in the title.[225]

The Court of Appeals of New York also upheld the idea that regulations are inherent in property law in *Anello v. Zoning Board of Appeals*.[226] The Village of Dobbs Ferry enacted a steep slope ordinance in 1989.[227] The petitioner applied for a variance from this ordinance to build a house, but the permit was denied.[228] The court found that this was not a taking that required just compensation because the petitioner acquired the property two years after the ordinance went into effect.[229]

F.3d 764, 780—81 (2000). The court determined that because the moratorium was temporary, the landowners had future use and value of the land. *Id.*

This result seems to be an absurd way for the government to get around paying just compensation. For a period of time the land could not be used. Yet, the court stated that *future* use of the land gave it present value. The court distinguished it from *Lucas* because the law against building in *Lucas* was enacted to be permanent, but was repealed later, so a temporary taking was permitted. I fail to see the distinction. In both cases, the landowner was deprived of the right to use his property for a certain amount of time. If one is compensable, then the other should be as well.

220. 519 N.W.2d 367 (Iowa 1994).
221. *Id.* at 370.
222. *Id.* at 368.
223. *Id.* at 369.
224. *Id.* at 371.
225. *See id.*
226. 89 N.Y.2d 535, 539—40 (N.Y. App 1997).
227. *Id.* at 539.
228. *Id.*
229. *Id.* at 540.

Finally, the Federal Circuit has also addressed this issue. Originally, in *M & J Coal Co. v. United States*,[230] the court examined background principles of law and included *federal law* when looking at background principles of property and nuisance law.[231] When addressing whether the plaintiffs had a right to mine the land, the court looked at the national standards that were created by the Surface Mining Control and Reclamation Act of 1977[232] (SMCRA) that prohibited a person from mining in a way that would endanger the health and safety of the public.[233] The court explained that because of the SMCRA, M & J Coal Co. should have known that it did not have the right to mine in a way which endangered public health and safety.[234]

The Federal Circuit soon changed this rule in *Preseault v. United States*.[235] This case considered whether there was a taking of property under the Rails to Trails Act.[236] The plaintiffs had a fee simple interest in the property underlying the railroad tracks that had been placed there in 1899.[237] The issue was whether the Rails to Trails Act, which converted railways into recreational parks, was a taking of the plaintiff's property.[238] Although it was not a loss of all value case, the government argued that the court should use the *Lucas* analysis to search for background principles of law that would prohibit the owners the use of their land.[239] The government argued that the Preseaults' title included railroad regulatory statutes that were enacted in the early nineteenth century.[240] They should have known that the government had authority to use these easements even if they abandoned the railroad.[241] The court rejected this argument, and stated that *Lucas* stood for the proposition that the court should only consider state laws, not federal laws.[242]

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230. 47 F.3d 1148 (Fed. Cir. 1995) (discussed *infra* Part II.D).
231. *Id.* at 1154—55.
232. 30 U.S.C. §§ 1201—1328 (1988).
233. *See M & J. Coal*, 47 F.3d at 1154—55.
234. *Id.*
235. 100 F.3d 1525 (Fed. Cir. 1996).
236. National Trails System Act Amendments of 1983, Pub. L. No. 98-11, Title II, 97 Stat. 42, 48 (codified at 16 U.S.C. § 1247(d) (1994)).
237. *Preseault*, 100 F.3d at 1531.
238. *Id.* at 1533.
239. *Id.* at 1538.
240. *Id.* at 1539.
241. *Id.*
242. *Id.*

D. Cases that Apply Lucas *to Partial Loss of Value*

Several states and the federal circuit have applied the *Lucas* nuisance exception to cases involving a regulatory taking that does not result in a loss of all economically beneficial use of the land. It is important to consider these cases and determine whether the court is correctly in applying *Lucas.*

In *Kim v. City of New York*,[243] the City placed fill next to the highway on a portion of the plaintiff's property.[244] The New York Court of Appeals interpreted *Lucas* in a different way. Instead of determining whether the regulation fit into one of the categorical takings, the court decided to first examine the owners' "bundle of rights" acquired with the property.[245] The court expanded the nuisance exception to include all laws that were in force when the owner acquired the property.[246] The court then concluded that the plaintiff had an obligation under New York common law and the City's Charter to preserve the lateral support of the highway.[247] Therefore, there was no compensable taking.

This case misinterpreted *Lucas.* This is a physical invasion case. The Supreme Court has made clear, numerous times, that no matter how minor the intrusion, a property owner is always entitled to compensation for a permanent physical intrusion on their property.[248] There are no exceptions to this rule. The nuisance exception only applies in cases where there is a deprivation of all economically beneficial use, which clearly did not happen in this case. The court misinterpreted *Lucas* and applied the exception incorrectly.

The South Carolina Supreme Court also confused the issue in *Grant v. South Carolina Coastal Council.*[249] Grant purchased land in a washout area and built a single family residence on the property.[250] Hurricane Hugo caused sand to overwash his property.[251] He obtained a permit to fill the land from the city, but he did not notify the South Carolina Coastal Council.[252] He was found in violation of

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243. 681 N.E.2d 312 (N.Y. 1997).
244. *Id.* at 313.
245. *Id.* at 314.
246. *Id.* at 315—16.
247. *Id.* at 316.
248. *See generally* Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419, 420 (1982). *See also* Lucas v. South Carolina Coastal Council, 505 U.S. 1003, 1015 (1992).
249. 461 S.E.2d 388 (S.C. 1995).
250. *Id.* at 389.
251. *Id.*
252. *Id.*

the Coastal Zone Management Act[253] by filling a critical area without a permit.[254] Grant alleged that prohibiting him from filling the land was a compensable taking[255] Analyzing this under *Lucas*, the Supreme Court of South Carolina stated that no compensable taking occurs when the restriction on use was part of the original title.[256] The court ignored the first requirement of the *Lucas* analysis, which is to determine whether all economically beneficial use of the land was lost. Instead, the court said that Grant never had the right to fill critical areas without a permit because when he purchased the property the law required a permit.[257]

The Maryland Court of Special Appeals arrived at a similar decision in *Erb v. Maryland Department of the Environment*.[258] This case involved a landowner who desired to build a house on his property.[259] The Calvert County Health Department (CCDH) denied the permit for the septic system because it would pose a serious threat to public health.[260] Although this may have rendered the land valueless, the court noted that there was not substantial evidence to support that idea.[261] The court said that *Lucas* made clear the idea that "[t]o prevent by regulation that which is forbidden in the first instance under the laws relating to the use of private property is not a taking."[262] The court continued, saying the development of the property had been restricted to prevent a public harm, and a property owner had no right to use the property in a way that endangered the health and safety of others.[263] Therefore, there was not a taking because the regulation was preventing a nuisance.

The next important cases are the federal cases discussed *supra*, Part III.C. In *M & J Coal Co.*, the Department of Interior's Office of Surface Mining Reclamation and Enforcement (OSM) had the power to regulate coal mining operations that endangered the health and safety of the public.[264] M & J Coal Co. began mining on its land without a permit.[265] When neighbors complained that these

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253. S.C. CODE ANN. §§ 48-39-10 (1987 & Supp. 1994).
254. *Grant*, 461 S.E.2d at 389.
255. *Id.* at 390.
256. *See id.* at 391.
257. *Id.*
258. 676 A.2d 1017 (Md. Ct. Spec. App. 1995).
259. *Id.* at 1020.
260. *Id.*
261. *Id.* at 1026.
262. *Id.* at 1027.
263. *Id.*
264. M & J Coal Co. v. United States, 47 F.3d 1148, 1150 (Fed. Cir. 1995).
265. *Id.* at 1151.

activities damaged their properties, the West Virginia Department of Energy (WVDOE) issued a notice of violation against M & J Coal Co. for mining without a permit.[266] Subsequently, OSM officials visited the scene and conferred with the WVDOE.[267] The OSM officials found that M & J Coal Co.'s mining operations endangered the public and the OSM issued a cessation order.[268] Eventually, the OSM approved a subsidence control plan, allowing M & J Coal Co. to continue mining if it complied with the plan.[269] After M & J Coal Co. completed its mining it filed a takings claim because the plan deprived them of coal that they could have mined otherwise.[270]

The court acknowledged that this was not a complete deprivation of all economically beneficial use , but decided that the *Lucas* analysis was still useful because there could be no compensable taking if the use of the land was not permitted when the owner acquired the property.[271] The court adopted a "two-tiered" approach to takings claims.[272] First the court should determine whether the use proscribed by the government was inherent in the title to begin with, and then, if there is such an interest, the court should perform the *Penn Central* balancing test.[273] The court then found that M & J Coal Co. did not acquire the right to mine in a way that endangered public safety.[274]

The Federal Claims Court followed *M & J Coal Co.* in *Maritrans Inc. v. United States.*[275] The Oil Pollution Act of 1990[276] required all single hulled vessels be retrofitted with double hulls or they would be phased out of business. The plaintiff owned a fleet of tanks and alleged that the Act effectively deprived them of their use of the vessels; therefore, the Act constituted a compensable taking.[277] The court adopted the two-tier approach from *M & J Coal Co.* and proceeded to grapple with the state's contention that because it was a heavily regulated industry the plaintiffs did not have a Fifth Amendment property interest.[278] The court decided not to accept

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266. *Id.*
267. *Id.*
268. *Id.*
269. *Id.* at 1152.
270. *Id.*
271. *See id.* at 1153—54.
272. *Id.*
273. *See id.* at 1154.
274. *Id.*
275. 40 Fed. Cl. 790 (Fed. Cl. 1998).
276. Pub. L. No. 101-380 § 4115, 104 Stat. 484, (codified at 46 U.S.C. § 3703a(a)—(c) (2000)).
277. *Maritrans*, 40 Fed. Cl. at 791.
278. *Id.* at 794.

this bright line rule and then proceeded to the second tier—the balancing test under *Penn Central*.[279] Similarly, the courts' decisions in *Preseault*[280] and *Store Safe Redlands*[281] use this analysis, although they do not call it the two-tiered approach.

The two-tiered approach is procedurally wrong. Although similar to the analysis in *Grant*[282] and *Erb*[283], the court does not confuse the all-value issue, it merely decided that it would change the way the Supreme Court phrased the issue and make the nuisance exception the *focus* of the inquiry instead of an *exception.* Under *Lucas*, a court needs to first determine whether the regulation deprives the owner of all value, and only then should it look to the nuisance exceptions. When all value is not lost, the court should perform the *Penn Central* balancing test.

Finally, one court has recently applied the *Lucas* analysis when there was not a complete taking, but 98.8% of the value was destroyed.[284] The Army Corps of Engineers denied the landowner a permit to alter wetlands.[285] The landowner and the government agreed that, as a result, the land value was diminished 98.8%.[286] The court decided that this constituted a categorical taking under *Lucas*.[287]

IV. *PALAZZOLO V. RHODE ISLAND*

Anthony Palazzolo was the President of Shore Gardens, Inc. (SGI), a Rhode Island Corporation.[288] Although there had been other shareholders in the past, he was the sole shareholder in 1978 when SGI's corporate charter was revoked.[289] SGI acquired seventy-four lots on the shore and near the shores of Winnipuag Pond, Rhode

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279. *Id.* (citing Penn Central Transportation Co. v New York 438 U.S. 104 (1978).

280. 100 F. 3d 1525 (Fed. Cir. 1996).

281. 35 Fed. Cl. 726 (Fed. Cl. 1996).

282. 461 S.E.2d 388 (S.C. 1995).

283. 676 A.2d. 1017 (Md. Ct. Spec. App. 1995).

284. Cooley v. United States, 46 Fed. Cl. 538 (Fed. Cl. 2000).

285. *Id.* at 540.

286. *Id.* at 547.

287. *Id.* (relying on Florida Rock Industries, Inc. v. United States, 18 F.3d 1560 (1994)). In *Florida Rock*, the lower court had determined that a 95% loss of value fit under *Lucas*' categorical taking. *Id.* at 1567. The Court of Appeals determined that the Federal Claim's Court had incorrectly calculated the fair market value and remanded the case for recalculation. *See id.* However, the court never directly said that a 95% reduction in value was a categorical taking. Instead, the court posed the question, "Does [the] reduction constitute a taking of property compensable under the Fifth Amendment?" *Id.* at 1568.

288. Palazzolo v. Rhode Island, 746 A.2d 707, 709 (R.I. 2000), *cert. Granted*, 121 S. Ct. 296 (2000).

289. *Id.* at 710.

Island, between the years of 1959—61, intending to develop a subdivision.[290] The majority of the property was wetlands, although there was at least one piece of property in an uplands area.[291] Beginning in 1962, Palazzolo filed applications with the Department of Harbors and Rivers (DHR) for permits to alter the property to create a recreational beach.[292] At that time, landowners had to gain approval from DHR to dredge and fill rivers, but were not required to obtain approval to fill coastal wetlands.[293] SGI's applications were denied because of lack of information.[294] In 1965, the Rhode Island legislature passed an act that gave DHR authority to restrict the filling of wetlands.[295] In April of 1971, DHR approved SGI's application to fill wetlands to construct a beach; however, that approval was revoked in November 1971.[296]

In 1971, the Legislature created the Coastal Resources Management Council (CRMC) and gave it authority to regulate coastal wetlands.[297] The CRMC promulgated regulations in 1977 that "prohibited the filling of coastal wetlands without a special exception from the CRMC."[298] Palazzolo again filed applications, in 1983 and 1985 (now with the CRMC), to fill the wetlands and construct the beach.[299] He appealed the last denial in 1986 and filed this case at the same time, claiming that the denial of the application resulted in a taking of property that required compensation.[300]

The Rhode Island Supreme Court explained that there were three issues to consider when determining a takings claim: (1) whether the claim is ripe for review; (2) whether there is a categorical taking under *Lucas* or the physical invasion cases; and (3) whether there is a taking under the *Penn Central* balancing test.[301] The court first addressed the ripeness issue and determined that the case was not yet ripe for review because Palazzolo had not submitted plans for a

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290. *Id.* at 709—10.
291. *Id.* at 710 & n.1.
292. *Id.* at 710.
293. *Id.*
294. *Id.*
295. *See* P.L. 1965, ch. 140, § 1 (codified at G.L. 1956 §§ 2-1-13 through 2-1-17); *see also Palazzolo*, 746 A.2d 707 at 710.
296. *See Palazzolo*, 746 A.2d at 710.
297. Coastal Resources Council Enabling Act, R.I. GEN LAWS §46-23-1 (2000); *see also Palazzolo*, 746 A.2d at 710—11.
298. *Palazzolo*, 746 A.2d 707 at 711.
299. *Id.*
300. *Id.*
301. *Id.* at 712—13.

less ambitious plan.[302] The court explained the importance of ripeness, stating, "[a] court must be able to ascertain 'the nature and extent of permitted development' on the subject property."[303] The court pointed to two United States Supreme Court cases as support. In the first, the claim was not ripe because *no* development plan had been submitted to the appropriate agency for consideration.[304] In the second, only one "grandiose" plan had been submitted.[305] In both cases, the claimants could not prove that "less ambitious plans also would be rejected."[306] The court found the *Palazzolo* situation to be analogous and considered two major facts. First, Palazzolo had only applied to fill the wetlands for the beach, he had not applied to develop the subdivision.[307] And second, Palazzolo had not filed any less ambitious development plans.[308] The court stated:

> Palazzolo has not sought permission for any other use of the property that would involve filling substantially less wetlands or that would involve development only of the upland portion of the parcel. There was undisputed evidence in the record that it would be possible to build at least one single-family home on the existing upland area, with no need for additional fill.[309]

Although the ripeness issue disposed of the case, the Rhode Island Supreme Court briefly addressed the merits of the case.[310] First the court discussed whether there was a per se taking under *Lucas*. The court determined that all beneficial use of the property was not lost because there was at least one lot (out of seventy-four) that was on upland property that could be developed because it did not require a fill permit. The court also said that the wetlands property had value as an "open-space gift" in the amount of around $157,500. Because of this, the court determined that the trial court

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302. *Id.* at 714.
303. *Id.* at 713. (quoting MacDonald, Sommer & Frates v. County of Yolo, 477 U.S. 340, 351 (1986)).
304. *Id.* (citing Agins v. City of Tiburn, 447 U.S. 255, 260 (1980)).
305. *Id.* (citing MacDonald, Sommer & Frates, 477 U.S. at 353 n.9).
306. *Id.* at 713—14.
307. *Id.* at 714.
308. *Id.*
309. *Id.*
310. *Id.*

judge was not wrong in finding that there was some value in the land that precluded a categorical takings claim.

The court also said that even if all value was lost, there was still not a taking because the right to fill in the land was not included in the title when Palazzolo acquired the land.[311] The lower court judge had determined that Palazzolo acquired the land in 1978 (even though SGI actually owned the property before this).[312] In 1977, the CRMC had already promulgated rules that required a special exception to fill wetlands.[313] Because of this preexisting regulation, under the *Lucas* nuisance exception, there was not a categorical taking.[314] Finally, the court applied the *Penn Central* balancing test and found that Palazzolo had no reasonable investment-backed expectations of developing the property.[315]

The U.S. Supreme Court granted *certiorari* on three issues: (1) where a land-use agency has authoritatively denied a particular use of the property and the owner alleges that such denial per se constitutes a regulatory taking, whether the owner must file additional applications seeking permission for less ambitious uses in order to ripen the takings claim;[316] (2) whether a regulatory taking claim is categorically barred whenever a regulation's enactment predates the claimant's acquisition of the property; and (3) whether

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311. *Id.* at 715—16.

312. *Id.*

313. *Id.* at 711.

314. *See id.*

315. *Id.* at 717.

316. This Note only examines substantive issues that have arisen since *Lucas* and will hopefully be addressed in *Palazzolo*. However, a brief discussion of the ripeness claim is in order, as the Court may not even reach the substantive issues if it decides the claim is not ripe for review.

For a claim to be ripe, the plaintiff must have a final administrative decision regarding the application of the regulations to the property at issue, and if the state has an adequate procedure for seeking just compensation, the landowner must have used the procedure. *See* Suitum v. Tahoe Regional Planning Agency, 520 U.S. 725, 734 (1997). Rhode Island argues that this requires Palazzolo to file less ambitious plans before his claim can be ripe. In this situation, however, a less ambitious plan is not necessary for several reasons.

First, Palazzolo claims that he did file a less ambitious plan; his most recent plan sought to fill 11.2 acres of wetlands instead of all 18 acres as the original plan requested. *See* Petitioner's Brief on the Merits at 11, 2000 WL 1742033 (No. 99-2047). Additionally, there is evidence that shows that Palazzolo's application was denied because his purpose in filling the wetland was not for conservation or similar purposes and that all other purposes are prohibited. *See id.* at 11–12. It is a waste of time and money for Palazzolo to be required to continue to submit applications when, realistically, under the restrictions of his property, the Commission would never grant him permission to do as he asked with the property, whether it was less ambitious or not. This is not to say that every claim will be ripe for review without filing less ambitious plans. The Court needs to examine the facts in each case to determine ripeness. In this case, it seems useless for Palazzolo to file more plans because the Commission was not going to grant the permits.

the remaining permissible uses of regulated property are economically viable merely because the property retains a value greater than zero.[317] The Court now has the opportunity to address these important issues left open after *Lucas*.

A. Are Preexisting Limitations Inherent in Property Law?

The first thing the Court must consider is that ownership and control of property is a fundamental right on which this country was founded. Although there is an abundance of literature on this topic,[318] there is also an innate feeling inside Americans that owning property is important. The average person does not understand the complex rules regarding eminent domain and takings; however, most people will probably tell you that the government has no right to tell them what to do with the property they own. This right must be balanced against the government's responsibility to use its police power to protect the safety, health, and welfare of the people.[319] It is imperative that the Court keep in mind the history of property rights when it determines the future of takings jurisprudence in *Palazzolo*. History leads to convincing arguments both for including statutes and for excluding statutes from the *Lucas* exception. Originally, most courts and scholars only considered common law principles to fit into the *Lucas* exception, not statutory regulations.[320] However, as the cases in Part II.C. illustrate, courts have recently begun to include regulations as a limitation in property law that fits in the *Lucas* exception.

In many ways, it makes sense to include regulations as an inherent limitation in title. From an economic standpoint, a person obtains the property with reasonable expectations. If there is a restriction on the property when the landowner acquires it, she does not have a reason to believe she can use the property in a way that would violate that restriction. Additionally, a buyer should already have been compensated for that restriction on the use of land by a lower purchase price. A buyer of property is responsible for learning what restrictions and easements are existing when he purchases the property. If he does not do this, it is not the government's

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317. On the Docket, Northwestern University, *at* http://www.medill.nwu.edu/docket (visited June 19, 2001).

318. *See, e.g.*, sources cited *supra* notes 1 & 2.

319. *See, e.g.*, Talmadge, *supra* note 7.

320. *See* Lynn E. Blais, *Takings, Statutes, and the Common Law: Considering Inherent Limitations on Title*, 70 S. CAL. L. REV. 1, 5—6 (1996).

responsibility to compensate him for his lack of investigation into the property and applicable law.

Another reason why existing regulations could be considered inherent limitations on the use of the land under the *Lucas* exception is because our ideas of property evolve over time.[321] Justice Stevens had deep concerns about this in his dissent in *Lucas*. He stated that property law needs to be revised as our concepts about property change.[322] He also pointed out that property laws need to be revised as we learn and evolve in both a moral and a practical sense.[323] He used the example of slavery to illustrate how concepts of property can radically change, and he felt that the courts should allow for that change.[324] Justice Stevens was also afraid that only looking at the common law would hamper legislatures' attempts to deal with problems in land use law—particularly environmental regulation.[325] For these reasons, he believed that not every regulation that involved a complete taking should be compensated.

Environmental legislation is a good example of this concern. This area has rapidly expanded in the past three decades. As Justice Stevens argued, legislatures need to be free to create laws that will conserve and protect our natural resources. A state will be required to compensate a current landowner if a regulation is enacted that takes away all value of the land. Any subsequent landowner acquires property with, at the very least, constructive notice that his rights are limited. By denying compensation to property owners who acquire the property after a regulation, the Court has created an entire class of people who are ineligible to claim a taking of their property.[326] As the years go by, fewer people will be able to make claims.[327] Many environmentalists see this as a positive development because instead of expanding takings jurisprudence, *Lucas* actually narrowed it.[328] Governments can create environmental legislation without as much concern over compensable takings.[329]

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321. *See id.* at 6.

322. Lucas v. South Carolina Coastal Council, 505 U.S. 1003, 1069 (1992) (Stevens, J., dissenting).

323. *Id.*

324. *Id.*

325. *Id.* at 1070.

326. *See* Peter L. Henderer, *The Impact of* Lucas v. South Carolina Coastal Council *and the Logically Antecedent Question: A Practitioner's Guide to Fifth Amendment Takings of Wetlands*, 3 ENVTL. LAW. 407, 421 (1997).

327. *See id.*

328. *See id.* at 421—22.

329. *See id.*

There are also equally strong reasons *against* including preexisting regulations as inherent limitations in title. First, it violates the plain language of *Nollan v. California Coastal Commission*,[330] which the Court decided before *Lucas*. The Court held that the Commission's requirement of an easement on the plaintiff's property as a condition for issuing a permit required compensation.[331] The Court stated:

> Nor are the Nollan's rights altered because they acquired the land well after the Commission had begun to implement its policy. So long as the Commission could not have deprived the prior owners of the easement without compensating them, the prior owners must be understood to have transferred their full property rights in conveying the lot.[332]

Judge Wesley, of the New York Court of Appeals, explained this point in his dissent in *Anello*.[333] He reiterates that owners transfer their full property rights when they convey a lot.[334] He contends, "If a prior owner cannot transfer a potential taking claim to a subsequent purchaser, then the property's value is destroyed by the transfer without the government having to pay compensation for it."[335] He thought a preexisting regulation that deprives an owner of all use of the land should be *not* considered a background principle of property law.[336] This turns a compensable taking into an uncompensable taking merely because the land is transferred.[337] Judge Wesley did not think this was what the Court meant when it said to look at background principles of law. The Court itself said to look at similarly situated owners to see if the use was prohibited at common law. This interpretation would allow one owner to use the land in one way, but prohibit his next door neighbor from doing the

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330. 483 U.S. 825 (1987).
331. *Id.* at 838—39.
332. *Id.* at 834 n.2.
333. Anello v. Zoning Board of Appeals, 89 N.Y.2d 535, 541—44 (N.Y. 1997) (Wesley J., dissenting).
334. *Id.* at 543 (citing Nollan v. California Coastal Comm'n, 483 U.S. 825, 834 n.2 (1987)).
335. *Id.*
336. *Id.* at 543—44.
337. *Id.* at 543.

exact same thing, only because he bought the land at a different time.[338]

Similarly, in *Store Safe Redlands Associates v. United States*,[339] the Federal Claims Court explained why a court should not look to preexisting statutes for background principles of property law. This case involved an amendment to the plaintiff's grazing permit which denied him the right to use the ditch irrigation system because the state reclaimed its water rights.[340] This is not a loss of all value case, but the court still applied the *Lucas* analysis. The court strongly disagreed with the idea that a preexisting regulation did not require compensation. The court stated that this was "illogical and inconsistent with well-established property law."[341] It proposed the hypothetical that Congress could pass a law stating that land owners could not build on their property.[342] After the land had passed hands once, landowners would not be able to build on their property, and no compensation would be required from the government.[343] The court also stated that property rights run with the land, they do not evaporate when the land transfers hands.[344] Therefore, a regulation does not take away the right of a subsequent owner just because the land changes hands.

There are several other concerns that arise from saying that just because a regulation was in place at the time the property was acquired, it is a background principle of law. First, and extremely important, it is not clear the Supreme Court meant to include preexisting regulations in *Lucas*. The Court stressed that the relevant inquiry was into *common law*.[345] In fact, the court instructed state courts to look at similarly situated owners to see if they are allowed to use the land in the way prohibited to determine if the use was prohibited at common law.[346] Justice Stevens seems to have thought the court intended to look only at common law because he strongly disagreed with this idea in his dissent.[347] Although he did not agree

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338. *See id.*

339. 35 Fed. Cl. 726 (Fed. Cl. 1996).

340. *Id.* at 731.

341. *Id.* at 735.

342. *Id.*

343. Although the court makes an interesting argument here, it forgets the first step of a takings analysis. The regulation must be a valid exercise of police power. It is unlikely that any rule such as this would pass this test.

344. 35 Fed. Cl. at 735.

345. *See* Lucas v. South Carolina Coastal Council, 505 U.S. 1003, 1029 (1992).

346. *Id.* at 1031. However, it can be argued that other owners were not "similarly situated" if they did not have the same restrictions on their property when they purchased it.

347. *See id.* at 1068—1069 (Stevens, J., dissenting).

with the Court's rule, it is clear that he thought the exception applied only to common law nuisances, not recent legislation.

There is also a problem with the idea that legislation always puts an owner on notice that there are limitations on land. For example, in the *Hunzicker* case, the plaintiffs did not know there was a burial mound on the property that could not be disturbed.[348] This took away their property rights without compensation because of a development *after* they owned the property, merely because the statute was in place before they bought the property. If the court applied a balancing test, it would have to closely examine the facts of the case and thoroughly analyze the surrounding issues. This seems to be more equitable in a situation like this.

It is clear that *Lucas* does not provide certainty as to whether preexisting regulations should be included as an inherent limitation in the property owner's title. There are powerful arguments on each side of the issue. If the Supreme Court decides that *Palazzolo* is ripe and reaches this issue, it needs to closely examine these arguments. The most equitable approach to these fact-sensitive cases is to closely examine the issues surrounding each case. How long was the regulation in place? Did the landowner have notice? Did the landowner buy the property at a reduced price because of restrictions? Was it a sophisticated buyer who should have been aware of the regulation? Was there a development *after* the purchase of the property, which resulted in the loss of value, even though the regulation was preexisting?

For example, consider the facts in *Palazzolo*. In this case, the current owner previously owned the company that owned the property. He did not buy the property after the regulations were enacted, he had an interest in the property long before the wetlands regulations were enacted. The only reason he personally owns the property is because SGI's corporate charter was revoked, which happened after the regulations were enacted. So, it would seem that if the corporate charter had not been revoked in 1978, SGI would still own the property, and it would have a cause of action because it owned the property before the regulations were enacted. This does not seem to be a fair result. With a balancing of the facts, the courts will be able to account for these inequities instead of taking a blind bright-line approach. Although this is not the easiest way to handle the cases, it will produce the most equitable results. This also

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348. Hunziker v. State, 519 N.W.2d 367, 368 (Iowa 1994); *see also supra* text accompanying note 219.

follows the traditional notion of takings jurisprudence —that the courts should engage in essentially *ad hoc*, case specific analysis.[349]

B. Should the Lucas *Exception Apply When There Is Some Property Value?*

Palazzolo also gives the Court an opportunity to determine that the *Lucas* exception can apply even if the value of the land is not zero. Under *Lucas*, the nuisance exception should not be applied unless the landowner is deprived of *all* economically beneficial use of the land. A court should apply the *Penn Central* balancing test and weigh the rights of the landowner against the interests of the public if the land still retains some value.

But what if 80% of the value of the land is lost? 95%? What about 99%? Indeed it is very easy to argue for *any* piece of property that there is *some* value. For example, the Rhode Island Superior Court found that denial of a building permit did not deprive the owner of all economic value of the land because the property still had a "valuable recreational environment."[350] The court found that a natural environment could support public recreation for activities such as hunting, fishing, and bird watching.[351] If other courts follow this logic, it would seem that all economically beneficial use of the land is *never* completely lost.

The Court will have to address this problem if it reaches the merits in *Palazzolo*. The Rhode Island Supreme Court noted that there was one out of seventy-four lots that could be developed.[352] It also stated that the land had value as "open-space." Although *Lucas* seems to say that the value of the property must be zero, the Court did not address the question of whether, even though there was no *use* of the land permitted, there was still some residual *value*.[353] The Court used the words use and value interchangeably; however, from the subsequent cases, it appears that some land can have no "uses"

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349. *See* Penn Central Transportation Co. v. New York, 438 U.S. 104, 123—24 (1978); *see also supra* text accompanying note 20).

350. Emond v. Dufree, 1996 R.I. Super. Lexis 36, *14 (1996).

351. *Id.*

352. Palazzolo v. Rhode Island, 746 A.2d 707, 714 (R.I. 2000). This presents the issue of what part of a piece of property should be considered when determining if all value of the land has been taken. There is a debate whether, as in this case, one parcel should be considered as a separate piece of property or as part of the whole. This issue is an important issue; however it is an article in and of itself, and it is beyond the scope of this Note.

353. *See* Lucas v. South Carolina Coastal Council, 565 U.S. 1003, 1019 n.8. (1992). The Court admits that an owner who is deprived of 95% of the value of his land does not get the benefit of the categorical exception. Instead, he must rely on the *Penn Central* balancing test. *Id.*

permitted, but still retain some "value." This gives the Court the leeway it needs to expand the *Lucas* exception. The question is whether this is an appropriate expansion.

I suggest that it is appropriate to expand the categorical taking to situations where all economic *value* of the land is lost *or* when all *uses* of the land are prohibited. In other words, the landowner should have a categorical taking claim when he is required to leave his land in its natural state. This would alleviate some of the landowner's burden of having to prove that his land has "no" economic value. Instead, he would have to prove that the restrictions require him to leave his land in its natural state. This also avoids the problem of a government entity "making up" a value that is not really a benefit to the landowner, such as public recreational value. However, this expansion keeps the categorical taking in *Lucas* from becoming overly-broad or far-reaching. It remains within the spirit of *Lucas* and its predecessors—it merely clarifies that when a piece of property must be kept in its natural state, then all of its value has been taken by the government regulation and the landowner deserves just compensation. This will not solve all of the takings problems, but it is a step in the right direction.

V. CONCLUSION

It appears that instead of clarifying takings law in *Lucas*, the Supreme Court added complications. The Court now has a chance to alleviate some of this confusion. First, the Court needs to decide the case is ripe for review so that it can reach the merits of the case. Then the Court needs to thoroughly examine all of the complex issues surrounding the takings issues, keeping in mind the historical significance of property rights in the United States. The most equitable way for the Court to resolve the dispute about whether preexisting regulations should be included in the inherent limitations in title under the *Lucas* exception is to revert to a *Penn Central* type analysis of the facts involving the regulation. Additionally, the Court should clarify that a categorical taking includes those regulations that not only destroy all value of the property, but also those that prohibit all use of the land. The United States Supreme Court once again has the difficult challenge of protecting private property, while at the same time protecting American citizens, and its decision is sure to shape the future of individual property rights.

RECENT DEVELOPMENTS IN LAND USE AND ENVIRONMENTAL LAW

JEANNE B. CURTIN*

Table of Contents

INTRODUCTION

This section highlights significant recent developments in federal and state environmental and land use case law. In addition to the sources cited in this section, the reader is encouraged to consult the official website of the Florida Legislature at <www.leg.state.fl.us>, and the website of the Environmental and Land Use Section of the Florida Bar <www.eluls.org>. Other useful sources the reader may wish to consult include the website of the Florida Department of Environmental Protection <www.dep.state.fl.us>, the Environmental Protection Agency's website <www.epa.gov>, and Enviro-Net <www.enviro-net.com> for recent news stories.

I. FEDERAL CASES

Whitman, Administrator of Environmental Protection Agency, et al. v. American Trucking Associations, Inc., et. al., 121 S. Ct. 903 (February 27, 2001)

On February 27, 2001, the United States Supreme Court, in a unanimous decision, held that: (1) section 109(b)(1) of the Clean Air Act (CAA) does not allow the Environmental Protection Agency (EPA) to consider costs when setting primary ambient air quality standards; (2) the scope of discretion allowed by section 109(b)(1) was not a violation of the nondelegation doctrine; (3) EPA's implementation policy for the revised ozone National Ambient Air Quality Standards (NAAQS) was final agency action and was ripe

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*J.D., The Florida State University College of Law (expected 2001).

for judicial review; and (4) EPA's interpretation of sections 7501-7515 of the CAA was unreasonable and, therefore, unlawful.[1]

Section 109(b)(1) of the CAA instructs EPA "to set primary ambient air quality standards 'the attainment and maintenance of which … are requisite to protect the public health' with 'an adequate margin of safety.'"[2] The Court found that this language clearly made no reference to cost considerations and noted that the CAA had expressly authorized cost considerations in other sections, making any finding of cost considerations in ambiguous sections of the CAA improper.[3] The Court went on to point out that the States are the *implementers* of the CAA and, therefore, "the most important forum for consideration of claims of economic and technological infeasibility is before the state agency formulating the implementation plan."[4]

The Court disagreed with the Court of Appeals for the District of Columbia Circuit's finding that the EPA's interpretation of section 109(b)(1) of the CAA violated the nondelegation doctrine.[5] The Court of Appeals held that section 109(b)(1), which directs the EPA to set ambient air quality standards that are requisite to protect the public health, provided no "intelligible principles" to guide EPA.[6] The Court concluded that the term "requisite" did, in fact, provide guidance to EPA as "[r]equisite … 'mean[s] sufficient, but not more than necessary.'"[7] The Court also pointed out that it has never required statutory schemes to provide a "determinate criterion" that instructs an agency as to "how much [of the regulated harm] is too much."[8]

Next, the Court found that EPA's implementation policy for the revised ozone NAAQS was final agency action and was ripe for judicial review.[9] On the day that the final ozone NAAQS was promulgated, EPA issued an explanation of implementation procedures as a supplement to a White House memorandum that was published in the *Federal Registe*r which set forth implementation

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1. *See* Whitman, Administrator of Envtl. Prot. Agency, et. al. v. Am. Trucking Ass'ns, Inc., et. al., 121 S. Ct. 903 (February 27, 2001).
2. *Id.* at 908 (citing 42 U.S.C. § 7409(b)(1)).
3. *See id.* at 908—911.
4. *Id.* at 911 (quoting Union Elec. Co v. EPA, 427 U.S. 246, 266 (1976)).
5. *See id.* at 912.
6. *See id.* (quoting Am. Trucking Ass'ns, Inc. v. Envtl. Prot. Agency, 175 F.3d 1027 at 1034 (1999).
7. *Id.* (citing Tr. of Oral Arg. in No. 99-1257, pg. 7).
8. *Id.* at 913 (quoting *Am. Trucking*, 175 F.3d at 1034).
9. *See id.* at 914—917.

procedures that EPA was to follow.[10] Moreover, "[s]ince that interpretation issued, the EPA has refused in subsequent rulemakings to reconsider it, explaining to disappointed commenters that its earlier decision was conclusive."[11] Thus, while EPA had not followed procedural requirements finalizing its interpretation, the agency's actions indicated that its interpretation was final.[12]

Finally, the Court concluded that while it was required to defer to a *reasonable* agency interpretation of an ambiguous statute pursuant to *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*,[13] EPA's interpretation was not reasonable because it effectively nullified certain provisions of the CAA.[14] This issue concerned the relationship between Subpart 1,[15] which sets forth general requirements for nonattainment areas (areas whose ozone levels exceed the maximum permitted level), and Subpart 2,[16] which was added by the CAA Amendments of 1990 and addresses ozone.[17] Arguably, both Subpart 1 and Subpart 2 could apply to the new ozone standard.[18] Subpart 1 grants EPA regulatory discretion in determining requirements and deadlines for nonattainment areas, whereas Subpart 2 sets forth specific classifications and a schedule for nonattainment areas as a matter of law.[19] EPA argued that "Subpart 2 was simply Congress's 'approach to the implementation of the [old] 1-hour standard, and so there was no reason that 'the new standard could not simultaneously be implemented under . . . [s]ubpart 1.'"[20] The Court responded that "[t]o use a few apparent gaps in Subpart 2 to render its textually explicit applicability to nonattainment areas under the new standard utterly inoperative is to go over the edge of reasonable interpretation."[21] Additionally, the Court was astonished by EPA's interpretation because Subpart 2 was written to govern implementation through 2010.[22] EPA must now

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10. *See id.*
11. *Id.* at 915.
12. *See id.*
13. 467 U.S. 837 (1984).
14. *See* Whitman, 121 S.Ct. 903 at 915 (2001).
15. 42 U.S.C. §§ 7501-7509a.
16. 42 U.S.C. §§ 7511-7511f.
17. *See* Whitman, 121 S. Ct. 903 at 917—19.
18. *See id.*
19. *See id.* at 918.
20. *Id.* (quoting 62 Fed. Reg. 38856, 3885 (1997)).
21. *Id.*
22. *See id.* at 919.

develop a reasonable interpretation of the nonattainment implementation provisions as they apply to revised ozone NAAQS.[23]

"The judgment of the Court of Appeals is affirmed in part and reversed in part, and the cases are remanded for proceedings consistent with this opinion."[24]

Central Green Co. v. U.S., 121 S. Ct. 1005 (Feb. 21, 2001)

The United States Supreme Court held that in cases involving immunity pursuant to the Flood Control Act of 1928, "courts should consider the character of the waters that cause the relevant damage rather than the relation between that damage and a flood control project."[25] At issue was whether the words "flood or flood waters" refer to all waters that run "through a federal facility that was designed and is operated, at least in part, for flood control purposes."[26] The Court remanded the case for a determination of whether section 702(c), which grants the United States immunity from damage caused by floods or flood waters, applies in an action against the United States for damages allegedly caused by flooding from a federally owned canal.[27]

In 1928, incident to the authorization of a flood control project, "Congress enacted an immunity provision which stated that 'no liability of any kind shall attach to or rest upon the United States for any damage from or by floods or flood waters at any place."[28] In 1986, petitioner brought suit against the United States and the Madera Irrigation District for damages from the flooding of petitioner's orchards which was allegedly caused by the negligent design, construction, and maintenance of the Madera Canal, which runs through petitioner's property.[29] The District Court dismissed the complaint because the canal was a part of Central Valley Project (Project), one of the purposes of which is flood control.[30] Although the United States Court of Appeals for the Ninth Circuit agreed with petitioner that the Canal served no flood control purpose, it nonetheless affirmed, reasoning that immunity attached *solely*

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23. *See id.*
24. *Id.*
25. *See* Cent. Green Co v. U.S., 121 S. Ct. 1005 at 1012 (Feb. 21, 2001).
26. *Id.* at 1007.
27. *See id.* at 1012 (citing 33 U.S.C. § 702(c)).
28. *Id.* at 1007.
29. *See id*.
30. *See Id.*

because the Canal is a branch of the Project.[31] In its holding, the Ninth Circuit "recognized that the government would probably not have enjoyed immunity in at least three other Circuits where the courts require a nexus between flood control activities and the harm done to the plaintiff."[32]

The Court relied on *United States v. Gerlach Live Stock Co.*,[33] referring to Justice Jackson's description of the Central Valley Project:

> [T]o characterize every drop of water that flows through that immense project as "flood water" simply because flood control is among the purposes served by the project unnecessarily dilutes the language of the statute. The text of the statute does not include the words "flood control project." Rather, it states that immunity attaches to "any damage from or by floods or flood waters …."[34]

The Court stated, "[a]ccordingly, the text of the statute directs us to determine the scope of the immunity conferred, not by the character of the federal project or the purposes it serves, but by the character of the waters that cause the relevant damage and the purposes behind their release."[35]

The Court also disagreed with the Government's reliance on dicta from *United States v. James*, which stated that "[i]t is thus clear from [section] 702(c)'s plain language that the terms 'flood' and 'flood waters' apply to all waters contained in or carried through a federal flood control project for purposes of or related to flood control, as well as to waters that such projects cannot control."[36] The Court distinguished *James* from the Ninth Circuit's broad reading of section 702(c), "under which immunity attaches simply because the Madera Canal is part of the … Central Valley Project, and flood control is one of the purposes served by that project."[37]

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31. *See id.* (emphasis supplied).
32. *Id* (quoting Cent. Green Co. v. United States, 177 F.3d 834, 839 (1999).
33. 339 U.S. 725 (1950).
34. *Id*. at 1010.
35. *Id.* at 1010-11.
36. *Id.* at 1008 (quoting United States v. James, 478 U.S. 597, 605 (1986)).
37. *Id.* at 1009.

Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, 121 S. Ct. 675 (2001)

On January 9, 2001, the U.S. Supreme Court reversed the United States Court of Appeals for the Seventh Circuit, holding that certain isolated wetlands do not come within the jurisdiction of the Army Corps of Engineers.[38] In a five-to-four opinion, the Court held that the provisions of section 404(a) of the Clean Water Act do not confer federal authority over an abandoned sand and gravel pit which provides habitat for migratory birds.[39]

The Solid Waste Agency of Northern Cook County (SWANCC)[40] decided to purchase an old sand and gravel mining pit for use as a disposal site for solid waste.[41] The abandoned excavation trenches on the property had evolved into permanent and seasonal ponds[42] which "'are used as habitat by migratory bird [sic] which cross state lines.'"[43] SWANCC applied for and was granted various required permits from Cook County and the State of Illinois.[44] Because the development required "the filling of some of the permanent and seasonal ponds, SWANCC"[45] also contacted the Corps "to determine if a federal landfill permit was required under § 404(a) of the [Clean Water Act]."[46] While "[t]he Corps initially concluded that it had no jurisdiction over the site . . . it later reconsidered and ultimately asserted jurisdiction over the balefill site."[47] The Corps determined that the ponds were "waters of the United States,"[48] which therefore came within the Corps' jurisdiction pursuant to the Migratory Bird Rule,[49] and the Corps refused to issue a permit.[50]

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38. *See* Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, 121 S. Ct. 675 (2001).

39. *See id.* at 678.

40. *See id.* ("SWANCC is a consortium of 23 suburban Chicago cities and villages that united in an effort to locate and develop a disposal site for baled nonhazardous solid waste.").

41. *See id.*

42. *See id.*

43. *Id.* at 679 (citing U.S. Army Corps of Engineers, Chicago District, Dept. of Army Permit Evaluation and Decision Document).

44. *See id.*

45. *Id.* at 678.

46. *See id.* ("Section 404(a) of the Clean Water Act … 33 U.S.C. § 1344(a), regulates the discharge of dredged or fill material into 'navigable waters.'"). *Id.* at 677

47. *Id.*

48. *Id.* at 679. *See also supra*, note 43.

49. *See id.* at 678 ("In 1986, in an attempt to 'clarify' the reach of its jurisdiction, the Corps stated that § 404(a) extends to intrastate waters: a. Which are or would be used as habitat by birds protected by Migratory Bird Treaties; or b. Which are or would be used as habitat by other migra tory birds which cross state lines; or c. Which are or would be used as habitat for

SWANCC filed suit in the Northern District of Illinois challenging the Corps' jurisdiction and its denial of the permit.[51] "The District Court granted summary judgment to respondents on the jurisdictional issue, and petitioner abandoned its challenge to the Corps' permit decision."[52] On appeal, the Seventh Circuit was presented with two issues: 1) whether "respondents had exceeded their statutory authority in interpreting the CWA [Clean Water Act] to cover nonnavigable, isolated, intrastate waters based upon the presence of migratory birds[;] and, [2] in the alternative, [whether] Congress lacked the power under the Commerce Clause to grant such regulatory jurisdiction."[53] The Court of Appeals determined "that Congress has the authority to regulate such waters based upon the 'cumulative impact doctrine,'"[54] because "[t]he aggregate effect of the 'destruction of the natural habitat of migratory birds' on interstate commerce … was substantial because each year millions of Americans cross state lines and spend over a billion dollars to hunt and observe migratory birds."[55] Second, "[t]he court held that the CWA reaches as many waters as the Commerce Clause allows and, given its earlier Commerce Clause ruling, it therefore followed that respondents' 'Migratory Bird Rule' was a reasonable interpretation of the Act."[56]

The Supreme Court reversed, holding that the Corps' interpretation was not supported by the CWA.[57] The Court concluded that the text of the statute would not permit a finding "that the jurisdiction of the Corps extends to ponds that are not adjacent to open water."[58] The Court also rejected the Corps' argument that because Congress failed to pass legislation that expressly "overturned the Corps' 1977 regulations and the extension of jurisdiction,"[59] it had demonstrated Congressional acceptance of

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endangered species; or d. Used to irrigate crops sold in interstate commerce. 51 Fed. Reg. 41217. This … promulgation has been dubbed the 'Migratory Bird Rule.'").

50. *See id.* at 679.

51. *See id.*

52. *Id.*

53. *Id.*

54. *Id.* (citing Solid Waste Agency of Northern Cook County v. U.S. Army of Engineers, 191 F. 3d 845, 850 (7th Cir. 1999) ("[T]he cumulative impact doctrine, under which a single activity that itself has no discernible effect on interstate commerce may still be regulated if the aggregate effect of that class of activity has a substantial impact on interstate commerce.").

55. *Id*.

56. *Id.*

57. *See id.* at 680.

58. *Id.*

59. *Id.* at 681.

the Corps' broad definition of "'navigable waters.'"[60] The Court was reluctant to equate a piece of failed legislation with congressional acquiescence to an administrative interpretation.[61] Finally, the Court declined to extend *Chevron*[62] deference to the Corps' interpretation of the CWA.[63] The Court found that application of the Corps' regulations raised "significant constitutional questions . . . and yet we find nothing approaching a clear statement from Congress that it intended § 404(a) to reach an abandoned sand and gravel pit such as we have here."[64] The Court was also concerned that "[p]ermitting respondents to claim federal jurisdiction over ponds and mudflats falling within the 'Migratory Bird Rule' would result in a significant impingement of the States' traditional and primary power over land and water use."[65]

Bugenig v. Hoopa Valley Tribe, 229 F.3d 1210 (9th Cir. 2000), *reh'g granted*, 230 F.3d 1215 (9th Cir. 2001).

At issue was the scope of tribal jurisdiction over fee-patented private property owned by a nonmember of the tribe within reservation boundaries. The Ninth Circuit reversed the District Court and held that Congress had not expressly authorized tribal jurisdiction over non-member conduct on privately held land.[66] Bugenig purchased forty acres within the Reservation and wanted to harvest timber on less than three acres of her property.[67] The Tribal Council refused Bugenig's request for a permit to haul the timber and filed suit against her in the Hoopa Valley Trial Court after Bugenig had begun harvesting trees.[68] The Tribal Court determined that the Tribe did have jurisdiction over Bugenig's land and her activities, and the Northwest Regional Tribal Supreme Court

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60. *See id.*

61. *See id.* (citing, in a footnote, Bob Jones Univ. v. United States, 461 U.S. 574, 595, 600-601 (1983)) ("Absent such overwhelming evidence of acquiescence, we are loath to replace the plain text and original understanding of a statute with an amended agency interpretation.").

62. Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc., 467 U.S. 837 (1984) (The Court held that if the statute is clear, then that is the end of the Court's inquiry. If the statute is ambiguous or silent, then the Court should defer to any permissible or reasonable interpretation made by the agency.)

63. *See id.* at 683.

64. *Id.* at 684.

65. *Id.*

66. *See* Bugenig v. Hoopa Valley Tribe, 229 F.3d 1210 (2000).

67. *See id*. at 1214.

68. *See id.*

affirmed.[69] Bugenig filed suit in federal court which found that Congress had expressly authorized the Tribe's jurisdiction.[70]

The Ninth Circuit rejected the District Court's finding that "through passage of the [Hoopa-Yurok] Settlement Act [of 1988], which 'ratified and confirmed' tribal governing documents that assert tribal jurisdiction over nonmembers, Congress conferred upon the Tribe the authority to regulate Bugenig's land."[71] The court noted:

> The fact that nothing in the Settlement Act explicitly confers upon the Tribe jurisdiction to regulate nonmembers raises serious questions as to how carefully Congress considered whether it was making any grant of regulatory authority to the Tribe.... The legislative history contains no indication that Congress considered giving or intended to give the Tribe authority to exercise jurisdiction over fee-patented land owned by non-Indians such as Bugenig.[72]

Because both sides had reasonable arguments as to "whether the Settlement Act confers upon the Tribe the jurisdiction to regulate the activities of nonmembers,"[73] the court adopted a "'clear statement rule,'" which requires that any congressional delegation of authority to tribes to regulate nonmembers be express.[74] The court noted that such grants of authority are rare and that the Supreme Court had only addressed the issue and found express congressional delegation in two instances.[75] "Supreme Court precedent establishes the existence of a presumption against tribal jurisdiction over nonmembers: 'exercise of tribal power beyond what is necessary to protect tribal self-government or to control internal relations is inconsistent with the dependent status of the tribes, and so cannot survive without *express* congressional delegation.'"[76] The court determined that regulating Bugenig's logging activities, "even when justified by reference to some tribal interest, simply does not

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69. *See id.*
70. *See id.*
71. *Id.* at 1215.
72. *Id*.
73. *Id.* at 1216.
74. *See id.* at 1219.
75. *See id*. at 1217.
76. *Id*. at 1218 (quoting Montana v. United States, 450 U.S. 544 (1981) (emphasis supplied)).

implicate 'tribal self-government' or 'internal [tribal] relations' …."[77] The instances when a tribe can regulate the activities of a nonmember "on nonmember-owned land are 'limited' indeed. "[78]

Palm Beach Isles Associates v. United States, 231 F. 3d 1354 (Fed. Cir. 2000), *reh'g denied*, 231 F. 3d 1365 (Fed. Cir. 2000)

On November 6, 2000, the United States Court of Appeals for the Federal Circuit determined that in a categorical regulatory takings case, the property owners' reasonable investment-backed expectations were not a part of the takings analysis.[79] In its original opinion, the court equated the categorical regulatory taking with a physical taking, and noted that, "[i]n a physical taking context, the question is not why the owner acquired the property taken, but only did she own it at the time of the taking."[80] On petition for rehearing, the government argued that the court, in its original opinion, had "failed to follow its own controlling precedent when it stated that, if a taking is 'categorical,'[81] that determination removes from the analytical equation the question of investment-backed expectations."[82] The government noted that in *Good v. United States*, the court stated that "'reasonable investment-backed expectations are an element of every regulatory takings case.'"[83] The court distinguished *Good* in that the case did not involve a categorical taking.[84] The court also noted, "[e]ver since *Penn Central*[85] it has been understood that having reasonable investment-backed expectations is, generally speaking, a part of a successful claim of regulatory taking, claims that typically *involve something less than a total wipeout* …."[86]

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77. *Id*. at 1220.
78. *Id*. at 1223.
79. *See* Palm Beach Isles Associates v. United States, 231 F.3d 1354 (2000).
80. *Id.*
81. *See id.* at 1357 ("A 'categorical' taking is, by accepted convention, one in which all economically viable use, i.e., all economic value, has been taken by the regulatory imposition.").
82. *Id.*
83. *Id.* (quoting *Good v. United States*, 189 F.3d 1355 (Fed. Cir. 1999).
84. *See id.* at 1360 (In *Good*, the court concluded that "the … restrictions on development … do not deprive plaintiff's property of all economic value. The property retains value both for development, or for the sale of transferable development rights.").
85. Penn Cent. Transp. Co. v. New York City, 438 U.S. 104 (1978).
86. *Id.* at 1360 (emphasis supplied).

In *Lucas v. South Carolina Coastal Council*,[87] the Supreme Court "discussed at length the rationale behind the justification for the rule that a total deprivation of beneficial use by regulatory imposition was akin to a physical taking."[88] The circuit court noted:

> The Court's opening discussion in its *Lucas* opinion cited and referred to the leading takings law cases. Had the court intended to make analysis of a categorical regulatory taking different from the categorical physical taking, for example regarding the question of investment-backed expectations, surely somewhere in the opinion there would be a hint of it. There is not.[89]

The court acknowledged that "most land use restrictions do not deny the owner of the regulated property all economically viable uses of it."[90] Thus, "[i]n the relatively few cases where they do, we have no doubt that both law and sound constitutional policy entitle the owner to just compensation without regard to the nature of the owner's initial investment-backed expectations."[91] The court pointed out that the government still has defenses available under the nuisance category.[92]

II. FLORIDA CASES

Florida Power & Light Co. v. City of Dania, 761 So. 2d 1089 (Fla. 2000)

At issue was the appropriate standard of review to be applied by district courts on "second-tier" certiorari review.[93] Florida Power & Light (FP&L) wanted to build an electrical substation in the City of Dania and so applied for a special zoning exception with the City Commission.[94] The Commission rejected FP&L's application and FP&L filed a petition for a writ of certiorari in the circuit court.[95] The circuit court quashed the Commission's decision and found that once an applicant met its initial burden of proving that its application met

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87. 505 U.S. 1003 (1992).
88. *Id.* at 1362.
89. *Id*.
90. *Id.* at 1364.
91. *Id*.
92. *See id*.
93. *See* Florida Power & Light Co. v. City of Dania, 761 So. 2d 1089 (Fla. 2000).
94. *See id.* at 1090.
95. *Id.*

the statutory criteria for the granting of a special exception, "the burden shifts to the City Commission to demonstrate by competent substantial evidence that the special exception requested did not meet such standards."[96] Specifically, the circuit court found that FP&L met its burden, and that the Commission did not offer competent substantial evidence to refute FP&L's claims.[97] The City petitioned for certiorari in the district court, which quashed the circuit court's order.[98] The district court found that "[b]ecause the circuit court appears to have substituted its evaluation of the evidence for that of the City … the circuit court departed from the essential requirements of law."[99]

The Supreme Court of Florida granted certiorari because *City of Dania v. Florida Power & Light*,[100] was in conflict with *Education Dev. Ctr. v. City of West Palm Beach Zoning Bd. of Appeals*.[101] In *Education Dev. Ctr.*, the Supreme Court held "that a district court on 'second-tier' certiorari review cannot re-assess the record for competent substantial evidence …."[102] Once a local agency has ruled on an application for a special exception, a party may seek "first-tier" certiorari review in circuit court as a matter of right.[103] "The court must review the record and determine inter alia whether the agency decision is supported by competent substantial evidence."[104] This is a standard of review, as opposed to a standard of proof.[105] A party may then seek "second-tier" certiorari review from the district court.[106] In *City of Deerfield Beach v. Valliant*,[107] the Court clarified the two standards of certiorari:

> We hold that where full review of administrative action is given in the circuit court as a matter of right, one appealing the circuit court's judgment is not entitled to a second full review in the district court.

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96. *Id.*

97. *See id*.

98. *See id.*

99. *Id.* at 1091 (quoting *City of Dania v. Florida Power & Light Co*., 718 So.2d 813 at 814-817 (Fla. 4th DCA 1998).

100. 718 So. 2d 813 (Fla. 4th DCA 1998).

101. 541 So. 2d 106 (Fla. 1989).

102. Florida Power & Light Co. v. City of Dania, 761 So. 2d 1089 at 1091 (Fla. 2000) (quoting *Education Dev. Ctr.*, 541 So.2d 106 (Fla. 1989)).

103. *See id.* at 1092.

104. *Id.*

105. *See id.*

106. *See id.*

107. 419 So. 2d 624 (Fla. 1982).

> Where a party is entitled as a matter of right to seek review in the circuit court from administrative action, the circuit court must determine: [1] whether procedural due process is accorded; [2] whether the essential requirements of the law have been observed; and [3] whether the administrative findings and judgment are supported by competent evidence. The district court, upon review of the circuit court's judgment, then determines whether the circuit court [1] afforded procedural due process, and [2] applied the correct law.[108]

The Supreme Court held that the district court was correct in determining that the circuit court erred when it engaged in a de novo review of the Commission's evidence.[109] However, the Supreme Court went on to conclude that the district court's statement that " '[t]he record as a whole contains substantial competent evidence to support a denial of the special exception' . . . was improper," because "[t]he 'competent substantial evidence component' has been eliminated" from second-tier review.[110] Thus, the district court had usurped the jurisdiction of the circuit court.[111] The Supreme Court returned the case to the circuit court to be determined pursuant to the three-prong analysis the Court set forth in *Valliant*.[112]

Tampa Elec. Co. v. Garcia, 767 So. 2d 428 (Fla. 2000)

The Supreme Court of Florida held that the Public Service Commission (PSC) exceeded its authority when it granted a determination of need for a proposed power plant that was committed to selling just 30-megawatts of the proposed 514-megawatt capacity to a Florida retail utility and the proposed plant was to be owned and operated by a subsidiary of a North Carolina utility.[113] The Court determined that the PSC derives its power solely from the legislature and that section 403.519, Florida Statutes (1997), which authorizes the PSC to determine the need for a utility

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108. *Id.*
109. *See id*. at 1093.
110. *Id.*
111. *See id.*
112. *See id.* at 1094.
113. *See* Tampa Elec. Co. v. Garcia, 767 So. 2d 428 (Fla. 2000).

pursuant to the Florida Electrical Power Plant Siting Act, does not grant such authority.[114]

In 1998, the Utilities Commission of the City of New Smyrna Beach (New Smyrna), and Duke Energy New Smyrna Beach Power Company (Duke), jointly filed a petition with the PSC for determination of need for a natural gas fired plant with 514 megawatts of capacity to be built in New Smyrna Beach and owned and operated by Duke.[115] Out of the 514 megawatts of capacity, 30 were committed to be sold to New Smyrna, and the remaining uncommitted 484 megawatts were to be sold to utilities that sell to retail customers, most of whom would be located in Florida.[116] Tampa Electric Company, Florida Power Corporation, and Florida Power & Light Company were among seven interveners.[117] In December 1998, in a three-to-two vote, the PSC denied a motion to dismiss and granted the petition.[118]

On appeal, appellants argued that section 403.519, Florida Statutes (1997), does not authorize the PSC to grant a determination of need to any entity that is not a Florida retail utility that is regulated by the PSC.[119] Further, it was urged that any petition had to be "based upon a specified demonstrated need of Florida retail utilities for serving Florida power customers," and that this defect was not cured by Duke joining with New Smyrna, which was a proper applicant.[120]

Duke and New Smyrna argued that because Duke is a regulated utility, that a need determination for the proposed plant did come within the scope of section 403.519, Florida Statutes (1997).[121] New Smyrna also argued that the dormant Commerce Clause would be violated if Duke were prohibited from applying for a need determination, and that any Florida requirement that Duke first secure a contract with a retail utility to construct the plant was preempted by Federal legislation.[122]

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114. *See id.* at 434.
115. *See id.* at 430.
116. *See id.*
117. *See id*.
118. *See id.*
119. *See id*. at 431.
120. *Id.*
121. *See id.* at 432.
122. *See id.* at 433 ("[P]rohibiting Duke from applying directly for a need determination would violate the dormant Commerce Clause of the United States Constitution because such action would unconstitutionally discriminate against out-of-state commerce and burden interstate commerce.").

The Court concluded that the PSC exceeded its authority when it granted the determination of need.[123] The Court stated, "[a] determination of need is presently available only to an applicant that has demonstrated that a utility or utilities serving retail customers has specific committed need for *all* of the electrical power to be generated at a proposed plant."[124] The Court discussed the historical evolution of the PSC's role in regulating the generation and sale of power in Florida and found that the applicable statutory scheme "was not intended to authorize the determination of need for a proposed power plant output that is not fully committed to use by Florida customers who purchase electrical power at retail rates," and "that the Legislature must enact express statutory criteria if it intends such authority for the PSC."[125] The Court also agreed with appellants that New Smyrna's thirty-megawatt commitment and joining with Duke did not make the application proper. Finally, the Court dismissed New Smyrna's constitutional arguments and found that Congress has expressly left power-plant siting and need determination to the states.[126]

Southwest Florida Water Management Dist. v. Save the Manatee Club, Inc., 773 So. 2d 594 (Fla. 1st DCA 2000)

The First District Court of Appeal ruled that the Southwest Florida Water Management District (District) does not have the power to grant exemptions from environmental resource permitting requirements based solely on prior governmental approval.[127] The court affirmed a final order of the Division of Administrative Hearings (DOAH) which declared portions of rule 40D-4.051, Florida Administrative Code, to be invalid exercises of legislative authority.[128] The disputed portions of the rule created "exemptions from the environmental permitting requirements that otherwise apply to land developments within the District."[129]

South Shores Partners, Ltd., applied to the District for a development permit and proposed to excavate a portion of a 720-acre tract of land to connect an existing canal system on the property

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123. *See id.* at 434.
124. *Id.* (emphasis supplied).
125. *Id.* at 435.
126. *See id.* at 436.
127. *See* Southwest Florida Water Management Dist. v. Save the Manatee Club, Inc., 773 So. 2d 594 (Fla. 1st DCA 2000).
128. *See id*. at 596.
129. *Id.*

with Tampa Bay.[130] South Shores asserted that it needed only a standard general permit to proceed with the project because, pursuant to sections (3), (5), and (6) of rule 40D-4.051, it was exempted from environmental resource permitting requirements.[131] The Save the Manatee Club, "fear[ing] that this waterway would cause an increase in power boat traffic into the Bay and that the boat traffic would endanger the manatee and its habitat,"[132] filed a petition with DOAH and "argued that the grandfather provisions in the rule were invalid because the enabling statute, section 373.414(9), Florida Statutes, does not authorize exemptions from the permitting requirements based solely on prior governmental approval."[133] On December 19, 1999, the Administrative Law Judge entered a final order declaring the rule 40D-4.051 sections at issue "invalid because they do not implement or interpret any specific power granted by the applicable enabling statute."[134] The District appealed.[135]

The court initially noted that "[a]n affected party may challenge an administrative rule on the ground that it is 'an invalid exercise of delegated legislative authority,'" pursuant to section 120.52(8), Florida Statutes.[136] In 1999, the Florida Legislature revised section 120.52(8).[137] The section "now provides that 'an agency may adopt only rules that implement or interpret the *specific powers and duties granted by the enabling statute*.'"[138] Section 373.414(9), Florida Statutes, which grants the District authority to issue environmental resource permits expressly limits the District's ability to grant exemptions from the permitting requirements.[139] The District may establish exemptions and general permits, if they do not allow significant adverse impacts to occur.[140]

The court concluded that the disputed sections of rule 40D-4.051 did not "implement or interpret any specific power or duty granted in the applicable enabling statute" and were, therefore, an invalid exercise of delegated legislative authority.[141] The court stated, "the rule allows exemptions from the environmental resource permitting

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130. *See id.*
131. *See id.*
132. *Id.*
133. *Id.* at 597.
134. *Id.*
135. *See id.*
136. *Id.*
137. *See id.* at 598.
138. *Id.* at 599 (emphasis supplied).
139. *See id*. at 600.
140. *See id.*
141. *Id.*

requirements based entirely on prior approval.... Because section 373.414(9) does not provide specific authority for an exemption based on prior approval, the exemptions in the rule are invalid."[142]

Martin County v. Department of Community Affairs, 771 So. 2d 1268 (Fla. 4th DCA 2000)

The Fourth District Court of Appeal ruled that the City of Stuart's inclusion of a Future Annexation Map in revisions to its comprehensive plan was an amendment to the comprehensive plan and, therefore, had to be supported by adequate data and analysis.[143] In 1997, approximately 1,200 acres were annexed from Martin County (County) into the City of Stuart (City).[144] Pursuant to Florida law, however, the annexed land remained subject to the County's comprehensive plan and attendant zoning regulations until the City amended its comprehensive plan to include the annexed land.[145] The City eventually "amended its comprehensive plan, assigning a land use designation to each of the newly-annexed parcels, creating a new land use category, and revising the text of virtually all of the elements of its plan, including the intergovernmental coordination element."[146] Martin County challenged the amendments on numerous grounds:

> In short, the County contended that the amendments were not "in compliance" as defined in section 163.3184(1)(b), Florida Statutes, that the amendments failed to discourage urban sprawl ... [and] were not consistent with the County's comprehensive plan, that the intergovernmental coordination element was inadequate to meet the requirements of chapter 163, that the amendments were not based on adequate data and analysis, and that the City failed to demonstrate a need for the annexed parcels.[147]

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142. *Id.*
143. *See* Martin County v. Department of Community Affairs, 771 So. 2d 1268 (Fla. 4th DCA 2000).
144. *See id.* at 1268.
145. *See id.*
146. *Id.* at 1269.
147. *Id.*

The Department of Community Affairs "initially indicated an intent to find some of the amendments not 'in compliance,'"[148] but eventually agreed with the City and upheld the amendments in its final order, incorporating the majority of the administrative law judge's findings in that final order.[149]

On appeal, the district court affirmed "all issues, except the challenge to the Future Annexation Area Map."[150] Section 163.3177(8), Florida Statutes, states, "[a]ll elements of the comprehensive plan . . . shall be based upon data appropriate to the element involved."[151] The court found that the ordinance adopting the map *itself* characterized the map as part of the City's comprehensive plan and, therefore, the Department of Community Affairs had improperly characterized the map as data and analysis, which did not itself require supporting data and analysis.[152]

Nutt v. Orange County, 769 So. 2d 453 (Fla. 5th DCA 2000)

The Fifth District Court of Appeal affirmed the circuit court's determination that a landowner may not "receive compensation in the form of severance damages because of the uncertainty of future governmental action."[153] Orange County took 2.545 acres from Nutt's property.[154] A portion of the land was to be used for current improvements to an intersection and the remaining portion of the tract was to be used for future improvements.[155] Nutt argued that the mere possibility of future improvements diminished the value of the remaining 509 acres of his property by over $3,000,000.[156] While conceding that the future improvement might not impact his plans for the property, Nutt claimed that such uncertainty deserved compensation because a prospective purchaser would not pay a premium for the land.[157] The court noted that "[e]veryone is at the mercy of future governmental planning,"[158] and held that the proper

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148. *Id.*
149. *See id.*
150. *Id.*
151. *Id. (*citing FLA. STAT. § 163.3177(8) (1999)).
152. *See id.* (emphasis supplied).
153. *See* Nutt v. Orange County, 769 So. 2d 453 (Fla. 5th DCA 2000).
154. *See id.*
155. *See id.*
156. *See id.*
157. *See id.*
158. *Id.*

time for compensation was when the County's actions did, in fact, improperly impact Nutt's development.[159]

159. *Id.* at 454.

BOOK REVIEW

PROFESSOR MICHAEL PURDUE*

HALSBURY'S LAWS OF HONG KONG: TOWN PLANNING. By Professor Anton Cooray, LLB, PhD (Lond), PhD (Colombo). Butterworths, Hong Kong and London: 2000

The United Kingdom, notorious for having an unwritten constitution, in divesting itself of its empire created a series of written constitutions which were bequeathed to the new independent states. The United States of America is, of course, one of the egregious exceptions, though whether Britain would have devised a better way of electing a President is very doubtful!

In his thoughtful treatise, Professor Anton Cooray, Professor, School of Law, City University of Hong Kong, examines town planning laws in Hong Kong, a more recent ex-British colony. In establishing Hong Kong's independence, the Sino-British Joint Declaration of 1984 called for the enactment of a Basic Law that would establish the governance of the new Special Administrative Region of the People's Republic of China.

This Basic Law, drawn up under Article 31 of the Constitution of the People's Republic of China, does not expressly set out town planning laws. Under Article 8 of the Constitution, however, the laws previously in force in Hong Kong are maintained except in so far as they contravene the Basic Law or are amended by new laws passed by the legislature of the Hong Kong Special Administrative Region.

Thus Hong Kong's town planning laws remain those applicable before the hand-over and are mainly in the form of ordinances made by the British Crown and the applicable common law of England. It might therefore be expected that the Hong Kong's system of Town Planning would mirror the United Kingdom system. The distinctive feature of the British system of town and country planning is that, although development plans set out policies for the different areas, the notations in the plans are not self-executing and in themselves provide no legal right to carry out development. Instead, under

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section 70 of the Town and Country Planning Act of 1990, the policies in the plans only need be regarded in determining whether a permit is to be granted or refused. More recently this duty to "have regard" has been strengthened under section 54A of the Act, establishing a legal presumption in favour of the policies in the plan. Those policies, however, can still be overridden if "material considerations indicate otherwise" and so the inherent flexibility remains.

Just as the United Kingdom set up written constitutions for its former colonies, in many cases it also created a more rigid zoning approach to planning for the colonies. Thus, in Hong Kong we find a system that is an amalgam of zoning and planning permission systems. Where a plan has been made under the Town Planning Ordinance (originally laid down in 1938), this plan will permit certain uses, while requiring the application for other uses to be made to the Town Planning Board. Professor Cooray sums up the position:

> Specified zones are areas designated for specific uses such as residential, commercial, industrial, green belt, conservation or community uses. In respect of each of these zones the plan specifies a list of uses which are permitted as of right and a list of uses which, may be permitted by the Town Planning Board using a two column format. Column 1 lists uses always permitted and column 2 uses that may be permitted with or without conditions. Any use which is listed in Column 1 may be undertaken or continued without planning permission but must conform to any other relevant legislation and to the conditions of the Government Lease concerned.

See paragraph 385.233.

The last reference to the need for development to conform to the conditions of the Government Lease relates to a particular feature of Hong Kong's planning system; its reliance on the Government's power to control land-use and development through the law of landlord and tenant. Of course much early town planning was carried out through private law. In the case of London, the fact that large areas of land were owned by titled families enabled new housing estates to be laid out with restrictions on uses and new

buildings. These restrictions could be enforced by the superior landlord and even when the large estates were broken up, the law on restricted covenants evolved so that successors in land title could enforce the covenants against their neighbors.

In the case of Hong Kong, paradoxically, this private law control was transformed into what was, in substance, a public law control, as the Crown owned the freehold to all the land. As Professor Cooray points out, very early in Hong Kong history (1843) it was decided that land was not to be granted in perpetuity. Thus all private ownership of land is through the mechanism of a Government lease. Cooray argues that this situation has the advantage for the state that it can imposes restrictions that could not be imposed under the Town Planning Ordinance. As he states succinctly: "A leasee has no choice: he must take the lease on the Government's terms or leave it." Making the leases renewable at the Government's pleasure increases this power.

On the other hand, Professor Cooray argues that the lease mechanism has the disadvantages of only being site-specific and, subject to renewal, cannot be varied at will. This ability to renegotiate the lease is an important power. Although in Hong Kong there is a general expectation that leases will be renewed upon expiration, where a lease has been granted for a specific purpose, say for an electricity supply plant, the lease will not be renewed if the land is no longer needed for that purpose. The point Cooray makes is that the Government is able to impose new terms of contract in the following three situations:

(1) When the government grants a new lease;

(2) When the lessee asks for a lease modification (e.g. the landowner may wish to modify a lease term restricting development to a residential building of not more than three storeys so that he can build a residential block of 20 storeys). The Government will, in addition to exacting an appropriate premium for increased property rights, insist on condition say for the protection of the environment.

(3) Upon the expiration of lease, the Government might want to introduce new terms.

> Also, when a lease modification or a new lease is sought after the grant of planning permission, the lease will incorporate planning conditions (for instance a condition requiring a community gain) in the lease. In this way the planning conditions become enforceable as lease conditions.

The extent of the control depends on the wording of the lease. The importance of the wording is illustrated by the case of *Attorney General v Melhado [1983] HKLR 327*, where the court held that the tenants were free to change the use and character of agricultural land let on a block lease in 1905 which had no express restriction on the uses to which the land could be put. As a result, because most lease were drafted in these terms in rural areas, there followed a widespread conversion of such agricultural land to open storage of containers and the dumping of cars.

The *Melhado* case revealed an important loophole in Hong Kong Town Planning law as, surprisingly, the zoning plans were not directly enforceable. This has not been a great problem in urban areas because of the link between the law on building regulation and town planning law. Cooray states that: "While primarily concerned with design and construction of individual buildings, the Building Ordinance also makes provision to ensure congruity of buildings with their surroundings and in this sense gives effect to planning considerations."

In particular, the Building authority has the power to refuse approval for any plans of building works that would contravene any approved or draft plan prepared under the Town Planning ordinance. It was once thought that the Building Authority had to refuse approval for works contrary to the plan, but Professor Cooray points out that the courts have recently affirmed that the use of the word "may" does give discretion and refusal is not mandatory. Nevertheless, it seems that it would only be in exceptional circumstances that approval would be given in such circumstances.

The Planning Ordinance was amended in 1991, both to increase the extent of planning control in Hong Kong territorially and to create enforcement powers. It is now a criminal offence to carry out unauthorised development while a development permission area is in force and there is a power to serve enforcement notices. This system is broadly based on the British system of enforcing planning control. The 1991 Ordinance was mainly aimed at the rural areas and there are still enforcement problems in the urban areas. In urban

areas there may be still no means of taking action against material changes of use that were contrary to the plans. If a material change of use of a building takes place, without any structural alterations, the enforcement mechanism of the Building Ordinance does not apply. So if a person changes his residential building into a motel, without doing any building work, there is no enforcement under the Buildings Ordinance. There is also no enforcement under the Town Planning Ordinance, because the new powers apply only in respect of areas governed by Development Permission Area plans and such Outline Zoning Plans (OZPs) as have replaced DPA plans. In urban areas there are no OZPs, which are first instance plans, and so no enforcement powers arise.

It will be seen therefore that land-use planning operates in Hong Kong through a complex matrix of different regulatory systems. In this short review it has only been possible to sketch out the broad outlines of the most fundamental laws. This work is the first comprehensive work on planning law and must have involved considerable research. Professor Cooray sets out in considerable detail the main regulatory systems and the many other more specialist regulations that apply such as advertisement and conservation control. The treatment follows the standard Halsbury formula with numbered paragraphs with extensive footnotes. The complex subject matter is set out clearly and logically. The reader is taken gently along in that the main principles are first set out and then there is further elaboration and explanation. Because of the format chosen by the author, the treatment is mainly descriptive and analytic though, as indicated, it does include an evaluation of the system. There are detailed footnotes that reveal the author's expert knowledge of both the United Kingdom and Hong Kong planning law. It is an essential source for anyone who wishes to understand town planning in Hong Kong.

This section on Town Planning runs to 255 pages and is one of the three titles (the others are Trade and Tort) appearing in Volume 25 of Halsbury's Laws of Hong Kong (Butterworths, Hong Kong and London, 2000).

2001 RECOMMENDED WEB SITES FOR THREATENED AND ENDANGERED SPECIES

LUKE SHERLOCK*

Table of Contents

INTRODUCTION

The internet contains a wealth of free information on just about any issue a legal practitioner can come across. Locating the information, though, can be a time consuming and frustrating task. The *Journal's* annual website review attempts to assist the legal practitioner in taking advantage of the free resources available on the internet when researching environmental and land use law issues.[1] This article is designed to make surfing the net for information more efficient and productive. Past reviews have focused on topics such as Ocean and Coastal law[2] and Wetlands law.[3] This year's review focuses on Endangered Species Web Sites.

The Endangered Species Act effects many areas of land use and environmental law. It can be an devastating barrier to developers or a "weapon . . . for opponents of development,"[4] so knowing when and how it applies can be very important for the legal practioner. Due to public concern for endangered species, there is an overwhelming availability of information on the Web. Currently,

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1. Notwithstanding the cost for an internet service provider.

2. *See* Amy Voigt, *1999 Recommended Web Sites for Ocean and Coastal Law*, 14 J. LAND USE & ENVTL. L. 375 (1999).

3. *See* I. Wes Wheeler, *2000 Recommended Web Sites for Wetlands Law*, 15 J. LAND USE & ENVTL. L. 305 (2000).

4. J.B. Ruhl, *The Endangered Species Act*, in Environmental Aspects of Real Estate Transactions, from Brownfields to Green Buildings 757, 758 (James B. Witkin, ed., 1999).

there are more than half a million web sites concerning "endangered species" on the internet. A search for "endangered species," on March 10, 2001, produced 571,067 hits on Alta Vista, 2,138,135 hits on WebCrawler, and 486,570 hits on Lycos. This article, while being far from a complete review of the enormous amount of sites, attempts to point the legal practitioner to the most useful sources of free endangered species information on the internet. There are also many sites on the internet that charge for a subscription which will not be covered in this article.

This article assists the legal practitioner, especially Florida practitioners, in finding information on the regulations governing protected species, locating habitats in a particular area, determining what permits may be needed and information on each, researching particular species and where to access recent developments in endangered species laws and regulations.

The Endangered Species Act was first passed by Congress in the 1970's and strengthened by amendments in 1982.[5] Congress granted authority to implement the ESA to the Secretary of Interior, for terrestrial and freshwater species, and the Secretary of Commerce, for marine and anadromous species.[6] The Secretary of Interior has delegated this authority to the Fish and Wildlife Service, while the Secretary of Commerce has delegated its authority to the National Marine Fisheries Service.[7] These agencies have the power to "list" species as either threatened or endangered, create prohibitions against a "take" of any listed species, authorize permits for prohibited activities that may result in a "take," and enforce the ESA and rules promulgated thereunder.[8] Additionally, many states have enacted their own versions of the ESA many times with stricter prohibitions than the Federal version.[9] In the meantime, the list of protected species continues to grow. In 1980, there were only 281 listed species, in 1990 there were 596, and by the year 2000, there were over 1,200 listed species.[10] The State of Florida alone currently has 111 threatened or endangered plants and animals.[11]

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5. See id.
6. *See id.* at 760.
7. See id.
8. See id.
9. *See id.* at 786 n.1.
10. U.S. Fish and Wildlife Service, *Number of U.S. Listed Species Per Calender Year* (last modified December 31, 2000) <http://endangered.fws.gov/stats/count.PDF>.
11. U.S. Fish and Wildlife Service, *Threatened and Endangered Species System* (last modified March 13, 2001) <http://ecos.fws.gov/webpage/webpage_usa_lists.html?#FL>.

The addresses contained below are organized under various topics for easy reference. The sites are organized alphabetically within each topic area. The topic areas are Federal Government Agencies and Organizations, Florida Government Agencies and Organizations, Environmental News, Journals and Newsletters, Universities, Libraries and Directories, Non-Governmental Organizations, International Organizations, Land Use, and Parks.

The topic areas contain URL's for the specific pages within a website that have the most useful information for legal research on threatened and endangered species. Most of the noted sites have links to other protected species and environmental law sites. Many links may become outdated due to the difficulty in keeping up with the ever-changing internet. As such, the sites listed below will also become obsolete with the passage of time.

I. FEDERAL GOVERNMENT AGENCIES AND ORGANIZATIONS

The Federal government is an excellent source for research on protected species, regulations and permitting requirements. The Federal web is, for the most part, user friendly and current.

Environmental Protection Agency
URL: http://www.epa.gov

The EPA home page is a great source for environmental news and current developments. Once at the site, you can also search for information by phrase or by listed topics. Under the "Browse EPA Topics" icon there is a link to Ecosystem information which contains a link to endangered species websites and many other related EPA topics. There is also a "Compliance & Enforcement" icon for information on gaining compliance assistance or information about violations and settlement. Clicking the Laws and Regulations icon brings up a wealth of links to environmental laws like NEPA, CERCLA, CAA, CWA and the Endangered Species Act among others.

EPA Region 4
URL: *http://www.epa.gov/region4*

Region 4 serves the southeast United States. This page contains more area specific environmental news and information for the southeast states. The "Topics and Issues" icon brings up environmental

categories and sub-topic links from Air to Water and everything in between, including a link to information about Environmental Impact Statements. Other main icons include Programs, Info Resources and Compliance among others.

Endangered Species Hotline
URL: *http://www.epa.gov/opptintr/cbep/actlocal/38-end.htm*

This site contains information about the Endangered Species Hotline. The hotline provides pesticide users with information about species residing in their area, active ingredients in pesticides that may be harmful, and what precautionary measures one can take.

Endangered Species Protection Program
URL: *http://www.epa.gov/espp*

This site contains information about the EPA's Endangered Species Protection Program (ESPP), a division of the Office of Pesticide Programs. The ESPP is seeking to reduce the risk of endangered species poisoning due to pesticide use. This site sets out their ESPP plans and goals and includes contact information for requests or comments. It includes an interactive map, still under construction, that contains county bulletins on endangered species information and directions on how to use the information.

Federal Aviation Administration - Office of Environment and Energy
URL: *http://www.aee.faa.gov/aee-200/*

This page provides policy oversight for FAA environmental compliance information.

The National Environmental Data Index
URL: *http://www.nedi.gov*

This site is an excellent place to begin research. It contains icons which provide direct access to environmental data and information descriptions drawn from the data of the Departments of Agriculture, Commerce, Defense, Energy, Interior, Transportation, Health and Human Services and the EPA, NASA, Federal Emergency Management Agency and the National Science Foundation.

National Oceanic & Atmospheric Administration
URL: *http://www.noaa.gov*

The NOAA homepage icons include links to Oceans and Fisheries information. It also contains links to environmental data, legislative affairs, and other environmental information.

National Marine Fisheries Service
URL: *http://www.nmfs.noaa.gov/prot_res/overview/es.html*

This site is the NMFS page for Endangered Species Conservation. The NMFS is charged with implementing the ESA for marine and anadromous species. The site contains information and links to information concerning the ESA, Publications and Reports on protected species, Listing, Permitting, and Species information.

NMFS - Marine Mammal Protection Act of 1972
URL: *http://www.nmfs.noaa.gov/prot_res/laws/MMPA/MMPA.html*

Description: This site contains a brief overview of the MMPA as well as complete access to the provisions of MMPA itself.

U.S. Department of Agriculture, National Resource Conservation Service
URL: *http://www.nrcs.usda.gov/*

This site contains information about conserving our natural resources including a national plants database. The plants database boasts a search engine capable of finding threatened or endangered plants by genus or species and according to geographic area.

U.S. Department of Interior
URL: *http://www.doi.gov*

This comprehensive Web site contains news, links to bureaus within the DOI, and an information index.

U.S. DOI - Legal Corner
URL: *http://www.doi.gov/nrl/#Legal*

This page contains links to legal information concerning the DOI including Regulations, Federal Register Notices, Legislation, Executive Orders, Court Opinions and a link to Law Libraries.

U.S. Fish & Wildlife Service
URL: *http://www.fws.gov*

The FWS is charged with implementing the ESA for terrestrial and freshwater species. This site has access to information about conservation of protected species habitats, environmental contaminants, wetlands, among other topics.

U.S. FWS - Endangered Species Program
URL: *http://endangered.fws.gov/*

This extensive site contains information about specific protected species and their habitat, laws and policies, recent news and ESA information. The site also contains a database which can be searched to obtain the regulatory profile of a protected species.

U.S. FWS - Laws
URL: *http://laws.fws.gov/*

This site contains a "Digest of Federal Resource Laws of Interest to the Fish and Wildlife Service." It is a comprehensive listing and description of the federal authorities under which the FWS functions.

U.S. FWS - Permits
URL: *http://permits.fws.gov/*

When looking for permitting information, this site should be the first stop. This page of the FWS site contains information about permits the FWS issues, including information on commonly used permits. The site also contains links to other federal and state agencies that issue permits. This is a great source for deciding whether you need a permit, which ones, and how to apply for one.

U.S. Geological Survey - Patuxent Wildlife Research Center
URL: *http://www.pwrc.usgs.gov/default.htm*

The PWRC seeks to advance wildlife conservation and management. This site is an overview of the project and its accomplishments as well as links to related resources.

II. FLORIDA GOVERNMENT AGENCIES AND ORGANIZATIONS

The State of Florida internet sites are an excellent source for access to state rules and regulations as well as current statutes and proposed legislation. Most of the state sites contain links to other state websites. The My Florida site (www.myflorida.com / myflorida / directory.html) is the ultimate guide to Florida government on the web.

Florida Codes
URL:
http://www.municode.com/CGI-BIN/om_isapi.dll?&softpage=FL_Group_List

This site contains links to online Ordinance Codes for many Florida cities.

Florida Department of Environmental Protection (DEP)
URL: *http://www.dep.state.fl.us*

This site contains current developments in Florida environmental issues and provides links to news, guides and manuals, permitting information, legislative events, rules and statutes, and related links.

Florida DEP Environmental Rules
URL: *http://www.dep.state.fl.us/ogc/documents/rules/mainrule.htm*

This site contains the Florida DEP rules and regulations as well as permitting information.

Florida DEP - Permitting Information
URL: *http://dep.state.fl.us/officsec/ombud/permit_i.htm*

This page of the Florida DEP site contains permitting information and links to: OSPREY (One Stop Permitting Registry System), which

is a program designed to help a user find permit information, contact information, application forms and fee information; Permit Status Data; and Permitting Activities and Contacts which contains a complete list of DEP District Office contacts for obtaining information about activities that may require permits, certification or licensure.

Florida Department of Community Affairs (DCA)
URL: *http://www.dca.state.fl.us/*

The DCA is the lead agency that coordinates with Florida's counties, cities, and regional agencies in administering the State's planning and growth management laws and regulations.

Florida Fish and Wildlife Service, Conservation Commission, Bureau of Protected Species Management
URL: http://www.state.fl.us./gfc/psm/index.htm

The BPSM is a commission responsible for planning and implementing activities directed at the protection and recovery of listed marine species such as Manatees, Marine Turtles, Northern Right Whales, and other marine mammals. The site contains information on the programs, specific issues for each species, information on the protection rules for each species, and information on permits, exemptions and variances within a species habitat area as well as links to related sites.

Florida Legislature - Online Sunshine
URL: *http://www.leg.state.fl.us*

This site provides access to recent bills in both the Senate and the House of Representatives, session, committee, legislator and lobbyist information as well as a link to the Florida Constitution and Statutes.

Florida Water Management Districts
URL: *http://www.state.fl.us/nwfwmd/* (Northwest)
URL: *http://www.swfwmd.state.fl.us* (Southwest)
URL: *http://www.sfwmd.gov/* (South Florida)
URL: *http://sjr.state.fl.us* (St. John=s River)
URL: *http://www.srwmd.state.fl.us* (Suwannee River)

Each of the State's five water management districts has a web site. Each site includes information or links about the District=s permitting process. Most of these sites contain downloadable environmental resource program (ERP) applications and ERP rules and information.

My Florida Guide to Florida Government
URL: *http://www.myflorida.com/myflorida/directory.html*

Has the home page for Florida Government access this site contains links to all the Florida Administrative Agencies and other organizations such as the courts, legislature, universities, and government committees. It also contains links to local government sites (counties and cities) as well as federal government sites (House and Senate).

III. ENVIRONMENTAL NEWS, JOURNALS & NEWSLETTERS

The internet is an excellent, cost efficient way to keep up with current trends and developments in the law. The following are internet locations for protected species news and developments. Most of these sites are not ESA specific, but contain articles that effect endangered and threatened species.

The Journal of Land Use and Environmental Law
URL: *http://www.law.fsu.edu/journals/landuse/index.html*

The web site for an outstanding law journal that has a comprehensive and inclusive coverage of land use and environmental topics.

CITES World Newsletter
URL: *http://www.cites.org/CITES/eng/index.shtml*

This site contains access to the CITES newsletter on international trade.

CNN Sci-Tech Page
URL: *http://www.cnn.com/TECH/*

This site contains daily updates of environmental news stories

Defenders - Conservation Magazine
URL: *http://www.defenders.org/magazinenew/magazine.html*

This magazine is published quarterly with many issues available online. The issues cover a variety of protected species topics

Endangered Species Bulletin
URL: *http://endangered.fws.gov/bulinfo.html*

The site is designed by the FWS to disseminate information about protected species. Rulemaking, recovery plans and activities, regulatory changes and a host of other issues are covered in issues of this bulletin. The Bulletin is published twice a month and may be accessed online.

EDF Newsletter (Environmental Defense Fund)
URL: *http://www.edf.org/pubs/edf-letter*

This site contains an index to EDF Newsletter issues since 1970 which addresses endangered species legislation, superfund information, and a history of various environmental actions.

Endangered Species Magazine
URL: *http://www.endspecies.com/*

A quarterly magazine published in Australia, it is dedicated to the preservation of protected species and educating the public. Articles in the magazine cover a wide variety of endangered species issues around the globe.

Environmental News Network Daily News
URL: *http://www.enn.com/news*

As the title of the site implies, here one can find news stories by journalists and scientists concerning the environment which are updated daily.

Environmental Resources Management
URL: *http://www.erm.com*

This site contains publications, newsletters, and alerts on regulations, conferences, and other events. It also contains a weekly up-date on state-by-state regulatory information.

EPA Journal
URL: *http://www.epa.gov/epajrnal/*

This "Magazine on National and Global Environmental Prospectives," covers topics such as environmental education, developments and regulations like the Clean Water Act and Indoor Clean Air Act. The site only allows access to five, somewhat dated, issues currently.

IWC World Animal News
URL: *http://www.iwc.org/worldanimalnews/*

This site contains three links for accessing news from around the globe concerning animals: Marine Mammal News, Companion Animal News, and Daily Environmental NewsDesk.

Living On Earth
URL: *http://www.loe.org/browse/wildlife.htm*

LOE is National Public Radio=s environmental news site. This site holds audio clips from the show as well as stories and links to related news.

National Resources Defense Council - Legislative Watch
URL: *http://www.nrdc.org/legislation/legwatch.asp*

NRDC publishes this weekly bulletin which is available online. The bulletin contains recent developments in Congress that effect our natural resources including protected species.

World Wildlife Fund Global Network
URL: *http://www.panda.org*

This site has access to international news stories of environmental interest. The site also contains a link to other resources such as informative documents and publications on environmental issues.

IV. UNIVERSITIES, LIBRARIES AND DIRECTORIES

Many universities, governments and private organizations support websites specifically for environmental law research. The following is just a sampling of what is available.

Amazing Environmental Organization Web Directory
URL: *http://www.webdirectory.com*

Proclaimed as "Earth=s Biggest Environment Search Engine" this site has an Environmental Bulletin Board and links to over thirty topics and countless sub-topics.

American Bar Association - Administrative Procedure Database
URL: *http://www.law.fsu.edu/library/admin*

This site includes recent links to the federal APA, reform developments, recommendations of the Administrative Conference of the United States, and links to federal and state legal materials. It also includes links to state APA's and reform proposals, as well as model state acts and inter-state organizations. Most helpful on the site is a search engine that allows one to search the Database itself, the Florida State University College of Law and Library websites, and the Constitution Revision Commission.

Center for Global and Regional Environmental Research - University of Iowa
URL: *http://www.cgrer.uiowa.edu/servers/servers_environment.html*

This site contains an extensive listing of links to internet sites on environmental issues. The site contains eleven main topics with countless sub-topic links. The site also has a list of both governmental and private environmental organizations and sources of digital geographic and environmental data.

Envirolink Virtual Library
URL: *http://library.envirolink.org/*

This site contains articles, information and links to environmental and animal related issues.

Florida International University - Everglades Information Network
URL: *http://everglades.fiu.edu*

This site hosts an Everglades Digital Library which contains resources relating to the South Florida environment, including reports, writings, educational and interpretive materials, datasets, maps, and a directory of links to other Everglades sites. The site also boast an Everglades Online searchable database for South Florida resources.

Florida Internet Center for Understanding Sustainability
URL: *http://www.ficus.usf.edu*

FICUS is dedicated to improving the quality of life in Florida through responsible growth management. This site contains information on planning and architecture, flora and fauna, water resources, public policy and related organizations.

Florida Natural Areas Inventory
URL: *http://www.fnai.org/*

This site is the joint product of the Florida DEP and the Science Division of the Nature Conservatory. The Inventory collects and interprets ecological information for conserving Florida's natural resources. The site holds data on protected species, including the laws that govern them, natural communities, and county occurrence summaries. The Inventory will also provide several site specific services for a fee.

Florida Plants Online: Sustainable Everglades
URL: *http://www.floridaplants.com/everglad.htm*

This site is not only a guide to information on Florida plants, but also a link to other useful information about Florida and the Everglades. The site hosts several searchable databases for plants, books, news and an online store. It also hosts connection links to information on

the Everglades National Park, biology, ecology, mercury, Governor's updates and a Who's Who link.

Legal Information Institute - State and Federal Regulations
URL: *http://www.law.cornell.edu/regs.html*

This site contains sources and links to the Code of Federal Regulations, the Federal Register, and links to many state regulations.

Pace University Environmental Law Library
URL: *http://www.law.pace.edu/env/vell6.html*

This site contains both national and international environmental laws and treatises. It also includes links to current projects and the Journal of the Pace Center for Environmental Legal Studies.

V. NON-GOVERNMENTAL ORGANIZATIONS

The internet is an excellent location for environmental advocacy groups to disseminate information about their organization. A complete list of private activists groups is well beyond the scope of this article. However, these groups can be an excellent source of news, protected species information, and support for the legal practioner.

Association for Biodiversity Information
URL: *http://www.abi.org/index.htm*

This site hosts a searchable database for conservation information on plants animals, and ecological communities of North America. It also contains Biodiversity information on endangered species and other conservation issues.

Defenders of Wildlife
URL: *http://www.defenders.org/*

This site contains information on how to take action to help preserve wildlife and their habitat, a list of Aat risk@ wildlife and ways to help them, and a map to locate wildlife in your area.

EE Link Endangered Species Page
URL: *http://eelink.net/EndSpp/*

This comprehensive site contains a wealth of important links to endangered species sites as well as fact sheets, searchable databases, images, policy and legislation. The site also contains links to international agencies and organizations.

Environmental Litigation Associates (ELA)
URL: *http://www.ela-iet.com/texasnew/ela/main/index.html*

This site contains information on environmental scientists and engineers willing to provide litigation support and expert testimony.

ELA - Links page
URL: *http://www.ela-iet.com/texasnew/ela/links/index.html*

Description: This page of the ELA site contains a thorough compilation of links for the environmental practitioner, including References, Resources, Regulations, Universities and other related links.

Environmental Professionals Homepage
URL: *http://www.clay.net/*

This page is designed to provide easy access to links for environmental consultants and professionals to regulations, government agencies, news, bulletins, search engines and much more.

Environmental Protection Online
URL: *http://www.eponline.com/*

This site contains information on management and problem solving for the environmental professional.

Environmental Defense Fund
URL: *http://www.edf.org*

This site contains news and other information concerning threatened and endangered species as well as other environmental issues.

Environmental Investigation Agency
URL: *http://www.eia-international.org*

The EIA is dedicated to exposing environmental crime. The site has links to recent press releases, news articles, campaigns and a discussion board.

Environmental Law Institute
URL: *http://www.eli.org*

Description: This site contains research information with studies dating back to 1992 which are accessible online.

Florida Public Interest Research Group (PIRG)
URL: *http://floridapirg.org*

This site contains information on the Florida PIRG programs, its current action issues and other related information. The site also contains links to PIRG's in other states and other Florida links.

Institute for Global Communications - EcoNet
URL: *http://www.igc.org/igc/gateway/enindex.html*

This site has recent news stories of environmental interest, action alerts, a database of progressive activists sites, and a public discussion forum on a host of environmental topics.

Local Government Environmental Assistance Network
URL: *http://www.lgean.org*

LGLEAN is a well organized site with information and links on environmental management, planning and regulatory information for local government. The site contains a Tools and Resources link, a Federal and State Regulations link, and a search engine for access to information on its site.

National Audubon Society
URL: *http://www.audobon.org*

This site contains information about Audubon conservation programs and news, as well as other Audubon information.

National Wildlife Federation
URL: *http://www.nwf.org*

This site contains information about NWF programs, recent environmental news, and political activities affecting natural resources.

The Nature Conservancy
URL: *http://www.tnc.org/*

The TNC site contains daily environmental news updates, press releases, online access to the TNC magazine, and links to the state specific TNC websites.

Nature Serve
URL: *http://www.natureserve.org/*

Nature Serve hosts an online encyclopedia of information searchable by plant or animal or ecological community.

Public Interest Research Group (PIRG)
URL: *http://www.pirg.org//enviro/index.htm*

This site is the main page for access to all the state PIRG sites. It also contains recent news and developments in the environmental community.

Regulatory Information - Blymyer Engineers
URL: *http://www.blymyer.com/links/regul.html*

This site contains regulatory and legal information links including international, federal and state links.

Sierra Club
URL: *http://www.sierraclub.org/habitat/*

This site contains recent news developments on protected species and their habitats. The site also contains habitat reports and Spotlights on individual species. There are also links available to other environmental issues and lnks directly to state chapters of Sierra Club.

World Wildlife Fund 2000 - Living Planet Campaign
URL: *http://www.panda.org/livingplanet/*

This site outlines the WWF Living Planet Campaign including recent news, The Global 200 plan, WWF initiatives and publications.

1000 Friends of Florida
URL: *http://www.1000friendsofflorida.org/*

This site advocates responsible planning for growth management in Florida. It also contains recent news and information on their programs.

VI. INTERNATIONAL ORGANIZATIONS

Because of the importance of international trade on the U.S. market economy, international treaties and developments may have an effect on local legal issues. The following sites are an excellent source of information and links for international issues.

Convention on International Trade in Endangered Species (CITES) of Wild Fauna and Flora.
URL: *http://www.cites.org/CITES/eng/index.shtml*

At this site you can access information about CITES, its programs, the convention, and its committee's. The site also boasts a searchable database of protected fauna and flora species as well as access to a newsboard and its newsletters.

United Nations Environmental Programme — World Conservation Monitoring Centre
URL: *http://www.unep-wcmc.org/*

This site is a source for international policy and efforts to conserve protected species. The site includes a searchable database for fauna and flora species and protected areas in each member country. Its Resource icon has links to publications on biodiversity, related websites, and list servers and links to conservation and environmental information.

International Institute for Sustainable Development - Linkages Page
URL: *http://www.iisd.ca/linkages/index.html*

This page contains links environmental to global policy.

VII. LAND USE

Cyburbia
URL: *http://www.cyburbia.org*

A thorough directory of internet resources relevant to planning, architecture, "urbanism," and other development topics. In addition, it contains information about architecture and planning-related usenet groups, and hosts several chat rooms and message boards. This site links to over 6000 sites.

American Planning Association (APA)
URL: *http://www.planning.org*

This web site for a national association of urban and regional planners contains information on land use and environmental topics and has links to state chapters.

Florida APA
URL: *http://www.floridaplanning.org*

The web site for the Florida chapter of the APA. This site has an excellent links page that may be of particular interest to Florida practitioners.

Smart Growth Network
URL: *http://www.smartgrowth.org/index.html*

The Smart Growth Network encourages development that better serves the economic, environmental and social needs of communities. The Network provides a forum for information-sharing, education, tool development and application, and collaboration on smart growth issues.

Florida Department of Community Affairs (DCA)
URL: *http://www.dca.state.fl.us*

The DCA is the lead agency that coordinates with Florida's counties, cities, and regional agencies in administering the State's planning and growth management laws and regulations.

1000 Friends of Florida
URL: *http://www.1000friendsofflorida.org*

This site advocates responsible planning for growth management in Florida. It also contains recent news and information on their programs.

VIII. PARKS

Florida State Parks
URL:
http://www8.myflorida.com/communities/learn/stateparks/index.html

This site is the passport to information on Florida State Parks. It provides information on the parks by location, recreational interests, events and an alphabetical listing of the parks themselves. The site also contains a contact list for the parks.

National Park Service - Parknet
URL: *http://www.nps.gov*

This site contains a search engine and a library with environmental news, legislative information, and references related to the National Park Service and its preservation of America=s cultural and national heritage.

ABSTRACTS

VOLUME 16

Oliver A. Houck, Environmental Law in Cuba, 16 J. LAND USE & ENVTL. L. 1 (2000).

This groundbreaking article describes the evolution of Cuban environmental law. It begins by hazarding a summary of the machinery of government. It then moves to consider early environmental laws and policies, the emergence of a new environmental ministry in 1994, a new framework environmental law in 1997, subsequent programs for environmental impact assessment, coastal zone management, and biological diversity, and first steps towards their implementation. It ends with an assessment of special economic, political and legal challenges Cuba faces and their relationship to environmental policy. The questions are obvious. The answers are not, but their pursuit is very much in play. This article will be an indispensable guide for public and private decision makers in considering the environmental impacts of Cuba's growth and development in the 21st century.

Dustin S. Stephenson, The Tri-State Compact: Falling Waters and Fading Opportunities, 16 J. LAND USE & ENVTL. L. 83 (2000).

This timely article reviews the history and current status of the Apalachicola-Chattahoochee-Flint River Basin Compact, a tri-state water compact between Alabama, Florida, and Georgia. In the United States, water rights disputes are common in the arid West, where the supply of water is simply not plentiful when compared to the vast area of land; in fact, the western water rights doctrine dates back to the Gold Rush days of the mid 1800's. However, the Southeastern United States, with its humid climate, lush greenery, and plentiful rainfall, has always had an abundant water supply for its needs. Therefore, the region has been basically immune from the "water wars" that have plagued the west. With such a bounty of water, the Southeast seems an unlikely locale for a water war. But, the sprawling development and booming industry in and around the Atlanta, Georgia, area have sparked a three state dispute between Alabama, Florida, and Georgia over water rights in the Chattahoochee River. Indeed, a water war has begun in the Southeast, and the first battle is over the "Hootch."

Michael N. Schmidt, Delegation and Discretion: Structuring Environmental Law To Protect The Environment, 16 J. LAND USE & ENVTL. L. 111 (2000).

This article, winner of the Florida Bar Environmental and Land Use Law Section's 2000 Dean Frank E. Maloney Memorial Writing Contest, reviews the District of Columbia Circuit Court's decision in American Trucking Associations, Inc. v. United States Environmental Protection Agency. The D.C. Circuit "sent shock waves through the environmental community" by reviving the nondelegation doctrine, after sixty years of dormancy, in American Trucking Associations, Inc. v. United States Environmental Protection Agency. The court used the nondelegation doctrine to restrict the Environmental Protection Agency's (EPA) discretionary decision making capacity, which could have a sweeping effect on Congress' authority to defer to agency decision making in general. However, the decision in American Trucking may have a limited effect if it is only applied to narrowly construed circumstances. Subsequent to the publication of this article, the U.S. Supreme Court, in Whitman v. American Trucking Associations, Inc., 531 U.S. 457, limited the D.C. Circuit's interpretation by partially affirming, partially reversing and remanding the case.

Luke Sherlock, Recent Developments in Land Use And Environmental Law, 16 J. LAND USE & ENVTL. L. 129 (2000).

This section highlights recent developments in federal and state environmental and land use case law, as well as notable legislation recently passed by the Florida Legislature. In addition to the sources cited in this section, the reader is encouraged to consult the official website of the Florida Legislature at <www.leg.state.fl.us>, the Florida Department of Environmental Protection's website at <www.dep.state.fl.us>, and the Florida Department of Community Affairs' website at <www.dca.state.fl.us.> Other useful sources the reader may wish to consult include the website of the Environmental Land Use Section of the Florida Bar, <www.eluls.org>, and the FLORIDA ENVIRONMENTAL COMPLIANCE UPDATE, available through M. Lee Smith Publishers, LLC, <www.mleesmith.com>.

Nancy Perkins Spyke, Charm In The City: Thoughts On Urban Ecosystem Management, 16 J. LAND USE & ENVTL. L. 153 (2001).

This fascinating article concludes that there are great opportunities for cities to become players in the nation's move toward ecosystem management. Certainly, problems arise when humans are injected into the ecosystem equation, and ecosystem management at the city level will not be easy. But the history of environmental regulation has taught us that making the easy choice does not always solve the problem. Further, limiting ecosystem management to rural and wilderness areas can only serve to further compartmentalize our already deeply fragmented environmental policies.

Urban ecosystem management is not an oxymoron. It can be achieved at various levels by implementing two dominant principles. The first will require cities to confront and celebrate their unique places within ecosystems. This stands in sharp contrast to the patterns of post-war urban development that have resulted in the bland, homogenous cityscapes we know today. Second, cities must acknowledge that the human species dominates their eco-regions and must accordingly make ecosystem management choices that will enhance human health and spirit. Thus, the twin concepts that should guide urban ecosystem management are celebration of place and respect for human well-being. In order to put these concepts into practice city residents, planners, and elected officials need to experience their ecosystems and build upon that experience.

Heather Darden, *Wastewater in the Florida Keys: A Call for Stricter Regulation of Nonpoint Source Pollution*, 16 J. LAND USE & ENVTL. L. 199 (2001).

This article addresses nonpoint source pollution and its detrimental effects on the environment. Through a focus on the devastating problems wastewater has caused in the Florida Keys, the author shows how pollution of this kind, not properly regulated, can have life threatening impacts on our environment. This article describes the current systems used in the Florida Keys, and the downfalls of such systems. Further, this paper also provides an overview of the sources of water pollution and the resources for regulation of such pollution, while also providing recommendations for strengthening these regulatory schemes. As the bulk of current federal regulation of water pollution is aimed at identifiable point sources, the author calls for strengthening of regulation of nonpoint source pollution, in an effort to protect our national waters, particularly those in the Florida Keys region.

Brittany Adams, *From Lucas To Palazzolo: A Case Study of Title Limitations*, 16 J. LAND USE & ENVTL. L. 225 (2001).

This Note examines what state courts and lower federal courts have found to be "background principles" of property and nuisance law that fit into the Lucas exception. The Note examines recent case law that applies the Lucas exception to determine how the law has developed. The Note then explains the facts of Palazzolo v. Rhode Island and discusses how the Court should rule on the issues in light of the difficulty the courts have had in applying Lucas. The Note concludes that the Court must consider the importance of the right to own property in America. The Court should take a firm stance to protect property rights—and democracy—by making sure that the government follows the Constitutional mandate to pay just compensation when it regulates property in a way that results in a taking.

Jeanne B. Curtin, *Recent Developments in Land Use And Environmental Law*, 16 J. LAND USE & ENVTL. L. 265 (2001).

This section highlights significant recent developments in federal and state environmental and land use case law. In addition to the sources cited in this section, the reader is encouraged to consult the official website of the Florida Legislature at <www.leg.state.fl.us>, and the website of the Environmental and Land Use Section of the Florida Bar <www.eluls.org>. Other useful sources the reader may wish to consult include the website of the Florida Department of Environmental Protection <www.dep.state.fl.us>, the Environmental Protection Agency's website <www.epa.gov>, and Enviro-Net <www.enviro-net.com> for recent news stories.

Michael Purdue, Book Review, HALSBURY'S LAWS OF HONG KONG: TOWN PLANNING, 16 J. LAND USE & ENVTL. L. 285 (2001).

In his thoughtful treatise, Professor Anton Cooray, Professor, School of Law, City University of Hong Kong, examines town planning laws in Hong Kong. This work is the first comprehensive work on Hong Kong planning law and must have involved considerable research. Professor Cooray sets out in considerable detail the main regulatory systems and the many other more specialist regulations that apply such as advertisement and conservation control. The treatment follows the standard Halsbury formula with numbered paragraphs with extensive footnotes. The complex subject matter is set out clearly and logically. The reader is taken gently along in that the main principles are first set out and then there is further elaboration and explanation. Because of the format chosen by the author, the treatment is mainly descriptive and analytic though, as indicated, it does include an evaluation of the system. There are detailed footnotes that reveal the author's expert knowledge of both the United Kingdom and Hong Kong planning law. It is an essential source for anyone who wishes to understand town planning in Hong Kong.

Luke Sherlock, *2001 Recommended Web Sites For Threatened And Endangered Species*, 16 J. LAND USE & ENVTL. L. 291 (2001).

The internet contains a wealth of free information on just about any issue a legal practitioner can come across. Locating the information, though, can be a time consuming and frustrating task. The Journal's annual website review attempts to assist the legal practitioner in taking advantage of the free resources available on the internet when researching environmental and land use law issues. This article is designed to make surfing the net for information more efficient and productive. Past reviews have focused on topics such as Ocean and Coastal law and Wetlands law. This year's review will focus on Endangered Species Web Sites.