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The Potential Role of Local Governments in Watershed Management

A. DAN TARLOCK*

The Search for a Local Government Role in Environmental Protection

Protecting healthy watersheds and restoring degraded ones is one of this country's major unmet environmental challenges. Because watersheds do not respect political boundaries, effective watershed conservation will require cooperation and coordination among all levels of government, including local units. Watershed conservation is one of the increasingly significant environmental protection roles local governments are playing for a variety of reasons, ranging from choice to coercion. Since the 1970s, many local governments have expanded their traditional land use regulatory programs to include environmental objectives such as impact assessment¹ and the protection of sensitive lands including flood plains, wetlands and steep slopes.² Watershed protection is also a logical extension of the increasing use of Habitat Conservation Plans (HCPs) to comply with Endangered Species Act (ESA)³ mandates. HCPs have created partnerships among federal and state environmental agencies and local governments to create

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1. Kathryn C. Plunkett, *Local Environment Impact: Implementing and Improving the Process While Maintaining the Purpose*, in NEW GROUND: THE ADVENT OF LOCAL ENVIRONMENTAL LAW (John R. Nolon ed., forthcoming 2002) [hereinafter NEW GROUND].

2. See generally John R. Nolon & Kristen Kelley, *Local Environmental Law: Natural Evolution or a Mutant Form?* (pts. 1 & 2), 12 ENVTL. L. IN N.Y. 173 (2001), 12 ENVTL. L. IN N.Y. 191 (2001); John R. Nolon, *In Praise of Parochialism: The Advent of Local Government Law*, in NEW GROUND, *supra* note 1. For a discussion of the role of tourism, second home concentration and retirement meccas in promoting sensitive lands protection see FRED BOSSELMAN ET AL., *MANAGING TOURISM GROWTH: ISSUES AND APPLICATIONS* (1999).

3. 16 U.S.C. §§ 1531-1544 (2000).

multi-species habitat reserves to address environmental issues on a larger geographic scale.⁴ Washington State has adopted a Watershed Management Act⁵ to provide financial incentives and guidelines for local governments that decide to develop a watershed management plan. However, the environmental role of local governments is underdeveloped, compared to their federal and state counterparts, because these units have not been assigned a formal role in the implementation of the two major environmental policies followed in this country, the reduction of exposure to harmful pollutants and the conservation of biodiversity.

Local governments were not assigned a formal role in environmental law and policy because the initial strategy was to federalize environmental protection to remedy grave, perceived defects in state and local oversight. Federal superintendence was viewed as the cure for fragmented jurisdictions and uneven regulation. Early federal successes came from dealing with problems that were largely interstate and involved common property resources that had not been fully converted into exclusive private rights. Airsheds and large rivers and lakes were relatively easy to improve because the gross pollution was amenable to technological fixes and polluters could not claim firm property rights to degrade the resource. The case for federal intervention was, and remains, strong, in part because local governments were slow to deal with many environmental problems, and when they did exercise their powers to define and prevent common law nuisances, the result was often to shift pollution to other areas. As a result, environmental policy continues to be primarily set and implemented at the federal and state levels; local efforts consist of parallel but often uncoordinated and fragmented initiatives to fill in non-preempted gaps, such as noise and low level pollution nuisances, left by federal and state programs. After federal land use planning legislation was defeated in the mid-1970s,⁶ the federal gov-

4. See generally *PIERCE COUNTY, WASHINGTON, ESA RESPONSE, EXECUTIVE SUMMARY* (Mar. 16, 1999), available at <http://www.salmoninfo.org/tricounty/piercesummary.htm> (detailing the role of a county in federal salmon restoration of the Pacific Northwest).

5. WASH. REV. CODE §§ 90.82.005 – 90.82.902 (2003).

6. See Jerold S. Kayden, *National Land-Use Planning in America: Something Whose Time Has Never Come*, 3 WASH. U. J.L. & POL'Y 445 (2000); John R. Nolon, *National Land Use Planning: Revisiting Senator Jackson's 1070 Policy Act*, 48 LAND USE L. & ZONING DIG. 3 (1996) (analyzing the reasons the federal government did not complete the federalization of the third leg of the air, water, and land life support system triangle).

ernment left most land use regulation to the states;⁷ with important exceptions, the states did not displace local authority.⁸ To deal with land-based pollution issues such as agricultural runoff, the federal government threw some money at the states and hoped that they could remedy the problem. But, as environmental protection shifted to biodiversity conservation and nonpoint pollution canceled the gains achieved by controlling point sources of pollution, the need to integrate land use controls into federal and state environmental protection has become more pressing. More generally, as environmental protection evolves from the first to the second generation, characterized by the involvement of multiple public and private actors whose choices large and small may have adverse environmental impacts, local governments are becoming more direct participants. In addition, state land use initiatives, such as the current interest in smart growth,⁹ have many potential biodiversity conservation and pollution control implications.

This Article examines the potential roles for local government in federal and state watershed protection initiatives designed both to enhance pollution abatement and to conserve biodiversity. Roughly defined, current watershed protection involves local public and private collaboration to restore a degraded local watershed and to protect smaller “at risk” rivers from land-based pollution so as to promote water quality, biodiversity and greater safer public use and enjoyment within the framework of existing federal and state laws.¹⁰ Watershed protection is a good case study for exam-

7. The restoration of lands damaged by surface mining is the major exception to this statement. See 30 U.S.C. § 1255 (2000). Nonetheless, the current United States Supreme Court views federal preemption of local regulation as a serious threat to their rigid and artificial vision of constitutional federalism. See generally *Solid Waste Agency v. Corps of Eng'rs*, 531 U.S. 174 (2001) [hereinafter SWANCC].

8. See David Callies, *The Quiet Revolution Redux: How Selected Local Governments Have Fared*, in NEW GROUND, *supra* note 1 (surveying the current status of the “Quiet Revolution” of state displacement of local government regulatory primacy).

9. See generally John R. Nolon, *Local Land Use Controls That Achieve Smart Growth*, 31 *Envtl. L. Rep.* (Envtl. L. Inst.) 11025 (2001); JOHN R. NOLON, *WELL GROUNDED: USING LOCAL LAND USE AUTHORITY TO ACHIEVE SMART GROWTH* (2001); Patricia E. Salkin, *From Euclid to Growing Smart: The Transformation of the American Local Government Ethic into Land Use Controls*, in NEW GROUND, *supra* note 1.

10. See DOUGLAS S. KENNEY ET AL., *THE NEW WATERSHED SOURCE BOOK* 5-12 (2000), available at http://www.colorado.edu/Law/NRLC/Publications/Watershed_Chapters/ (last visited Mar. 25, 2003); DOUGLAS S. KENNEY, *ARGUING ABOUT CONSENSUS: EXAMINING THE CASE AGAINST WESTERN WATERSHED INITIATIVES AND OTHER COLLABORATIVE GROUPS ACTIVE IN NATURAL RESOURCES MANAGEMENT* 1 (2000), available at <http://www.colorado.edu/Law/NRLC/Publications/RR23.pdf> (last visited Mar. 25, 2003).

ining the reasons for an increased local government role as well as both the promises of and constraints on such participation.

Increased watershed protection was identified during the Clinton Administration as a major federal water pollution control policy to supplement the application of technology standards to point sources. To be successful, watershed protection programs must necessarily involve affected units of local government. Watershed management is ultimately land use management, and thus local governments have a potentially large role to play as the primary public stewards of the nation's private land base. Neither the federal nor state governments have the authority to order the entire range of land use practices necessary to reduce nonpoint sources of pollution and to conserve biodiversity.¹¹ However, the existing allocation of regulatory jurisdiction among the federal, state, and local governments, as well as the U.S. Supreme Court's anti-environmental jurisprudence,¹² impose serious constraints on effective local government participation in watershed conservation. At the present time, coordinated, effective watershed management does not exist at *any* level of government.¹³ It remains a turbid vision, rather than a structural reality. Therefore, local governments cannot fully control the fate of watersheds wholly or partially within their jurisdiction, but they can still play a major role in watershed protection through the exercise of the full scope of land use authority and by cooperating with other vertical and horizontal units of government, including Indian tribes.

This Article first briefly surveys the reasons for the current interest in watershed protection. It then situates local watershed protection and conservation initiatives in the broader context of the downward devolution of environmental protection competence that is now occurring. Nature abhors a vacuum, and the current implosion of the national government¹⁴ (with respect to many

11. See Gregory A. Thomas, *Conserving Aquatic Biodiversity: A Critical Comparison of Legal Tools for Augmenting Streamflows in California*, 15 STAN. ENVTL. L.J. 3 (1996); Bradley C. Karkkainen, *Biodiversity and Land*, 83 CORNELL L. REV. 1 (1997); Symposium, *Biodiversity & Its Effects On Private Property*, 38 IDAHO L. REV. 3 (2002).

12. See Richard J. Lazarus, *Restoring What's Environmental About Environmental Law in the Supreme Court*, 47 UCLA L. REV. 703 (2000), reprinted in 32 LAND USE & ENVTL. L. REV. 227 (2001).

13. See Robert W. Adler & Michele Straube, *Watersheds and the Integration of U.S. Water Law and Policy: Bridging Great Divides*, 25 WM. & MARY ENVTL. L. & POL'Y REV. 1 (2000).

14. For an insightful and generally sympathetic examination of the reasons for the implosion and the Supreme Court's inconsistent federalism jurisprudence see ROBERT F. NAGEL, *THE IMPLSION OF AMERICAN FEDERALISM* (2001).

nondefense national security functions) creates greater opportunities for states and their local government agents. The next section examines selective options that local governments have to protect sensitive lands and enhance watershed quality and to incorporate watershed protection goals into growth management and smart growth programs. The final section examines the impact of the Court's property rights protection jurisprudence on these efforts.

The Revival of Interest in Watersheds as a Regulatory Unit

The vision of the watershed as the "right" organizing unit for integrated land and water resource management has fascinated planners and resource managers for over 100 years and is once more in vogue. Attempts to organize public policy on hydrologic rather than political lines have a long and frustrating history in the United States, rising and falling with the oscillations between progressive and conservative dominance. For example, watershed protection was the original rationale for the creation of the national forests, although the Court has refused to acknowledge this legacy.¹⁵ In the Progressive Conservation Era and again during the New Deal, planners and reformers tried to use the river basin, which included all of a system's watersheds, as the basis for comprehensive physical development and social progress. During the New Deal, there were efforts to focus on the land use impacts of federal development.¹⁶ They were unsuccessful, as was another attempt launched in the 1960s. For most of the 20th century, the watershed was equated with large river basin boundaries. Regional agencies such as the Tennessee Valley Authority sought to address underdeveloped areas through dams and other large-scale infrastructure projects, but most areas of the country rejected efforts to reallocate the powers of both the states and local governments. The net result was a series of substantial federal projects without a regional institutional infrastructure to manage for changing needs.¹⁷ Thus, the integration of land and water use has

15. See *United States v. New Mexico*, 438 U.S. 696 (1978) (holding that U.S. Forest Service enabling legislation does not create implied federal reserved water rights for instream flows). J. Powell's opinion does full justice to the history.

16. See generally NAT'L RESOURCES COMM., *THE REGIONAL FACTORS IN NATIONAL PLANNING* (1935).

17. See, e.g., NAT'L RESEARCH COUNCIL, *THE MISSOURI RIVER ECOSYSTEM: EXPLORING THE PROSPECTS FOR RECOVERY* 5-6 (2002).

been taken at best. The watershed or river basin idea was basically only a blueprint for the construction of an integrated system of multipurpose dams on a large river system. This legacy is on decreasing utility as we are now in the post-dam construction era characterized by the reallocation of existing supplies for urban use and environmental restoration.¹⁸

Integrated watershed management appeared to die with the demise of the federal dam building era in the 1970s, but it has been reborn as a grassroots movement consisting of a series of experiments that range from public education to efforts to restore a major ecosystem.¹⁹ Three specific, related factors seem to drive the re-emergence of the watershed as planning unit. The first factor is the search for alternatives to top-down federal water quality standards, which do not take into account the special features of individual watersheds. Federal standards have not effectively limited nonpoint sources of pollution²⁰ and thus contribute to the continued degradation of our watersheds. In addition, federal water policy initiatives have reached a dead end and no new federal vision has been articulated.²¹ While the Clinton Administration tried to promote watershed management as such a vision,²² neither the Administration nor the U.S. Congress provided the necessary leadership or financial support.

The second factor is that states and local governments must initiate new water policies and hope to interest Congress in supporting them, as was the case with the Florida Everglades.²³ In

18. See A. Dan Tarlock, *Water Policy Adrift*, 16 F. FOR APPLIED POL'Y & RES. 63 (2001), available at <http://forum.ra.utk.edu/Archives/Spring2001/tarlock.pdf> (last visited Mar. 25, 2003); WORLD WATER VISION, A WATER SECURE WORLD: VISION FOR WATER, LIFE, AND THE ENVIRONMENT (2000), available at <http://watervision.cdinet.com/commreport.htm> (last visited Mar. 25, 2003); Peter H. Gleick, *The Changing Water Paradigm: A Look at Twenty-First Century Water Development*, 25 WATER INT'L 127 (2000), available at <http://www.iwra.siu.edu/win/win2000/win03-00/gleick.pdf> (last visited Mar. 25, 2003).

19. See Douglas S. Kenney, *Historical and Sociopolitical Context of the Western Watersheds Movement*, 35 J. AM. WATER RESOURCES ASS'N 493 (1999).

20. See Oliver A. Houck, *The Clean Water Act TMDL Program V: Aftershock and Prelude*, 32 ENVTL. L. REP. (Envtl. L. Inst.) 10,385 (2002).

21. For an incomplete effort to do so, hobbled by indifference and partisan politics, see W. WATER POLICY REVIEW ADVISORY COMM'N, WATER IN THE WEST: THE CHALLENGE FOR THE NEXT CENTURY (1998), available at <http://www.den.doi.gov/wwprac/reports/final.htm> (last visited Mar. 25, 2003).

22. See Unified Federal Policy for a Watershed Approach to Federal Land and Resource Management, 65 Fed. Reg. 62,566 (Oct. 18, 2000).

23. See Mary Doyle, *Implementing Everglades Restoration*, 17 J. LAND USE & ENVTL. L. 59 (2001); Mary Doyle & Donald V. Jodvey, *Everglades Restoration: Forging New Law in Allocating Water for the Environment*, 8 ENVTL. L. 255 (2002).

general, Congress is no longer interested in regional water development (except for a few specific—and often inefficient, and uncoordinated—“pork barrel” projects), and the major water agencies have been severely limited by budget cuts. Executive leadership of natural resources issues essentially ended in the Carter Administration. Finally, watershed management is also a manifestation of the transition from the view that rivers are only commodities to be exploited to the maximum extent possible to the ecological ideal that the maintenance or restoration of the “natural” functions of river systems, related ground waters²⁴ and their flood plains should control development patterns.²⁵

The net result is that current watershed management is no longer the exercise in rational planning that it was during the era of large dam construction. Occasionally, watershed management is joined with efforts to develop place-based sustainability strategies,²⁶ but the current experiments often instead represent ad hoc efforts to overcome the obstacles imposed by the current maze of planning and regulatory programs rather than the creation of new strategies. A U.S. Environmental Protection Agency (EPA) publication identified three common features of the watershed approach: (1) well-integrated partnerships; (2) a specific geographic focus; and (3) action driven by environmental objectives and by strong evidence.²⁷

Section 303 of Clean Water Act (CWA)²⁸ and the Safe Drinking Water Act (SDWA)²⁹ are the current “drivers” behind the widespread interest in watershed planning. Section 303 requires that EPA and the states set total maximum daily loads (TMDLs) for streams that do not meet existing water quality standards after the application of technology standards. TMDLs are, in effect, a

24. See Robert J. Glennon, *WATER FOLLIES: GROUNDWATER PUMPING AND THE FATE OF AMERICA'S FRESH WATERS* (2002).

25. Professor Ludwik A. Teclaff has been one of the leading advocates of the need to recognize the benefits of historic flood cycles as well as the benefits of flood control. See Ludwik A. Teclaff, *Treaty Practice Relating to Transboundary Flooding*, 31 NAT. RESOURCES J. 109 (1991); Ludwik A. Teclaff, *The Evolution of the River Basin Concept in Natural and International Water Law*, 36 NAT. RESOURCES J. 359 (1996); LUDWIK A. TECLAFF, *THE RIVER BASIN IN HISTORY AND LAW* (1967).

26. See SARAH F. BATES ET AL., *SEARCHING OUT THE HEADWATERS: CHANGE AND REDISCOVERY IN WESTERN WATER POLICY* 186 (1993).

27. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, *GUIDANCE FOR WATER-QUALITY-BASED DECISIONS: THE TMDL PROCESS* (1991), available at <http://www.epa.gov/OWOW/tmdl/decisions/> (Apr. 1991).

28. 33 U.S.C. § 1313(d) (2000).

29. 42 U.S.C. §§ 300f to 300j-26 (2000).

total watershed waste load allocation among both point and nonpoint³⁰ sources of pollution. The allocations require users to impose additional land use controls for nonpoint sources of pollution, such as improved riparian corridor use practices, beyond those required by the technology-forcing provisions of the Act. TMDL implementation is scientifically and institutionally complex and very costly.³¹ The fate of the program is uncertain, as the George W. Bush EPA suspended the TMDL rules adopted at the end of the Clinton Administration.³² However, the watershed conservation movement is broader than TMDL compliance. The SDWA permits water suppliers to use land use controls to protect watersheds, as New York City has so far successfully done, as an alternative to costly filtration treatment.³³

Why Now? Some of the Reasons For Increased Local Government Participation in Environmental Protection

At the highest level of abstraction, local governments are willing or unwilling participants in a concerted effort to reduce the centralization of political power that occurred during the rise of the regulatory and welfare state in the late 19th and the first three quarters of the 20th centuries in this and other countries. Like tidal boundaries, the lines among different levels of jurisdictional competence are always in flux, but the rate of change is becoming more intense. The merits of centralization versus decentralization have been at the heart of political debates from the beginning of the modern state, and ebb and flow in both directions.³⁴ In the United States, from the progressive era, if not before, to the "Great Society" of Lyndon B. Johnson, power was increasingly centralized at the national level. Since the 1970s,

30. *Pronsolino v. Marcus*, 91 F. Supp. 2d 1337, 1346-47 (N.D. Cal. 2000), *aff'd sub nom. Pronsolino v. Nastri*, 291 F.3d 1123 (9th Cir. 2002) (holding that TMDLs may include nonpoint sources); see generally NAT'L RESEARCH COUNCIL, *ASSESSING THE TMDL APPROACH TO WATER QUALITY MANAGEMENT* (2001); OLIVER A. HOUCK, *THE CLEAN WATER ACT TMDL PROGRAM: LAW, POLICY, AND IMPLEMENTATION* (2d ed. 2002).

31. See Linda A. Malone, *The Myths and Truths That Threaten the TMDL Program*, in *NEW GROUND*, *supra* note 1.

32. See Houck, *supra* note 20.

33. See, e.g., 42 U.S.C. §§ 300j-2(d) (2000).

34. One source of the roots of the modern debate can be found in the efforts of political theorists in medieval Europe to come to terms with the failure of the Carolingian Empire to reestablish a universal Roman Empire. See *THE CAMBRIDGE HISTORY OF MEDIEVAL POLITICAL THOUGHT* c. 350-1450 (J.H. Burns ed., 1988).

there have been powerful decentralization trends. The reasons for these trends vary from the normative assertion that the U.S. Constitution prefers state to national governance to more positive concerns about the limits of centralized governance. The reasons converge as the amount of federal dollars devoted to regulation as opposed to wealth transfers has declined over time, further weakening the federal government.

These larger trends have increasingly direct environmental governance implications.³⁵ Watershed management is an important manifestation of the force of decentralization for two complementary reasons: (1) the gradual “decentering” of environmental law and (2) the long history of the argument that watersheds are appropriate governance boundaries. It is also the product of a growing rejection of two fundamental tenants of modern environmentalism. First, modern environmentalism has long assumed that “nature” exists only outside areas of human settlement, and is a place in which humans are largely absent. Second, urban and suburban areas are, therefore, not ecosystems worthy of conservation. As we realize that “nature” is a social construct and the product of long interactions with human society, we are more willing to see that “natural” systems such as watersheds still function despite the heavy footprint of human settlement.³⁶

THE DECENTERING OF ENVIRONMENTAL LAW

Units of local government were assigned no formal role in the formulation of law and policy during the formative years of modern environmental law. The reason was straightforward. Environmental protection represented the progressive evolution of responsibility from lower to higher levels of government. Local government’s role in controlling nuisance-like activities such as smoke pollution was recognized. However, local pollution ordinances were lumped in the same category as state regulatory programs and common law nuisance actions as examples of

35. This statement is not confined to the United States. The identification of biodiversity conservation as an international environmental law norm requires ways to involve local communities in conservation efforts. See Gregory F. Maggio, *Recognizing the Vital Role of Local Communities in International Legal Instruments for Conserving Biodiversity*, 16 UCLA J. ENVTL. L. & POL’Y 179 (1997/1998).

36. For a lucid recent history of environmentalism that stresses the need to view urban settlement as a component of an ecosystem see J. DONALD HUGHES, *AN ENVIRONMENTAL HISTORY OF THE WORLD: HUMANKIND’S CHANGING ROLE IN THE COMMUNITY OF LIFE* (2001). See also Nancy Perkins Spyke, *Charm in the City: Thoughts on Urban Ecosystem Management*, 16 J. LAND USE & ENVTL. L. 153 (2001).

piecemeal, ineffective strategies. Due to their political power, states were assigned the role of federal implementation agents and allowed to run federal and parallel state programs as long as they complied with federal floors. Local governments were effectively either classified as polluters or left to deal with unambiguously local nuisances such as noise. For example, the CWA is directed primarily against industrial and publicly-owned treatment plant outfalls. Much has changed since the heady early 1970s, and the cumulative impact of the continued evolution of environmental protection has revived interest in an expanded role for local units of government.

The environmental movement is slowly, if reluctantly, coming to grips with the forces of "decentering." Environmentalism has evolved from a quasi-guerilla political movement, premised on suing bad public and private actors and on fostering federal regulation, to a mature political movement. It has picked all the "low hanging" fruit and must now deal with more difficult diffuse problems that are increasingly less amenable to national solutions. Three problems stand out, all of which suggest a greater role for small units of government.

GRIDLOCK

Congress no longer seems able to formulate a national environmental policy that enjoys a wide (but not universal) consensus. This lack of consensus makes it both difficult to revise existing programs and to formulate new ones. There are many reasons for the standoff, ranging from the complexity of current problems, many of which involve legitimate cost-benefit tradeoffs, to the lack of creative new solutions beyond "federalize" and "enforce the letter of the law" that command widespread respect, to the partisan battles between proponents of rolling back or eliminating protection levels and staunch defenders of the status quo regardless of its efficiency, effectiveness or necessity. Gridlock was in place prior to September 11, 2001, but the focus on bioterrorism protection and other national security concerns will divert more attention from core environmental and other important social issues.

For better or worse, the existing gridlock has the real potential for increasing the power of local governments for the foreseeable future, because it has the effect of accelerating the devolution of power back to states and their subordinate units of government. As national power weakens, the federal government is forced to

enlist local governments as partners in environmental protection, as a way of addressing issues that Congress refuses to take up.

Devolution can take many forms. EPA's efforts to support the development of local government environmental management systems, which include the design of more sustainable, compact and green communities, is an example of "top-down" devolution.³⁷ Other types of devolution, such as HCPs, are both "top-down" and "bottom-up," and still other initiatives are more "bottom-up" and result from a desire on part of those with the greatest stake in a resource to control its future use by influencing the application of federal and state standards.

THERE IS NO RACE TO THE BOTTOM

Much of federal environmental law is premised on the need to maintain federal floors to prevent a race to the bottom. In recent years, scholars have mounted strong theoretical attacks against the existence of the race while others point to the persistent under-enforcement of environmental laws. The debate waxes furious.³⁸ For example, some agree that the theory may be sound, but in reality the states and federal government are now in a joint race to the bottom. The debate cannot be easily resolved, but for my purpose the important point is that its existence reflects the reality that the role of the state governments has changed drastically—if unevenly—since the early days of the environmental movement when northern states imposed high federal standards on their southern brethren to prevent them from competing with low pollution standards as they had previously with anti-union laws. States have subsequently invested more money in environmental protection and not all innovation now comes from Washington. As states mature, opportunities for local governments to play a more important role in environmental regulation also increase.

37. See John Vorhees, *The Changing Environmental Management Scene: Federal Policy Impacts the Private and Public Sectors*, 31 *Envtl. L. Rep.* (Envtl. L. Inst.) 10079, 10091-94 (Jan. 2001).

38. Professor Richard L. Revesz is the leading critic of the race-to-the-bottom theory. See Richard L. Revesz, *Federalism and Environmental Regulation: A Public Choice Analysis*, 115 *HARV. L. REV.* 555 (2001). See also Jonathan H. Adler, *Let 50 Flowers Bloom: Transforming the States Into Laboratories of Environmental Policy*, 31 *Envtl. L. Rep.* (Envtl. L. Inst.) 11284 (Nov. 2001). But see Clifford Rechtschaffen, *Competing Visions: EPA and the States Battle for the Future of Environmental Enforcement*, 30 *Envtl. L. Rep.* (Envtl. L. Inst.) 10803 (Dec. 2000).

IT'S LAND USE, STUPID

As Aldo Leopold taught,³⁹ land is the most important part of the biotic pyramid. But, Leopold has been more read than applied. The initial federal successes came from dealing with gross air and water pollution. Land was, and is, a different story. Effective land conservation requires active management, not just the installation of technology to treat emissions and effluents.⁴⁰ It is also much more difficult to develop uniform environmental standards for land, compared to air and water pollution.⁴¹ Nondegradation is seldom an option. After federal land use planning legislation was defeated in the mid-1970s, the federal government left land use regulation to the states. However, as environmental protection shifts from an almost exclusive emphasis on pollution abatement and prevention to include biodiversity conservation, it is no longer possible to ignore land use issues.

Nonfederal land is difficult for the federal government to regulate. The federal government faces the double problem that it does not control nonpublic lands and private property rights are firmly entrenched. The common law gives entitlement holders the right to exploit land up to the point that it becomes an actionable nuisance or trespass, and the Court has adopted the common law baseline as a limitation on the state's power to regulate under the Fifth Amendment.⁴² In addition to the takings problem, the Commerce Clause⁴³ may limit the federal government's power to regulate historic local activities. Until *United States v. Lopez*⁴⁴ and *United States v. Morrison*,⁴⁵ it was assumed that the commerce power gave the federal government the ability to regulate land use if the cumulative impact of state and local practices were inconsistent with a federal objective.⁴⁶ The current Court has revived the

39. ALDO LEOPOLD, A SAND COUNTY ALMANAC, AND SKETCHES HERE AND THERE (1949) [hereinafter SAND COUNTY ALMANAC].

40. For a fascinating account of the New Deal's largely failed effort to develop land use policies based on the natural carrying capacity of the ecosystem see DONALD WORSTER, DUST BOWL: THE SOUTHERN PLAINS IN THE 1930s (1979).

41. Scientists are now struggling to develop similar land use standards. For an important effort see V.H. Dale et al., *Ecological Principles and Guidelines for Managing the Use of Land*, 10 ECOLOGICAL APPLICATIONS 639 (2000).

42. *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1022 (1992); *Palazzolo v. Rhode Island*, 533 U.S. 606, 629 (2001).

43. U.S. CONST. art. I, § 8, cl. 3.

44. 514 U.S. 549 (1995).

45. 529 U.S. 598 (2000).

46. See William Funk, *The Court, the Clean Water Act, and the Constitution: SWANCC and Beyond*, 31 Env'tl. L. Rep. (Env'tl. L. Inst.) 10741 (July 2001).

long ignored local-national distinction, and it is possible that the Court will hold that the nexus between a land use⁴⁷ and interstate commerce is too weak to support federal regulation.⁴⁸

Legal Barriers to Effective Watershed Management

Local governments, of course, occupy parts of watersheds, but they face formidable barriers in trying to adapt their land use and related powers to watershed governance. Local governments are locked into the jurisdictional "box" that state boundary laws draw, and it seems virtually impossible to break out of that constraint.⁴⁹ Local control may not extend to crucial components of the watershed, water flows, and in watersheds where there is substantial state and federal public land, local governments must use indirect rather than direct land use controls.⁵⁰ Three major barriers to local governance are outlined in the following section.

THERE IS NO THERE THERE

The first barrier is the concept of watershed itself. It is a term with no precise definition and few legal consequences. It is not a political and management unit except for the limited purpose of special districts,⁵¹ and its inherent elasticity makes it diffi-

47. Cf. SWANCC, *supra* note 7 (noting that risk of interference with local land use control was relevant factor in deciding that CWA does not give Corps of Engineers the power to regulate isolated wetlands used by migratory birds).

48. Courts have not, however, invalidated federal environmental laws such as the Endangered Species Act, 16 U.S.C. §§ 1531-1544 (2000), that regulate local land use activities. *E.g.*, *Gibbs v. Babbitt*, 214 F.3d 483 (4th Cir. 2000); *Nat'l Ass'n of Home Builders v. Babbitt*, 130 F.3d 1041 (D.C. Cir. 1997). See Adrian Vermeule, *Centralization and the Commerce Clause*, 31 *Env'tl. L. Rep. (Env'tl. L. Inst.)* 11334 (Nov. 2001); Michael J. Gerhardt, *The Curious Flight of the Migratory Bird Rule*, 31 *Env'tl. L. Rep. (Env'tl. L. Inst.)* 11079 (Sept. 2001).

49. Mamaroneck, New York's adoption of an "innovative" extra-territorial zoning review ordinance to try to block an IKEA store in a neighbouring community illustrates just how tight the "box" is. *City of New Rochelle v. Town of Mamaroneck*, 111 F. Supp. 2d 353 (S.D.N.Y. 2000).

50. States have the power to regulate the environmental aspects of private activities on federal land see *Cal. Coastal Comm'n v. Granite Rock Co.*, 480 U.S. 572 (1987), but they have no direct land use authority. However, local governments are becoming more aggressive in finding ways to regulate the use of adjacent public land. Washoe County, Nevada recently voted, pursuant to the Mining Act of 1872, to deny a special use permit for a planned cat litter clay processing plant that would have been located on private land.

51. Nonetheless, Professor J.B. Ruhl argues that the watershed is a superior concept to the ecosystem because "we can define boundaries and sub-boundaries and the flow across each with some reasonable degree of precision." J.B. Ruhl, *The (Political) Science of Watershed Management in the Ecosystem Age*, 35 *J. AM. WATER RESOURCES ASS'N* 519, 522 (1998).

cult to use as a tool for coordinating existing political boundaries not drawn along hydrographic lines. Watersheds are not functional planning units. Unlike countries such as Australia that have rigorous, integrated catchment planning processes,⁵² the United States has no uniform, formal watershed planning mechanism to provide a framework for land and water management and to include a landscape conservation component into individual property rights. Watershed resources⁵³ include both the lands and waters within a defined ecological unit, but no consensus exists about the boundaries of such units or the proper allocation of control authority.⁵⁴

The existence of a watershed does not lead to a limitation on the use of property except in water law, where water use restrictions are defined situationally.⁵⁵ Outside of water law, property rights are generally not defined in relation to a specific geographic location because they are considered abstract universal relationships good across time and space. The vagueness of the term contributes to its lack of legal meaning. For example, the terms "watershed" and "river basin" continue to be used indiscriminately, although "watershed" usually now refers to the catchment or drainage area of an individual stream or river and the older planning term, "river basin," properly refers to the drainage area of a large river and its tributaries. But the scale of current watershed restoration can be large. For example, the preservation of the Florida Everglades requires that the entire watershed be managed to prevent their continuing degradation.⁵⁶

THE LAW OF WATER RIGHTS DETACHES LAND FROM WATER AND PREEMPTS MOST LOCAL CONTROL

Watershed management inevitably requires control over the flow of water in the area as well as the prevention of land-based pollution. The law of water rights presents two problems for local

52. DAVID FARRIER, ENVIRONMENTAL LAW HANDBOOK 89-91 (2d ed. 1993).

53. See George Coggins, *Watershed as a Public Natural Resource on the Federal Lands*, 11 VA. ENVTL. L.J. 1 (1991).

54. See Robert W. Adler, *Fresh Water—Toward a Sustainable Future*, 32 ENVTL. L. REP. (ENVTL. L. INST.) 10167 (Feb. 2002); Robert W. Adler, *Addressing Barriers to Watershed Protection*, 25 ENVTL. L. REP. (ENVTL. L. INST.) 973, 1088-94 (1995).

55. See, e.g., *Anaheim Union Water Co. v. Fuller*, 88 P. 978, 980 (Cal. 1907) (holding that use which does not return water to downstream users violates rule that riparian rights are limited to uses within a watershed).

56. Thomas H. Ankersen & Richard Hamann, *Ecosystem Management and the Everglades: A Legal and Institutional Analysis*, 11 J. LAND USE & ENVTL. L. 473 (1996).

governments. First, water has been detached from the watershed of origin and the ecosystems in the watershed, both conceptually and physically. Thus, there are many watersheds for which there are inadequately defined water rights. Second, cities have comparatively little leverage over the allocation of water within their boundaries because water allocation is a state, rather than local, function.

Science began the detachment of water from the watershed, but law was ready to follow. Hydrology was developed as the science of river manipulation;⁵⁷ dissenting geographers concerned with possible adverse effects of the relationship between ecosystem vitality and unmodified river behavior were relegated to a marginal status. The common law of riparian rights was originally a law of limited nonconsumptive use by those within a watershed, but the law has gradually eroded the connection between humans and actual physical space. In the United States, both land and water resources have been viewed as commodities,⁵⁸ and this has allowed the law to “detach” rivers from their surrounding ecosystems. When mill power and navigation were the principal water users, the natural flow was the most important component of the resource. This changed in the mid-19th century, and the supply available for storage and diversion became the most important component. Today, it has proven very difficult to integrate instream flow rights into the common law of riparian rights, regulated riparianism and prior appropriation.⁵⁹ Both science and law have contributed to the “detachment” of rivers from their watersheds.

Water law was largely transformed from a watershed conservation focus to one that viewed the watershed as an “area of origin”—a source for more distant urban and agricultural demands. Rights were assigned to individuals and thus, in the 19th and

57. WATER SCI. & TECH. BD., NAT'L RESEARCH COUNCIL, OPPORTUNITIES IN THE HYDROLOGIC SCIENCES 38-43 (1991).

58. The influence of western European law and economic theory on the perception of all land and related resources as commodities from the time of settlement has been brilliantly explored by the environmental historian William Cronon in two books, *CHANGES IN THE LAND: INDIANS, COLONISTS, AND THE ECOLOGY OF NEW ENGLAND* (1983) and *NATURE'S METROPOLIS* (1991). The adverse consequences of the “commodification” of nature is, of course, the central theme of modern environmentalism. See Lester W. Milbrath, *The World is Relearning Its Story About How It Works*, in *ENVIRONMENTAL POLITICS IN THE INTERNATIONAL ARENA: MOVEMENTS, PARTIES, ORGANIZATIONS AND POLICY* 21 (Sheldon Kamienecki ed., 1993).

59. See A. DAN TARLOCK ET AL., *WATER RESOURCES MANAGEMENT* 343-57 (5th ed. 2002).

20th centuries, water law contributed to unintegrated watershed management by removing the river's natural behavior or hydrography as a constraint on watershed development. Both prior appropriation and the more watershed-friendly common law of riparian rights permitted water to be removed from the watershed of origin and transported to areas of higher demand for consumptive use. Local governments willingly participated in the deconstruction. For example, in the Midwest states, drainage districts were formed to support the conversion of land to agriculture and sustain crop production.⁶⁰

Water allocation is an exclusive state function because we view water law as a branch of property and tort law. Water law regulates relationships between persons and things, and the assumption is that we should strive for simplicity⁶¹ and uniformity. Property rights are abstract universal relationships good across space and time.⁶² Not only do local units of government lack direct control of waters within their borders, another legacy of the 19th and 20th century centralization of water is the assumption that state regulation preempts indirect as well as direct local control because it is a matter of statewide concern.⁶³ Preemption, which can be express or implied, is a function of two major factors, intent and statewide impact. The first is the intent of the legislature. Since local governments have no inherent powers, states are free to displace local authority. For example; an intermediate New Jersey appellate court has held that the state's amended Right to Farm Act⁶⁴ preempts local regulation of runoff.⁶⁵ Second, courts examine the impact of local control on state interests. Preemption can be found when the legislature has not clearly exercised its power to displace local governments. Courts have developed independent tests, similar to the judicial creation of the dormant Commerce Clause doctrine, to preserve state autonomy

60. See JACOB BEUSCHER, WATER RIGHTS 77-8 (1967).

61. See Thomas W. Merrill & Henry E. Smith, *Optimal Standardization in the Law of Property: The Numerus Clausus Principle*, 110 YALE L.J. 1 (2000).

62. For a lucid criticism of the post-17th century theory of property see Robert J. Goldstein, *Green Wood in the Bundle of Sticks: Fitting Environmental Ethics and Ecology into Real Property Law*, 25 B.C. ENVTL. AFF. L. REV. 347 (1998).

63. See generally *Snow v. Abalos*, 140 P. 1044 (N.M. 1914); FRANK MICHELMAN & TERRENCE SANDALOW MATERIALS ON LOCAL GOVERNMENT IN URBAN AREAS: CASES AND MATERIALS 314 (1970).

64. N.J. STAT. ANN. § 4:IC-1-10 (West 2001).

65. *Township of Franklin v. Hollander*, 769 A.2d 427, 437-38 (N.J. Super. Ct. App. Div. 2001).

in matters of statewide concern and can conclude that a specific land use regulation is inconsistent with a state law.

Local governments also lack direct control over water quality standards. They must meet, but not set, them. The limited position of local governments can be contrasted with Indian tribes, which often hold small land masses within the boundaries of a state. Indian tribes can use the CWA to protect their watersheds against upstream pollution.⁶⁶ Section 505 of the CWA allows tribes to adopt more stringent water quality standards than those required by EPA or the state in which the reservation is located. For example, a Rio Grande River Pueblo, located below the city of Albuquerque, adopted—and EPA approved—a more stringent sewage discharge requirement for arsenic than New Mexico's by classifying its portion of the river for ceremonial use and applied the heightened standard against the upstream city. The federal courts of appeals have held that tribes have the same power as states to adopt more stringent water quality standards, and thus EPA has the authority under section 510 of the CWA to approve these standards.⁶⁷ Tribal exercise of CWA powers is often seen as detrimental to local interests, but their power to set and enforce water quality standards makes them an important partner in cooperative watershed management.

WATER AND LAND USE WERE NOT LINKED

Integrated water management requires control over both land and water resources, but local governments often lack either. For example, watershed protection can be a major component of local and regional growth management and smart growth strategies, but until recently there was no integration of water and land use planning except through public utility law and state and federal water development policy. Water is easy to remove from watersheds because cities enjoy a super-preference for water and this preference, along with the assumed public utility duty to anticipate future growth and acquire the necessary supplies to serve it have made it easy for cities to acquire the necessary water rights to anticipate future growth. The net result is that municipal law

66. See generally Joe W. Stuckey, *Tribal Nations: Environmentally More Sovereign Than States*, 31 *Envtl. L. Rep. (Envtl. L. Inst.)* 11198 (Oct. 2001).

67. *City of Albuquerque v. Browner*, 865 F. Supp. 733, 739-40 (D.N.M. 1993), *aff'd*, 97 F.3d 415 (10th Cir. 1996); *Montana v. EPA*, 137 F.3d 1135, 1140-41 (9th Cir. 1998).

and the land use policy of competition for high tax low service uses do not promote watershed conservation.⁶⁸

Stewardship of Private Land: The Basis of Local Watershed Conservation

Local government's greatest contribution to watershed conservation is the control of private land. This oversight, however, is piecemeal. Cities and counties often lack jurisdiction over other parts of the watershed held by private entities, and the net impact of the Court's taking jurisprudence is to chill local regulatory initiatives. To complicate matters, in areas in which much of the watershed lies on public lands, permitted activities such as oil and gas drilling, grazing, and logging may create adverse impacts, but local governments have at best an indirect voice in their regulation.⁶⁹

Watershed conservation initiatives are also difficult because local governments have traditionally limited their land use powers to nuisance prevention, the financing and coordination of urban services, and the density, timing, and distribution of growth, although their powers are not limited to these objectives. These governments are the primary stewards of sensitive lands, and they have considerable power over them.⁷⁰ Environmental sensitivity is a legitimate factor to be taken into account in a district classification. Local zoning can be used to create narrow river corridor vegetation preservation bands to buffer the river from permitted development and protect stream quality.⁷¹ Courts have generally accepted environmental protection, including watershed protection,⁷² as a legitimate basis for regulation, but sensitive

68. See *supra* notes 59-62 for a brief discussion of efforts to integrate water and land use planning.

69. See *supra* note 50 for an example of a community's successful effort to circumvent this constraint.

70. I have addressed the authority issue at greater length in A. Dan Tarlock, *Local Government Protection of Biodiversity: What is Its Niche?*, 60 U. CHI. L. REV. 555, 574-86 (1993).

71. *Dail v. York County*, 528 S.E.2d 447, 452 (Va. 2000).

72. *E.g.*, *Star Vector Corp. v. Town of Windham*, 776 A.2d 138, 141-42 (N.H. 2001) (holding that town could deny a site plan for an indoor shooting range due in part to concerns about escape of hazardous substances into watershed); *City of Alpharetta v. Estate of C.R. Sims*, 533 S.E.2d 692, 694 (Ga. 2000) (holding that special use permit was properly denied because landowner failed to demonstrate that he had taken reasonable steps to preserve trees).

land use regulation continues to raise *ultra vires* issues.⁷³ For example, some states have designated specific areas of critical environmental concern, such as the New Jersey pinelands and Lake Michigan sand dunes⁷⁴. Other states have a general process to designate environmentally sensitive areas,⁷⁵ and watersheds are prime critical areas. California and Nevada have created a bi-state planning commission to try and stem the pollution of Lake Tahoe that has resulted from intensive land development in the area. Virginia and Maryland require that local governments adopt land use regulations to limit runoff from the Chesapeake Bay watershed.⁷⁶ These include the delineation of resource protection and management areas, the designation of development concentration areas, and vegetation cover requirements.⁷⁷

In addition to *ultra vires* challenges, preemption is always a threat to local watershed regulation, but there are many creative opportunities for local governments to "thread the needle" by enacting complementary rather than conflicting regulation. A Virginia court, for example, has held that a state law that preempts local governments from prohibiting silviculture operations does not preclude local review of harvest plans and the imposition of stream buffer requirements.⁷⁸ The Colorado Supreme Court has held that a county wetland protection ordinance, which made it impossible to site a transbasin diversion facility, was not an interference with the right to appropriate but rather a permissible regulation of land use.⁷⁹ An intermediate California appellate court

73. *E.g.*, *City of Newark v. Township of Hardyston*, 667 A.2d 193, 198 (N.J. Super. App. Div. 1995); *In re Kisiel*, 772 A.2d 135 (Vt. 2000) (holding that town plan prohibition on development on "steep slopes" an insufficient basis for denial of permit). In reviewing a moratorium on land development in a municipal watershed, the New Jersey court noted:

The Legislature is still wrestling with the problem of watershed protection. The issue is politically sensitive because it is a matter of general concern (protection of watershed land and water sources) against both the property rights of watershed owners and the taxing interests of municipal entities . . . the fact that no easy resolution has occurred is neither a surprise nor a sign that the moratorium was meant to expire.

City of Newark v. Township of Hardyston, 667 A.2d 193, 198 (N.J. Super. App. Div. 1995).

74. MICH. COMP. LAWS ANN. § 324.63702 (West 2001).

75. *E.g.*, Fla. Env'tl. Land & Water Mgmt. Act of 1972, FLA. STAT. chs. 380.012 – 380.12 (2001).

76. See LINDA A. MALONE, ENVIRONMENTAL REGULATION OF LAND USE § 13 (1990).

77. *Id.*

78. *Dail v. York County*, 528 S.E.2d 447, 450-51 (Va. 2000).

79. *City of Colorado Springs v. Bd. of Comm'rs*, 895 P.2d 1105, 1116 (Colo. Ct. App. 1994), *cert. denied*, 516 U.S. 1008 (1995).

held that the long history of the state's failure to regulate groundwater pumping allowed counties to pass anti-export ordinances.⁸⁰

As water supply options narrow in many parts of the county, local governments are beginning to link land use and water planning, and these efforts have considerable potential to promote watershed conservation. The integration of land use and water supply planning will not stop much growth,⁸¹ but the potential for watershed conservation is increased because the link will: (1) require cities to review more carefully development that threatens to adversely affect the environmental values of a river corridor or watershed; (2) require some cities to limit the rate of growth to match available, secure long-term supplies; (3) possibly require some cities in arid areas to realize that the carrying capacity of local and more distant watersheds to support urban growth is in fact limited; and (4) create additional pressures for more aggressive water conservation and efficient use that may indirectly conserve instream flows. Public utility law is adjusting to the new era of more limited water supplies by recognizing that suppliers have more discretion to match service with supply.⁸² Modern statutes are rapidly eroding the assumption that there is an absolute duty to serve. Cities may subordinate service obligations to land use plans and policies.⁸³ At a minimum, cities may delay land development and thus take pressure off of at-risk watersheds, until adequate water supplies and sewage systems are available.⁸⁴ Other states are beginning to follow Arizona's lead in linking water supply planning and urban growth. For example, a 2001 California law requires that all new developments over 500 units demonstrate a firm long-term supply, taking into account drought conditions.⁸⁵

80. *Baldwin v. County of Tehema*, 36 Cal. Rptr. 2d 886, 892-93 (Cal. Ct. App. 1994).

81. PETER D. NICHOLS, ET AL., *WATER AND GROWTH IN COLORADO: A REVIEW OF LEGAL AND POLICY ISSUES FACING THE WATER MANAGEMENT COMMUNITY* (2001).

82. See A. DAN TARLOCK, *LAW OF WATER RIGHTS AND RESOURCES* §5.13[b] (1988); see generally Dennis J. Hermann, *Sometimes There Is Nothing Left Give: The Justification for Denying Water Service to New Consumers to Control Growth*, 44 STAN. L. REV. 429 (1992).

83. E.g., *County of Del Norte v. Crescent City*, 84 Cal. Rptr. 2d 179, 186-87 (Cal. Ct. App. 1999).

84. *Schofield v. Spokane County*, 980 P.2d 277, 281 (Wash. Ct. App. 1999) (holding Washington County has the power to deny rezoning for riparian land because of an inadequate sewage system).

85. CAL. GOV'T CODE § 66473.7 (West 2003); see A. Dan Tarlock & Lora A. Lucero, *Connecting Land, Water, and Growth*, 54 LAND USE L. & ZONING DIG. 3 (2002).

The Court's Takings Jurisprudence and Watershed Conservation

Many of the major causes of watershed degradation stem from unsustainable land uses within the watershed, regulations which control the uses of sensitive land must be consistent with the Fifth and Fourteenth Amendments, analogous provisions in state constitutions, and takings legislation in place in states such as Florida and Texas.⁸⁶ These measures potentially chill watershed conservation because they are widely perceived as a reflection of the principle that land use law has always promoted settlement and intensive development. This legacy constitutes the largest legal barrier to the protection of watersheds, because it fuels the current Court's takings jurisprudence. All land use regulation, especially with regard to the protection of sensitive lands, disturbs deep-seated political and legal expectations of easy and rapid land conversion, and the expectation of the "right to convert" is protected by the constitutional guarantee that property will not be "taken" without compensation. Land is a form of exclusive private property. The Court has pronounced that land is the highest form of private property⁸⁷ and has displayed increasing hostility to the idea that the state can regulate the use of land to protect biodiversity without payment of compensation.

This hostility to biodiversity protection is captured in the Court's 1992 decision in *Lucas v. South Carolina Coastal Council*.⁸⁸ *Lucas* held that a state beachfront setback line imposed to protect beachfront dwellings from collapsing due to erosion was an unconstitutional taking of the owner's property because it virtually destroyed the development value of the lot.⁸⁹ There are now three major issues in takings law: (1) what percentage of the value of the property can a regulation diminish?; (2) when is a taking regulatory versus *per se* physical?; and (3) what is the relevance of the existence of a regulation? The most far-reaching aspect of *Lucas*, not diminished by the subsequent takings jurisprudence, is the suggestion that a regulation that has a sub-

86. FLA. STAT. ANN. § 70.001 (West 2001); TEX. GOV'T CODE ANN. § 2007 (Vernon 2000).

87. See, e.g., *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1028 (1992). My colleague Fred Bosselman has shown that the framers rejected the argument that land should be a preferred form of property. Fred Bosselman, *Land as a Privileged Form of Property*, in *TAKINGS: LAND DEVELOPMENT CONDITIONS AND REGULATORY TAKINGS AFTER DOLAN AND LUCAS* 29 (David E. Callies ed., 1996).

88. 505 U.S. 1003.

89. *Id.* at 1031-32.

stantial economic impact may only be justified if the limitation inheres "in the title itself, in the restrictions that the background principles of the state's law of property and nuisance already place on land ownership. . . ."⁹⁰ *Lucas* did, however, suggest that a property owner cannot claim that a government regulation constitutes a taking if the regulation codifies "background principles" of nuisance and property law, although it is clear that Justice Antonin Scalia did not intend it as a widely available justification for severe regulations.⁹¹ The Court has subsequently held that the existence of prior regulation is not a *per se* defense to a taking challenge; it is only a factor to be considered in calculating the claimant's investment-backed expectations.⁹²

Common law-based background limitations reflect the idea that property is a legal construct, which has historically reflected both public and private interests,⁹³ and thus the Constitution permits the state to define the scope of the noncompensable use by providing property owners with adequate notice of the nonrecognition of a claim. These background limitations can support more intensive regulation of watershed resources such as wetlands and riparian corridors that have long been subject to judicial and administrative control.⁹⁴ A federalist reading of the *Lucas* qualification would afford substantial deference to state law to define the background conditions⁹⁵ and would support a less uni-dimensional conception of property than is currently reflected in the

90. *Id.* at 1029; see David L. Callies, *Custom and Public Trust? Background Principles of State Property Law?*, 30 *Envtl. L. Rep.* (Envtl. L. Inst.) 10003 (Jan. 2000).

91. This doctrine has, in fact, long been part of the common law. See *Otis Co. v. Ludlow Mfg. Co.*, 201 U.S. 140, 152 (1906) (noting the mill dam act in force since 1714, which allowed downstream riparians to flood upper upon payment of damages, "enters as an incident into the nature of property. . ."). See generally Louise Halper, *Untangling the Nuisance Knot*, 26 *B.C. ENVTL. AFF. L. REV.* 89 (1998).

92. *Palazzolo v. Rhode Island*, 533 U.S. 606, 629-30 (2001).

93. See John F. Hart, *Colonial Land Use Law and Its Significance for Modern Takings Doctrine*, 109 *HARV. L. REV.* 1252 (1996); John F. Hart, *Land Use in the Early Republic and the Original Meaning of the Takings Clause*, 94 *Nw. U. L. REV.* 1099 (2000).

94. See Fred Bosselman, *Limitations Inherent in the Title to Wetlands of Common Law*, 15 *STAN. ENVTL. L.J.* 247 (1996) (discussing common law roots of wetlands regulation).

95. Professor Frank I. Michelman has lucidly pointed out the tension in *Lucas* between the desire to expand the scope of regulatory takings and the Court's respect for "our federalism." Frank I. Michelman, *Property, Federalism, and Jurisprudence: A Comment on Lucas and Judicial Conservatism*, 35 *WM. & MARY L. REV.* 301 (1993). But see Robert M. Washburn, *Land Use Control, The Individual, and Society: Lucas v. South Carolina Coastal Council*, 52 *MD. L. REV.* 162 (1993).

Court's jurisprudence.⁹⁶ A federalist approach to the definition of property rights would not compel the adoption of an ecological concept of property, nor would it incorporate an ecosystem support limitation into the right,⁹⁷ but it would permit states to integrate this approach into takings law.⁹⁸

Lucas categorically disdains this approach, but despite Justice Scalia's opinion, two contradictory trends are taking place in takings law. The first seeks to codify the restrictive tests of *Lucas* and impose extra-constitutional compensation burdens on states. In effect, states would have to pay to protect the environment. Several states have passed property rights legislation. Such legislation either requires some form of property rights impact assessment, modelled on environmental impact assessment, or contains a substantive standard—beyond that required by federal and state constitutions—to determine when a landowner is entitled to compensation. For example, the Florida Property Rights Act entitles an owner to compensation if a regulation inordinately burdens his land or he “bears permanently a disproportionate share of a burden imposed for the good of the public, which in fairness should be borne by the public at large.”⁹⁹

The second trend tries to seek to protect biologically sensitive lands such as wetlands and endangered species habitats by preventing development within the confines of the Court's takings framework. These efforts mix regulation with both compensated and uncompensated land acquisition. Habitat Conservation Plans (HCPs) adopted to implement Endangered Species Act duties, for example, allow development in return for the dedication of land or the payment of fees to mitigate the adverse effects of the project or by providing substitute forms of compensation. Land dedication

96. The argument that no single “land ethic” is adequate to define property for Fifth Amendment purposes is brilliantly developed in Fred Bosselman, *Four Land Ethics: Order, Reform, Responsibility, Opportunity*, 24 ENVTL. L. 1439 (1994); see also the exchange between Professors Richard Epstein and Frank Michelman. Richard A. Epstein, *Takings, Exclusivity and Speech: The Legacy of Pruneyard v. Robins*, 64 U. CHI. L. REV. 21 (1997); Frank I. Michelman, *The Common Law Baseline and Restitution for Lost Commons: A Reply to Professor Epstein*, 64 U. CHI. L. REV. 57 (1997).

97. The foundation of an ecological definition is A SAND COUNTY ALMANAC, *supra* note 39. Joseph L. Sax, *Property Rights and the Economy of Nature: Understanding Lucas v. South Carolina Coastal Council*, 45 STAN. L. REV. 1433 (1993) (sketching a concept of property as a usufruct rather than an exclusive right to maximization exploitation). See also Eric Freyfogle, *Ownership and Ecology*, 43 CASE W. RES. L. REV. 1269 (1993); Eric Freyfogle, *The Owning and Taking of Sensitive Lands*, 43 UCLA L. REV. 77 (1995).

98. See Michelman, *supra* note 95.

99. FLA. STAT. ch. 70.001(3)(e) (1995).

and carefully regulated mitigation can be powerful watershed conservation instruments because properly calculated impact fees can be used to mitigate the biodiversity loss of development by including the conservation of watersheds and riparian corridors. All exactions must meet the nexus and rough proportionality test of *Nollan v. California Coastal Commission*¹⁰⁰ and *Dolan v. City of Tigard*¹⁰¹. Cities bear the burden of demonstrating that they have accurately used available scientific information to construct a ratio between the amount of habitat destroyed by development and the amount that must be dedicated to a permanent reserve through acquisition or restoration.¹⁰² *Nollan-Dolan* fees can perform these functions, but only if cities do their homework.¹⁰³

A federal district court decision, *National Wildlife Federation v. Babbitt*,¹⁰⁴ illustrates the need to do a full *Nollan-Dolan* analysis before imposing an impact fee. California is an endangered species "hot spot," and the U.S. Fish and Wildlife Service (FWS) and various governmental units negotiated an ambitious regional HCP for a 53,000 acre, relatively undeveloped flood plain near Sacramento.¹⁰⁵ The Notomas Basin Conservancy assembled several connected blocks of land funded by development fees. The pay-off for the plan was the Fish and Wildlife Service's issuance of a biological opinion that authorized the issuance of "incidental take" permits to several local governments and water districts.¹⁰⁶

To induce sufficient developer and local community support, HCPs have to balance front-end development opportunities, which are immunized from an ESA § 9 taking suit, with the implementation of a multi-species conservation plan that has a reasonable probability of success over a long period of time. The trick is to find an "acceptable minimum level" of habitat destruction and consequent species decline. To do this, the plan has to make crucial risk assumptions in the face of multiple levels of scientific and

100. 483 U.S. 825 (1987).

101. 512 U.S. 374 (1994).

102. See Michael Allen Wolf, *Earning Deference: Reflections on the Merger of Environmental and Land Use Law*, in *NEW GROUND*, *supra* note 1.

103. See Fred Bosselman, *Dolan Works*, in *TAKINGS SIDES ON TAKING ISSUES: PUBLIC AND PRIVATE PERSPECTIVE* 345 (Thomas E. Roberts ed., 2002). For an important empirical analysis that shows that many California cities have increased impact fees as a result of *Nollan-Dolan* see Anne E. Carlson & Daniel Pollak, *Taking on the Ground: How the Supreme Court's Takings Jurisprudence Affects Local Land Use Decisions*, 35 U.C. DAVIS L. REV. 103 (2001).

104. 128 F. Supp. 2d 1274, 1278-79 (E.D. Cal. 2000).

105. *Id.* at 1278-79.

106. *Id.*

institutional uncertainty. The Notomas Basin plan's crucial assumptions were that only about a third of the basin would in fact be developed, and that future threats to the species' continued survival as development took place around the reserve system could be minimized through aggressive adaptive management. HCP risk-based regulation applies the precautionary principle, as developed in toxic pollutant regulation, to biodiversity conservation. The *National Wildlife Federation* court recognized the need for precaution and did not invalidate the key scientific risk assumptions behind the plan. All HCPs are experiments and all stakeholders must accept a relatively high level of uncertainty. The Court did, however, zero in on the weakest deals, which posed an unreasonable risk of the HCP's failure and demonstrated the disconnect between the regional plan, the lack of regional responsibility, and the Department of Interior's (DOI's) inability to nail down adequate funding¹⁰⁷ prior to the issuance of the incidental take permit. It invalidated the FWS's conclusion that the amount of the mitigation fee would be sufficient to acquire the necessary habitat, because it was unsupported by substantial evidence and therefore arbitrary. Administrative law purists may object to combining an adjudicative and rulemaking or informal decision standard, but the court in effect enforced the Court's *Nollan-Dolan* standard. *Nollan-Dolan* requires that land exactions be based on a reasonable showing of need and that the exaction is proportionate to the environmental degradation generated by the land use activity. By failing to demonstrate compliance with the standard, the DOI may have over- or under-estimated the necessary level of exaction.

Watershed protection may be facilitated in many states because their courts have been increasingly receptive to the use of regulation to protect sensitive lands. These courts have held that the right to create an environmental hazard is not constitutionally protected, or have reasoned that substitute compensation schemes effectively avoid a taking. For example, the Colorado Supreme Court has held that the enforcement of state radiation control regulations against a mill site with uranium tailings was not a taking because no investment-backed expectations were frustrated.¹⁰⁸

107. See John Kostyack, *NWF v. Babbitt: Victory for Smart Growth and Imperiled Wildlife*, 31 *Envtl. L. Rep. (Envtl. L. Inst.)* 10712 (2001); see generally William Rodgers, *The Myth of Win-Win: Misdiagnosis in the Business of Reassembling Nature*, 42 *ARIZ. L. REV.* 297 (2000).

108. *Colo. Dep't of Health v. The Mill*, 887 P.2d 993, 1002 (Colo. 1994).

"The Mill was 'on notice' that the radioactive materials present on the property were dangerous and highly regulated at both the state and federal level as was the use of the property itself."¹⁰⁹ The Massachusetts Supreme Judicial Court remanded a takings claim to determine if a city can prevent the development of littoral land flooded by a public waterbody under the pre-existing *Lucas* title limitation doctrine.¹¹⁰ Iowa's Supreme Court used a similar analysis to hold that state legislation protecting Indian mounds on private property precluded a takings claim.¹¹¹ Nevada has held that regulatory delays in development approvals in the Lake Tahoe Basin are not a taking because the developer had notice of a complex regulatory process and the protection of the Tahoe Basin would benefit the developer when his property was granted development approval.¹¹² Likewise, the U.S. Supreme Court recently held that moratoria tailored to the complexity of the regulatory process are not a temporary taking.¹¹³

The fear of being held liable for an unconstitutional taking has led many jurisdictions to experiment with substitute forms of compensation for land owners whose property is subject to regulation, such as transferable development rights (TDRs), as well as the direct purchase of development rights through general revenues and bond issues.¹¹⁴ These have long been promoted as a substitute for direct compensation, but it is not clear that they will fulfill their potential because it is often difficult to anchor those units on another tract.¹¹⁵ A recent extension of the idea contemplates the creation of wetland mitigation banks, which will hold entitlements until they are needed by developers to offset the destruction of a wetland.¹¹⁶ TDRs were originally developed to preserve urban landmarks, but the idea has been extended to the

109. *Id.* at 1001.

110. *Lopes v. City of Peabody*, 629 N.E.2d 1312, 1315-16 (Mass. 1994); *see also Nemeth v. Abonmarche Corp.*, 576 N.W.2d 641 (Mich. 1998).

111. *Hunizker v. State*, 519 N.W.2d 367, 371 (Iowa 1994), *cert. denied*, 514 U.S. 1003 (1995).

112. *Kelly v. Tahoe Reg'l Planning Agency*, 855 P.2d 1027, 1035 (Nev. 1993).

113. *Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Planning Agency*, 535 U.S. 302, 341-43 (2002).

114. *See* Dwight H. Merriam, *Reengineering Regulation to Avoid Takings*, 1 URB. LAW. 33, 33-35 (2001).

115. *See* DANIEL R. MANDELKER, *LAND USE* § 12.13 (2d ed., 1988). An early TDR scheme was invalidated because it vested too much discretion in the local government to designate receiving parcels. *See also* *Montgomery County Citizens' Ass'n v. Md. Nat'l Capital Park & Planning Comm'n*, 522 A.2d 1328 (Md. 1987).

116. A developer restores or creates a new wetland and sells it to a developer who needs to mitigate the destruction of a wetland in connection with a development project.

preservation of environmentally sensitive land. The most important environmental protection experiment involving TDRs is the one currently in place in the Pinelands of New Jersey. Pineland development credits are created based on the development expectations of severely restricted lands. The scheme has been upheld by the New Jersey Supreme Court¹¹⁷ and endorsed by the Court in *Penn Central Transportation Company v. City of New York*¹¹⁸. In a recent taking challenge to the Tahoe Regional Planning Agency's denial of a permit to build a house on a one-half acre lot because it was located in a stream environment zone, the Ninth Circuit Court of Appeals held that there was no taking, in part, because the lot owner was given TDRs.¹¹⁹ The Court reversed the Ninth Circuit's lack of ripeness holding and expressly refused to decide whether "TDRs may be considered in deciding the issue whether there is a taking as opposed to the issue of whether just compensation has been afforded for such a taking."¹²⁰ However, three concurring justices argued that TDRs were not relevant to the first issue because they would lead to under-compensation.

Conclusion

Watershed management provides an opportunity for local governments to play a central role in the conservation of biodiversity and the promotion of environmentally sustainable development. As the primary stewards of the nation's private lands, local governments can use their land use authority to curb activities involving the degradation of stream corridors and other sensitive lands. Local government regulation, however, can never address all of the causes of watershed degradation. The local role should, instead, be exercised in partnerships with other units of government—both vertically and horizontally—and the major stakeholders in the watershed, including the primary resource use groups. To play an effective role, local governments must do three things. First, they must base their regulatory and planning decisions on scientific information to the maximum extent possible. Second, they must devise creative strategies to assemble the necessary

ject. See Royal Gardner, *Banking on Entrepreneurs: Wetlands, Mitigation Banks, and Takings*, 81 IOWA L. REV. 527 (1996).

117. Gardner v. N.J. Pinelands Comm'n, 593 A.2d 251, 264 (N.J. 1991); see also Glisson v. Alachua City, 558 So. 2d 1030 (Fla. Dist. Ct. App. 1990).

118. 438 U.S. 104 (1978).

119. Suitum v. Tahoe Reg'l Planning Agency, 80 F.3d 359, 363-64 (9th Cir. 1996), rev'd on other grounds, 520 U.S. 725 (1997).

120. *Id.* at 728.

land reserves and buffer areas. Third, they must use the full extent of their existing land use authority to fill gaps left by federal and state environmental legislation.