Book Review

THE QUIET CRISIS REVISITED

A. Dan Tarlock*

I. A PERSONAL, WESTERN PERSPECTIVE

Former Secretary of the Interior Stuart L. Udall's 1963 and 1988 editions of *The Quiet Crisis* tell two stories of the evolution of ideas, a personal and a philosophical. Both books have an important message for the environmental movement world-wide, but first and foremost they are an important chapter in the long history of the Far West to define itself. Two visions of what our greatest student of the region, Wallace Stegner, has recently called "hope's native home"[1] have increasingly competed for dominance since the period of scientific exploration. The West was originally viewed as a vast storehouse of natural resources to be exploited for maximum immediate benefit, a land of hope and dreams. An alternative dream has emerged, as the environmental and social consequences of this individualistic vision have become clear. In an earlier book, *The American West as Living Space*, Stegner articulated a vision of communities living with not against nature.[2] *The Quiet Crisis* is a history of a personal and scholarly engagement with the forces that are pulling away from the first and moving toward the second vision. Secretary Udall has charted the intellectual and emotional odyssey that many of us who deeply love this region have experienced as the tensions between the two visions have become clearer.

Growing up in the West of the 1950's, I had an intuitive sense that the land was special. The sharp intake of thin air on a crystal clear early winter morning at the South Rim of the Grand Canyon, dusted with snow and filled with the scent of pinions, made an indelible impression even on a teenager in that more innocent, pre-electronic era. But, I understood neither the non-romantic history of the region nor the hard and complex choices about the use

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1. Wallace Stegner, *Land of Hope, Land of Ruin*, N.Y. TIMES, March 29, 1992, at E-17, col. 2.

2. WALLACE STEGNER, THE AMERICAN WEST AS LIVING SPACE (1987). This theme is further explored in CHARLES F. WILKINSON, THE EAGLE BIRD: MAPPING A NEW WEST (1992).

of these fragile lands that my generation would face. Hoover Dam made the same indelible impression on me as did the canyon. My New Dealer parents admired both of them with equal awe and enthusiasm.

The preservation of the Canyon and the dam each represented enlightened natural resources policies. President Dwight Eisenhower's reclamation and federal power policies of "no new starts" and a preference for private over public power were an integral part of the larger case against the Republican interregnum. Almost all westerners of that era saw both the national park and the dam as the natural consequences of the end of the era of settlement and disposition which ultimately required the management and conservation of all natural resources. I finally began to appreciate the fragility of the Western landscape and the bitterness of the legacy of exploitation and settlement during a long hospital stay in law school in the heady days of the Kennedy administration. I discovered John Wesley Powell, Wallace Stegner and the literary Stewart Udall and consequently the institutional complexity of the western landscape.

A Report on the Lands of the Arid Regions of the United States,[3] *Beyond The Hundredth Meridian*[4] and *The Quiet Crisis* convinced me, as they did many others, to make a career out of the "conservation" of the West. Many of my classmates, the faculty and interviewing partners from the Inner-Mountain West found this a bizarre choice at best, but it has been one which has proved remarkably satisfying. As has Secretary Udall's public service and writing, my career has been a journey of confronting the moral tensions between the myths built around the frontier experience and the reality of what it did to the landscape and to the Native Americans who inhabited it.[5] It is in this spirit that I revisit *The Quiet Crisis.*

II. THE LEGACY OF THE QUIET CRISIS

Secretary of the Interior Stewart Udall's *The Quiet Crisis* will always occupy an honored place on the small shelf of books which have shaped popular attitudes that continue to fuel the environmental movement. Along with Aldo Leopolds' *A Sand County Almanac* (which sketched out a new ethic that collapsed the duality between man and nature first clearly posited by the Greeks),[6] and Rachel Carsons' *Silent Spring* (which alerted us to the environmental costs of modern chemicals),[7] the original *The Quiet Crisis* contributed to a fundamental change in the way in which we think about our resource heritage. It was and remains a deceptively farsighted and radical reading of American frontier settlement and conservation history. The book is

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3. JOHN WESLEY POWELL, A REPORT ON THE LANDS OF THE ARID REGION OF THE UNITED STATES WITH A MORE DETAILED ACCOUNT OF THE LANDS OF UTAH (Wallace Stegner, ed. 1962).

4. WALLACE STEGNER, BEYOND THE HUNDREDTH MERIDIAN: JOHN WESLEY POWELL AND THE SECOND OPENING OF THE WEST (1953).

5. This tension is the focal point of post-Frederick Jackson Turner Western American history. *See, e.g., Becoming West: Toward A New Meaning for Western History, in* UNDER AN OPEN SKY: RETHINKING AMERICA'S WESTERN PAST 3 (William Cronon, George Mills & Jay Gitlin eds. 1992) [hereinafter UNDER AN OPEN SKY].

6. JOHN PASSMORE, MAN'S RESPONSIBILITY FOR NATURE (1974).

7. RACHEL CARSON, SILENT SPRING (1962).

also a poignant reminder that in the not too distant past, we expected high government officials to have a sense of history and to read and to write books instead of simply watching CNN.[8]

The Quiet Crisis is even more amazing considering the cabinet department that Secretary Udall headed. The Department of Interior is trapped between two centuries. It is heir to both the remnants of the disposal era of federal land policy in the nineteenth century and to the conservation era which sought to supplement disposition with retention and ultimately management.[9] The result is an agency permeated by conflicting commissions and strong competing constituencies. As a recent study of the Department's implementation of the Endangered Species Act observed, "[a]mong all cabinet departments probably no other has as many diverse and competing responsibilities as does the Department of Interior."[10] Not surprisingly, Interior's performance "reveals a preference for development or environmental preservation"[11] because the tradition of disposal is longer and its constituents well organized.

The list of mediocre or terrible Secretaries of the Interior is long and continues to grow. The list of great ones is short. Albert Fall[12] and James Watt[13] top the first list, but there are many with an almost equally impressive list of sins. The list of great secretaries is limited to Carl Schurz, Harold Ickes and Stuart Udall. Carl Schurz introduced civil service reform to the Department, kept Indian tribes under civilian jurisdiction and promoted scientific resource management by his advocacy of sustained yield forestry. Through the distractions of the Great Depression and World War II, Harold Ickes presided over the transition of the Department from a disposition to a management agency and over John Collier's Bureau of Indian Affairs which

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8. RUSSELL JACOBY, THE LAST AMERICAN INTELLECTUALS (1990), offers a searching examination of the disappearance of public intellectuals from American public life after the 1960's. One of his explanations is ironic from the perspective of the environmental movement since the loss of the native habitat of social critics may have made the environmental movement possible. Jacoby argues that intellectuals were dispersed from their urban bohemias into the suburbs and into secure but stultifying academic humanities departments. Historians argue that this diaspora helped to create popular support for the environmental movement. *Id.* *See* SAMUEL P. HAYS, BEAUTY, HEALTH AND PERMANENCE: ENVIRONMENTAL POLITICS IN THE U.S. 1955-1985 (1987).

9. *See* MARIAN CLAWSON, THE FEDERAL LANDS REVISITED (1983); GEORGE C. COGGINS & CHARLES F. WILKINSON, FEDERAL PUBLIC LAND AND RESOURCES LAW Ch. 2 (2d ed. 1986).

10. RICHARD J. TOBIN, THE EXPENDABLE FUTURE: U.S. POLITICS AND THE PROTECTION OF BIODIVERSITY 38 (1990).

11. *Id.*

12. Secretary of the Interior Albert Fall was a major player in the Teapot Dome scandals of the early 1920's. Secretary Fall was ultimately convicted of accepting a bride in return for granting oil and gas leases in a Naval Petroleum Reserve. See BURL NOGGLE, TEAPOT DOME: OIL AND POLITICS IN THE 1920'S (1962), for a history of the greatest federal scandal prior to Watergate.

13. George C. Coggins & Doris K. Nagel, *"Nothing Besides Remains": The Legal Legacy of James G. Watt's Tenure as Secretary of the Interior on Federal Land Law and Policy*, 17 B.C. ENVTL. AFF. L. REV. 473, 549 (1990), traces the failed attempts by Secretary Watt to cancel the reforms of twentieth century public land management. The authors conclude that former Secretary Watt "consistently disregarded the process that Congress commanded as due, and his attempted circumvention of statutory strictures verged on the contemptuous." *Id.*

reversed the historic and misguided policy of tribal death by assimilation.[14] Stuart Udall began to chart a new and profoundly different environmental mission for the agency by bringing the fringe wildlife and wilderness movements into the mainstream within the Department.

On the surface, *The Quiet Crisis* appears a typical Kennedy-era analysis of an issue within the framework of technological optimism, but it actually told a very different story. Many of former Secretary Udall's arguments represented no break with contemporary *enlightened* thinking about natural resources. The book's narrative combined elegance with a call to a return to the technocratic principles of the New Deal and the earlier progressive era.[15] Preservation and wise *use* were the two contending definitions of conservation, and he saw no inherent conflict between them. His conclusion that "[w]e can have abundance and an unspoiled environment if we are willing to pay the price"[16] was squarely within the mainstream of thinking about natural resources in the Kennedy-Johnson administrations.[17] This framework also locks the book in a time that has passed because the arguments advanced in it represented the last flowering of the progressive conservation movement.

Although its conclusions were too optimistic, *The Quiet Crisis* endures. It endures because its historical focus is right and Secretary Udall accurately predicted the lasting influence of ecology in domestic and global resource use debates. With the benefit of thirty years of hindsight, we can now appreciate the book as the foundation of a new resource-use ethic that breaks with both the then dominant ideal of scientific conservation as well as with its first cousin, preservation. Secretary Udall helped to precipitate this break by defining conservation as neither simply wise use (read managed exploitation)

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14. Harold Ickes' long and controversial tenure as Secretary of the Interior still awaits a comprehensive analysis. For the present, one can start with Part VII of T.H. WATKINS, RIGHTEOUS PILGRIM: THE LIFE AND TIMES OF HAROLD L. ICKES 1874-1952 (1990).

15. A recent contemporary examination of the Kennedy-Johnson-Nixon administration's response to the post-World War II black migration from the rural south to the urban north through the "war on poverty" captures the spirit of the Kennedy administration. NICHOLAS LEMANN, THE PROMISED LAND: THE GREAT BLACK MIGRATION AND HOW IT CHANGED AMERICA (1991). The Kennedy-Johnson administrations were premised on a faith in the ability of government to implement enlightened academic thinking to solve social problems in a pragmatic manner. Describing the link between JOHN KENNETH GALBRAITH, THE AFFLUENT SOCIETY (1958), and the 1960 election campaign, Nicholas Lemann observes:

> John Kennedy's campaign slogan, "Let's get America moving again," echoed Galbraith; it was a politically attractive packaging for liberalism after Eisenhower, because it tapped into the impatient energy of the veterans of war without contradicting the reigning idea that since the Depression, the United States had become a consensus society whose citizens could go forward all together, without bitter conflicts of class and region and ethnicity.

LEMANN, *supra* at 117.

16. STUART L. UDALL, THE QUIET CRISIS AND THE NEXT GENERATION 190 (1988) [hereinafter THE QUIET CRISIS II].

17. In 1969, a prestigious National Academy of Sciences Committee published a report on resource use. It continued the tradition of blue-ribbon surveys of natural resources adequacy. It reflected a more complex view of the function of natural resources in modern society as it identified four perspectives: the Malthusian doctrine, conservation, the technological fix and ecology although in the end, it advocated a balanced approach which incorporated all four perspectives. JOHN CHAPMAN, *Interactions Between Man and His Resources*, *in* COMMITTEE ON RESOURCES AND MAN, NATIONAL ACADEMY OF SCIENCES-NATIONAL RESEARCH COUNCIL, RESOURCES AND MAN 31, 39 (1969).

or preservation, but rather in modern terms as the maintenance of ecosystem stability or, as we now say, biodiversity. His guides to the future were the then marginal science-philosophers George Perkins Marsh and Aldo Leopold. The book ended with a call for a new land ethic which should be "as comprehensive of as the sensitive science of ecology" and would "stress the oneness of our resources and the live-and-help-live logic of the great chain of life."[18]

III. THE ROOTS OF THE QUIET CRISIS

The book's thirtieth anniversary is a good time to ponder its significance. The book's message is more important today than when it was first published. We have just begun to appreciate the story's deeper lessons for modern resource management which Secretary Udall recognized five years ago when he republished the book with additional chapters on post-1963 developments.[19] In this review, I want to place *The Quiet Crisis* in the context of the resource management policy in the early 1960's to show how radically it broke with the past and then to speculate about the deeper lessons of the book for the future. I will concentrate on the public lands of the West, but the lessons articulated in the book are global. My thesis is that modern environmental management attempts to recapture and to carry forward the tradition of scientific resource management which led to the conservation movement but was often lost in the politics of continued resource exploitation.[20]

Until relatively recently, much American history was explained as the heroic exploitation of natural resources by transforming nature into commodities in the face of an inhospitable environment.[21] Exploitation is easy to understand. Abundance of natural resources was *the* defining characteristic of the United States from the earliest seventeenth century colonies[22] through the end of the nineteenth century. The idea that land and resources should be open to those who exploited and improved them was carried over into our public lands policies. The more interesting question is why we moved to control and preservation during the late nineteenth century. In brief, after the Civil War, the scientists who accompanied the major western expeditions laid the foundations for the substitution of managed for unbridled exploitation.[23] The increasing scientific awareness of the consequences of unrestrained exploitation led to efforts to manage these resources. In the late nineteenth century, the progressive agenda identified the use of natural resources as a vital national issue to be addressed through government control and manage-

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18. STUART L. UDALL, THE QUIET CRISIS 190 (1963) [hereinafter THE QUIET CRISIS I].

19. THE QUIET CRISIS II, *supra* note 16.

20. This thesis owes much to William L. Graf's superb study of the counter-conservation movement. WILLIAM L. GRAF, WILDERNESS PRESERVATION AND THE SAGEBRUSH REBELLIONS (1990).

21. The work of the environmental historian William Cronon: WILLIAM CRONON, NATURE'S METROPOLIS: CHICAGO AND THE GREAT WEST (1991); WILLIAM CRONON, CHANGES IN THE LAND: INDIANS, COLONISTS, AND THE ECOLOGY OF NEW ENGLAND (1983), is a brilliant documentation of this history.

22. DAVID POTTER, PEOPLE OF PLENTY: ECONOMIC ABUNDANCE AND THE AMERICAN CHARACTER (1954).

23. WILLIAM GOTTESMAN, EXPLORATION AND EMPIRE (1957).

ment.[24] Modern resource use policies are a legacy of the Progressive Conservation era, which defined resource use as a problem of managed exploitation rather than one of the preservation of ecosystem diversity and stability.

Progressive conservationism thrived in varying degrees between 1901 and 1920 and was then re-embraced during the New Deal. Former Secretary Udall's argument complemented the Kennedy Administration's efforts to return to progressive conservation principles of President Theodore Roosevelt.[25] Conservation under the first Roosevelt originally embraced both the utilitarian and the aesthetic. Ultimately, the movement broke into two antagonistic wings when John Muir and Giffort Pinchot split over forest policy and then over federal approval of the City of San Francisco's construction of a dam and reservoir in Hetch Hetchy Canyon north of Yosemite National Park.[26] The Kennedy Administration sought to reunite these two strands. Instead, it laid the foundation for the "transformation of preservationism into environmentalism"[27] and thus for the death of short rather than long term exploitation, as the dominant resource use ideology.

Secretary Udall's principal argument was that the progressive conservation movement embraced by the two Roosevelts must be revitalized. He accepted the pre-World War II conservation agenda, water resources development, more efficient energy production and transportation, better soil and forest management, and expanded it to include post-World War II concerns. His conception of resource conservation included more public land dedicated to outdoor recreation including wilderness preservation. The book's most radical argument was that aesthetic values, reflected in more wilderness and scenic area preservation, should be accorded equal weight with the nineteenth century values of private or public resource exploitation. This notion was becoming widely accepted by the public,[28] although it was still heresy to powerful western congressmen and their commodity constituencies.

Secretary Udall complemented his ideological contribution with a readable but accurate revisionist history of western settlement. The first chapter, The Land Wisdom of the Indians, was not the received wisdom at the time, but historical research has demonstrated that in many cases Indians were

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24. The standard history remains SAMUEL P. HAYS, CONSERVATION AND THE GOSPEL OF EFFICIENCY: THE PROGRESSIVE CONSERVATION MOVEMENT, 1890-1920 (1959). *See also* WILLIAM K. WYANT, WESTWARD IN EDEN: THE PUBLIC LANDS AND THE CONSERVATION MOVEMENT (1982).

25. *See* HENRY P. CAULFIELD, THE CONSERVATION AND ENVIRONMENTAL MOVEMENTS: AN HISTORICAL ANALYSIS IN ENVIRONMENTAL POLITICS AND POLICY 2 (James S. Lester ed. 1989).

26. As Sally K. Fairfax has pointed out, "[t]he conservationists and preservationists were almost indistinguishable in their early efforts to stop despoliation and destruction of nature's gifts." SAMUEL T. DANA & SALLY K. FAIRFAX, FOREST AND RANGE POLICY 45 (1980). The long evolution of the Muir-Pinchot split is detailed in RODERICK NASH, WILDERNESS AND THE AMERICAN MIND 124-81 (3d ed. 1982).

27. CAULFIELD, *supra* note 25, at 28.

28. Samuel P. Hays' *Beauty, Health and Permanence* (*supra* note 8), traces the relationship between the rise in environmentalism and post World War II affluence.

much better stewards than their conquerors.[29] *The Quiet Crisis* similarly identified Thoreau, John Muir, Frederick Law Olmstead, Jr. and Aldo Leopold[30] as authentic national heroes, although at that time, they were minor players in the drama of western history. As late as 1978, for example, a summary of western history written by Frederick Merk, Frederick Jackson Turner's successor at Harvard, appeared. *History of the Western Movement*[31] fails to mention any of these now seminal men. Merk described the western movement as "magnificent in its achievements" because "[i]t replaced barbarism with civilization," although he noted in closing that "the open frontier has become one in the realms of science and technology, of man's control over the environment...."[32]

Stuart Udall was the first Secretary to have such a deep reverence for land and natural beauty and to give this reverence an ethical and political dimension. His book transformed the debate about public lands and natural resources from the question of how resources should be exploited to the question of whether all resources should be exploited for commodity production. *The Quiet Crisis* helped to make ecology, which was not a dominant perspective before the 1960's, a major, if not the dominant, force in resource use debates. The Enlightenment ideal of progress through the efficient use of technology and social organization was still the dominant theme when former Secretary Udall first wrote. Rational management has been the ideal of public land management, but it has not worked. For example, its most recent and perhaps last manifestation was the failed attempt to develop an economically and environmentally rational federal coal policy in the 1970's.[33]

The Quiet Crisis laid the framework for the replacement of twentieth century natural resources conservation with the protection of biodiversity by Udall's endorsement of *A Sand County Almanac*, which is now seen as the "ur" environmental text as well as for a new vision of western history. Environmentalism has had a profound impact on our perceptions of the American West.[34] We now view Western history not as the march of progress but as a struggle for control of its valuable resources among Anglo-Americans, Hispanics and Native Americans.[35] The most direct and enduring legacy of *The Quiet Crisis* remains its attack on twentieth century conservation. The conservation movement's legacy is profound, but the most important part of that legacy, the prominence of science, has been often lost in the politics of resource conflicts, especially with regard to the public lands. The conservation movement was originally a scientifically driven crusade,[36] but

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29. *See* CRONON, *supra* note 21, and CALVIN MARTIN, KEEPERS OF THE GAME: INDIAN-ANIMAL RELATIONSHIPS AND THE FUR TRADE (1978).

30. Aldo Leopold's biography, CURT MEINE, ALDO LEOPOLD (1988) confirms the status accorded to him by the world environmental community.

31. FREDERICK MERK, HISTORY OF THE WESTERN MOVEMENT (1978).

32. *Id.* at 616.

33. *See* ROBERT H. NELSON, THE MAKING OF FEDERAL COAL POLICY (1983).

34. The leading revisionist historians are William Cronon, Patricia Limerick and Daniel Worster. *See, e.g.*, PATRICIA LIMERIC, THE LEGACY OF CONQUEST: THE UNBROKEN PAST OF THE AMERICAN WEST (1987); DANIEL R. WORSTER, RIVERS OF EMPIRE: WATER, ARIDITY, AND THE GROWTH OF THE AMERICAN WEST (1985).

35. *See* UNDER AN OPEN SKY, *supra* note 5.

36. The standard and best articulation of this thesis is HAYS, *supra* note 24.

science was driven out of much twentieth-century conservation both by the politics of commodity production as well as by the politics of preservation. Secretary Udall helped to redress this imbalance, although this part of his legacy has yet to be adequately realized.

Unfortunately, the Department of Interior has not been not able to apply the legacy of scientific management to public lands controversies because it remains mired in the nineteenth century. This is the root of current public lands conflicts. Public lands controversies remain primarily political fights between contending ideologies.[37] After World War II, the preservation movement was able to succeed by using moral philosophical arguments to marshall the necessary political will to prefer preservation over exploitation. However, these political victories have some long term, unanticipated costs. As William Graf has noted, "the life sciences did not appear in force in the public arena"[38] during the wilderness expansion battles of the 1970's and 80's. The divorce of science from management is now becoming apparent as traditional public and private land categories such as parks, forests and fee ownership collapse in the face of the promotion of biodiversity.[39] The final part of this review addresses these issues because they are the continuation of the story of the second edition of *The Quiet Crisis.*

IV. THE CRISIS BECOMES LOUD

Secretary Udall published an expanded version of *The Quiet Crisis,* entitled *The Quiet Crisis and the Next Generation,* in 1988. He added seven new chapters which review the environmental movement's paradoxical history which began as the anti-Vietnam movement was reaching its climax in the last days of the Johnson administration. The history of environmentalism from 1968 to the present is a paradox because the movement has thrived under curious and often adverse political conditions. It is still too early to assess the first twenty-five years of environmentalism, but the new chapters, organized around the author's thumbnail impressions of the personalities and their ideas of the past twenty-five years, illustrate the three facets of second generation environmentalism which have evolved in the past twenty-five years: biodiversity protection, public health risk minimization and the reduced consumption of non-biodegradable products. Taken together, these chapters contain a deeper lesson for the immediate future.

Secretary Udall's update captures this transition. Two fundamental differences distinguish second generation environmentalism from the movement that *The Quiet Crisis* helps to legitimate. First, it does not grow out of a unified intellectual paradigm as did former Secretary Udall's articulation of the

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37. *See* Robert H. Nelson, *Ideology and Public Land Policy — The Current Crisis, in* RETHINKING THE FEDERAL LANDS 275 (Sterling Brubaker, ed. 1983).

38. GRAF, supra note 20 at 244.

39. The divorce between science and management is the root of the problems surrounding recent efforts to manage the operation of Glen Canyon dam to promote environmental values, such as endangered species protection and riparian environment stability in the Grand Canyon. *See* Water Science and Technology Board, National Research Council-National Academy of Sciences, River and Dam Management: A Review of the Bureau of Reclamation's Glen Canyon Studies (1987); Colorado River Ecology and Dam Management: Proceedings of a Symposium, May 24-25, 1990, Santa Fe, New Mexico (1991).

new conservation in the 1960's. Second, the federal government is no longer the center of environmental policy initiatives. Environmental protection has remained an important priority since the first Nixon Administration. However, starting in the second Nixon Administration, the executive branch ceased to compete with Congress to innovate and thus ceded the environmental agenda to Congress, interest groups and the courts. Secretary Udall focuses on the personalities who helped to create new law in the courts and in Congress and on the popular, in the best sense of the word, literature that shaped public opinion in the declining years of a literate society. He has many insights to offer, but the focus on specific personalities misses one of the most important aspects of future environmental conflicts: the competition for dominance among contending academic theories of resource management.

The Quiet Crisis and the Next Generation picks up the story of the publication of a contemporaneous and equally influential book, *A Silent Spring*. Rachel Carson's book deserves its classic status because it "began an educational process by which ecological precepts entered the common vocabulary."[40] The next two chapters, The Flowering of Environmental Activism: David Brower and the Rise of the Sierra Club and Howard Zahniser and the Fight for the Wilderness, mark the end of the first environmental movement and the beginning of the second. During the Johnson Administration, western opposition to wilderness designation was overcome. The Wilderness bill, along with the Wild and Scenic Rivers Act, four years later, was a "triumph for the old generation of conservationists, for a concept nurtured by Thoreau and John Muir."[41] At the time, environmental action groups, such the formerly establishment Sierra Club and David Brower's new, more aggressive, Friends of the Earth, became much more politically influential. Former Secretary Udall is a gracious political victim since it was the Sierra Club which opposed the two "cash register" dams at either end of the Grand Canyon, favored by Secretary Udall, to finance the Central Arizona Project which ultimately marked the end of the Reclamation Era.[42]

The second environmental movement soon became a story of too many chemicals and too many people. Modern environmentalism is characterized by transcendent ethical principles derived from science and was largely forged out of battles to ban the use of the miracle pesticide DDT. The chapter, Science Law and Environmental Reform: The Environmental Defense Fund Blazes a Trail, details the roles played by Victor Yannacone, Charles Wurster and others in shifting the focus of action from scenic area preservation and the elimination of air and water nuisances to the reduction of the long term risks of exposure to toxic chemicals. Shell Chemical greatly contributed to this shift by insisting that DDT would not be removed from the market until the newly created Environmental Protection Agency, which had acquired jurisdiction over pesticides from the Department of Agriculture, proved that people were dying or seriously injured. Administrator Ruckelshaus responded by banning

40. THE QUIET CRISIS II, *supra* note 19, at 203.

41. *Id.* at 212.

42. J. DONALD HUGHES, IN THE HOUSE OF STONE AND LIGHT: A HUMAN HISTORY OF THE GRAND CANYON 112-14 (Grand Canyon Natural History Association 1978), is a good case study of this seminal clash between the values of progressive conservation and modern environmentalism.

most uses of the chemical because of the potential adverse environmental and public health risks posed by DDT exposure.

The DDT case introduced the concept of conservative risk assessments, which incorporate high margins of safety into the regulatory apparatus[43] and shift the focus from traditional natural resources issues to cancer prevention. Courts soon endorsed the concept that if laboratory animal tests established the possibility that a chemical could cause cancer in humans, an agency could adopt a conservative, that is high, margin of safety in deciding how much, if any, of the chemical could be used or discharged into air or watersheds. More generally, "[a]s a result of the Environmental Defense Fund's pioneering in the 1960's, science-law coalitions became a potent catalyst on environmental reform."[44]

Science-law coalitions clearly contributed to the "judicialization" of environmental law, but it is not clear if they contributed to the effective use of science in public policy formation. Environmentalists turned to the courts out of desperation in the late 1960's. The Executive Branch and Congress were initially uninterested. Politicians respond to loud, not quiet, crises and agencies were locked in narrow single or multiple-purpose balancing missions that left comparatively little room for the heretical idea that nature should not be disturbed. Political responses generally took the form of citizen empowerment which took the existing structure as a given and used citizen action to bend it to new purposes.[45] This model has been widely admired around the world, ironically at a time when it is being rejected by the conservative judiciary[46] and executive,[47] and a democratic political system which fosters citizen action is now seen by many as a necessary condition to effective environmentalism.[48]

Ultimately, environmentalism developed more comprehensive analyses of society that question the performance of existing institutions. In his chapter,

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43. *See* FREDERICK R. ANDERSON, DANIEL R. MANDELKER & A. DAN TARLOCK, ENVIRONMENTAL PROTECTION: LAW AND POLICY 556-69 (2d ed. 1990).

44. THE QUIET CRISIS II, *supra* note 16, at 229.

45. The bible was JOSEPH L. SAX, DEFENDING THE ENVIRONMENT: A STRATEGY FOR CITIZEN ACTION (1970).

46. A recent survey of Carter and Reagan administration judicial voting records concludes:

> If the aggregate voting data indicates a genuine division of views concerning jurisdictional and remedial issues, the burden-reducing impact of Reagan/Bush appointee decision-making will be substantial. Private parties will encounter greater restrictions, such as harsher standing and jurisdictional tests, on their ability to raise and sustain Clean Air and Clean Water Act challenges.

William E. Kocacic, *The Reagan Judiciary and Environmental Policy: The Impact of Appointments to the Federal Courts of Appeals*, 18 B.C. ENVTL. AFF. L. REV. 669, 708 (1991).

47. Luhan v. National Wildlife Federation, 110 S. Ct. 3177 (1990). For a perceptive analysis of the role of citizen action in the face of persistent judicial hostility, see Daniel A. Farber, Politics and Procedure in Environmental Law, 8 J.L. ECON. & ORGANIZATION 59 (1992).

48. Ibrahim J. Wani, *Poverty, Governance, the Rule of Law, and International Environmentalism: A Critique of the Basil Convention on Hazardous Wastes*, 1 KAN. J.L. & PUB. POL'Y 37, 41 (1991).

Widening the Circle of Ecological Awareness, the contributions of Ralph Nader, "an a-environmentalist" by temperament, Barry Commoner and Paul Ehrlich are assessed. Ralph Nader institutionalized the vigorous, single purpose, activist citizen as a seemingly permanent part of the landscape. Barry Commoner's book, *The Closing Circle*, provided the argument that the application of modern, mainly chemical, technology posed a long term and fundamental threat to life support systems. Paul Ehrlich, a distinguished population biologist, revived the Malthusian debate in his book, *The Population Bomb*, and subsequent writings.[49]

Where are they now? The answer with respect to Paul Ehrlich is more important than Secretary Udall suggests. Ralph Nader is still very much with us. Barry Commoner veered into radical politics. The population debate is dead in the water; a combination of a flat United States growth rate, extreme minority opposition to the idea of population control of any kind and post-*Roe v. Wade* abortion politics[50] have pushed serious discussion of domestic and global population growth off of the political agenda. The chapter notes that Paul Ehrlich returned to basic biological science, where he has continued to produce important and honored popular and scholarly work, but it does not describe the full extent of his contributions. Paul Ehrlich and his students' work on species survival in the face of human encroachment is the basis for modern efforts to move endangered species protection from the preservation of a few exotic or popular species to biological land use management in the name of biodiversity.[51] Ralph Nader, Barry Commoner and Paul Ehrlich touched a deep nerve in the global psysche; they, along with others, introduced seeds of doubt about technological progress.

The chapter, Confronting the Problem of Human Restraint, takes us back to the heady days of space exploration in the 1960's. America's crash effort to "beat" the former Soviet Union in space by putting a man on the moon first dominated science policy in the 1960's and created a hostile intellectual climate for environmental thinking. The space program reenforced the assumption that there were no limits to continued health and prosperity because all problems could be eliminated by technological solutions. It subordinated softer sciences, such as biology and ecology, to engineering and physics, and squeezed out dissenting voices, such as Secretary Udall's, who dared to raise questions about inherent resource limits.[52] To paraphrase Gerald Murphy, being right is the best revenge. The chapter also briefly sketches the contributions of people such as Kenneth Boulding and Joseph Schumacher, whose writings, *The Economics of the Coming Spaceship Earth*

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49. *See, e.g.*, PAUL A. EHRLICH & ANNE H. EHRLICH, POPULATION, RESOURCES, ENVIRONMENT: ISSUES IN HUMAN ECOLOGY (1970).

50. Feminists have characterized population control as more male technological domination. I am indebted to my colleague Anita Bernstein for sharing her knowledge and perspectives with me.

51. My colleague Fred Bosselman has drawn on the work of Professor Ehrlich and his students to describe state and local land use initiatives to protect biodiversity in California. Fred Bosselman, *Planning to Prevent Species Endangerment*, 44 LAND USE & ZONING DIG. 3 (1992).

52. Secretary Udall was kind enough to share his reminiscences of his efforts to promote ecological thinking in the science establishment during the Kennedy-Johnson administrations. Telephone conversation with Stuart L. Udall, May 5, 1992.

and *Small Is Beautiful*, introduced us to the idea of restraint in the consumption of resources, which is the foundation of the modern idea of sustainable development.

These early giants' ultimate contribution was to *open* a debate about our global future. Since the Greco-Roman world, nature has been subordinate to human use and since the Enlightenment, society has been animated by a faith in technological progress. Ironically, as the book notes,[53] this faith reached its "climax" in the 1960's. This faith encouraged the present consumption of resources on the theory that people would be better off in the future as a result of the present investments in economic growth. The tendency of welfare economics to attach high discount rates to deferred consumption typifies this faith. The question is whether environmentalism can be integrated into this framework or whether we need a new and radical theory of resource consumption. The politics of this debate are not encouraging. As the chapter points out, the grass roots activism necessary to trigger some form of technology assessment in the nuclear industry, for example, has degenerated into the NIMBY syndrome. *The Quiet Crisis and the Next Generation* touches on these issues by raising them and offering an indirect explanation for why these issues were relegated to the academy, rather than to politicians and public debate.

Secretary Udall has a straight-forward political explanation for the fate of environmentalism in the past decade: the Reagan years. His assessment of these years is clear and to the point: "I am convinced that historians will one day indict the Reagan administration for its lack of vision concerning resources and its abdication of the traditional U.S. role in leadership in global environmental matters."[54] President Reagan's first administration tried to reverse national resource stewardship. It forced environmentalists to spend a decade defending the gains of the past decade in court and in Congress. The result was a great waste of human and economic resources. For example, the polarization of environmental politics led to such irrational programs as Superfund and a much weakened EPA which has been unable to formulate a positive, comprehensive environmental agenda.[55]

V. A LOOK AT THE FUTURE OF OUR PUBLIC LAND HERITAGE

Ecology and the Future is the second edition's final chapter. It provides a brief look at ecological thinking's increasingly pervasive influence on the political and economic cultures of the world and makes a plea for a global effort "to nourish all causes that promote life on this planet."[56] As Secretary Udall argues, if the environmental perspective is to be successful, it must be integrated with all aspects of resource use. Since the 1987 report of the

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53. THE QUIET CRISIS II, *supra* note 16, at 245-48.
54. *Id.* at 262.
55. Richard Lazarus, *The Tragedy of Distrust in the Implementation of Federal Environmental Law*, 54 L. & CONTEMP. PROBS. 311 (1991).
56. THE QUIET CRISIS II, *supra* note 16, at 270.

World Commission on Environment and Development, *Our Common Future*, an increasingly widespread agreement exists that integration is possible through the idea of sustainable development. This concept is the basis for the Draft Principles for Encouraging Environmentally Responsible Development[57] to be considered at the 1992 Rio de Janeiro United Nations environmental summit. Sustainable development favors resource uses which preserve healthy resource bases for future generations over short term exploitation. The consequences of the adoption of sustainable development objectives will be profound. As Secretary Udall points out, our current automobile culture is not a sustainable development.[58]

The Quiet Crisis and the Next Generation opens up many possibilities for the future direction of environmentalism. One striking feature of the book is that it explains why the argument about public lands and land use generally has changed dramatically since the 1960's. Although it was not the author's primary intention, the second edition highlights the bankruptcy of many existing theories of resource management and the need for a new science-equity approach to public lands issues. The shift of focus in national park management is a classic example of the collapse of old ideas and the need for new ones.

Up to the mid 1960's, the public lands debate was a more simple development versus preservation debate. The Conservation Era introduced both the idea of rational, multiple purpose, as opposed to unconstrained development, and the idea that some resources should be set aside for more limited use. Until the 1950's, preservation was a minor strain in American resources management. Post-World War II affluence increased public tastes for high quality experiences. Americans have always been great travelers, but the influence of leisure on public land management was not a major factor until after World War II.

The new public tastes complemented the dawning realization that in many instances, especially western water resources development, rational resource management meant subsidized development. Together, these forces paved the way for large-scale wilderness preservation to complement the National Park system. The initial rationale for the National Park and monument system was a mix of appeals to spiritual and aesthetic values tied to an effort to forge a distinct cultural identity in our uniquely varied landscape.[59] John Muir, Saint John of the Mountains, sharpened the dichotomy within the conservation movement and articulated a religious, or at least spiritual, vision

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57. *Environmental Aid to Poor Nations Agreed at U.N. Conference*, N.Y. TIMES, Sunday, April 5, 1992, at 6, col. 3.

58. THE QUIET CRISIS II, *supra* note 16, at 266.

59.

> When national parks were first established, protection of the "environment" as now defined was the least of the preservationalist's aims. Rather America's incentive for the national park idea lay in the persistence of a painfully felt desire for time-honored traditions in the United States. For decades the nation had suffered the embarrassment of a dearth of recognized cultural achievements.

ALFRED RUNTE, NATIONAL PARKS: THE AMERICAN EXPERIENCE 11 (2d ed. rev. 1987).

that personal fulfillment depended on the ability to experience wilderness.[60] Preservation was seen as a necessary (but secondary) counter-balance to the economic development of the nineteenth century. As Professor Joseph Sax has written, "[r]uthless exploitation of natural marvels stimulated an uneasiness that was felt more generally about the burgeoning spirit of enterprise in the country."[61] Parks were initially promoted by the eastern urban elite on the theory that contact with nature was ennobling, but they were shrewdly democratized, to relatively larger urban elites and a few westerners by Stephen Mather and Horace Albright, who molded the National Park Service from its creation in 1916 to 1933.[62] The important point is that these theories led to a static theory of resource preservation.

Our traditional idea of preservation has now collapsed. The theory that the best way to protect an environment or ecosystem is to fence it off from all outside influence is being rejected as both unscientific and unfair. It is the classic case of too much or too little. Attempts to isolate an ecosystem, instead of managing it, may lead to its destruction.[63] The intense controversy surrounding the future of Yellowstone illustrates this failure. Yellowstone National Park was the first national crown jewel park, but the park has been an ecological failure because it has not succeeded in protecting the biological diversity of what is now characterized as the Greater Yellowstone Ecosystem.[64] Too much incompatible activity has occurred around the park.[65] And, in the developing world, attempts to isolate land to maintain a "monument" invite environmentally destructive behavior such as poaching and illegal land clearing.

The collapse of the idea that fencing equals ecosystem preservation is a deeper symptom of environmental law's arrested development. Environmental law has developed rapidly in the past twenty five years, but it remains either procedural or problem specific. What substantive law exists is primarily directed toward the minimization or elimination of the risks of exposure to toxic substances. Broader more diffuse problems such as the management of our land base to promote biodiversity are left to countless planning processes that have long been intellectually and empirically discredited.[66] The

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60. RODERICK NASH, WILDERNESS AND THE AMERICAN MIND 122-60 (3d ed. 1982), traces the development of Muir's philosophy and shows how a growing appreciation for the primitive among educated Americans created an audience for his message.

61. JOSEPH L. SAX, MOUNTAINS WITHOUT HANDRAILS: REFLECTIONS ON THE NATIONAL PARKS 8 (1980).

62. *See* JOHN ISE, OUR NATIONAL PARK POLICY: A CRITICAL HISTORY (1961).

63. *See* CONSERVATION IN THE TWENTY-FIRST CENTURY (David Western and Harry C. Pearl, eds. 1989).

64. ALSTON CHASE, PLAYING GOD IN YELLOWSTONE (1986), is the most widely read indictment of ecosystem management of the Park and surrounding lands. Robert Keiter, *Taking Account of the Ecosystem on the Public Domain: Law and Ecology in the Greater Yellowstone*, 60 COLO. L. REV. 937 (1989), is a superb introduction to the legal problems of moving from classic public domain law to ecosystem management.

65. *See* Robert Goldstein, *The Struggle over Ecosystem Management at Yellowstone*, 42 BIOSCIENCE 183 (1992) for a summary of the threats to the ecosystem and efforts to address them.

66. See NELSON, *supra* note 33, for a devastating criticism of the mostly good faith efforts by the Department of Interior to develop a rational federal coal use program in the 1970's. The Bureau of Land Management's implementation of FLPMA is a similar dismal story. *See*

challenge for the next generation of environmentalism will be to develop substantive principles that help the environment rather than lawyers and other experts.

For the foreseeable future, public land debates will center on the accommodation of biodiversity protection with other traditional uses.[67] At the present time a strident debate exists because the West remains

> strikingly unmodern. It is a place where an ideology as outmoded as individualism could survive long years in the desert and then reemerge dramatically in the 1960's, 1970's, and 1980's. Rather than just a pacesetting society, the twentieth-century West is a strange amalgam of new and old — a modern political structure weeded to nineteenth-century ideas.[68]

Biodiversity protection challenges both the "cowboy" idea that use of public resources inevitably creates private property rights and the preservationist idea that the purpose of parks and wilderness is moral uplift and individual fulfillment.

Today, three interrelated ideas compete for dominance in the biodiversity debate. Economics, ecology and philosophy each present reasonably coherent models of resource management. Like all of environmentalism, the ideas both converge and diverge on crucial issues. Biodiversity challenges all of our existing management institutions. In brief, biodiversity seeks to protect species diversity through the application of the developing science of conservation biology to prevent species extinction.[69] It stands the traditional view of the lesson of ecology — leave it alone — on its head. Conservation biology assumes that most environments are so changed, degraded or threatened that intensive science-based, adaptive micro-management will be necessary to protect biodiversity. In the third edition of *The Quiet Crisis*, a chapter will be devoted to ecologists such as Daniel Botkin, whose book *Discordant Harmonies: A New Ecology for the Twenty-First Century*, challenges the view that ecosystems are stable natural systems thrown out of balance by human activity.

Conservation biology challenges existing ideas and institutions because it breaks down such basic dichotomies as park-range and public-private land. It takes preservation to new levels of intensity and recognizes the reality of human uses interacting with the species that we are trying to preserve. Biodiversity has both an ethical and economic dimension. Environmental

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Steve Johnson, *"Disaster, Diester on the Range," Reports Say*, HIGH COUNTRY NEWS, April 20, 1992, at 1, col. 1, for a summary of nine GAO reports on BLM's continuing inability to control overgrazing on the public lands.

67. *See* Heidi Doremus, *Patching the Ark: Improving Legal Protection of Biological Diversity*, 18 ECOLOGY L.Q. 265 (1991).

68. Michael E. McGerr, *Is There A Twentieth Century West?*, *in* UNDER AN OPEN SKY, *supra* note 5, at 239.

69. Colin Rankin & Michael M'Gonigle, *Legislation for Biological Diversity: A Review and Proposal for British Columbia*, 25 U. BRITISH COLUMBIA L. REV. 277 (1991), is a good introduction to the subject from a legal perspective. MICHAEL SOULE & BRIAN A. WILCOX, CONSERVATION BIOLOGY: AN EVOLUTIONARY-ECOLOGICAL PERSPECTIVE (1980), remains the basic text.

ethics rejects the fundamental anthropocentric ideas on which welfare economics and all of western philosophy are built. It rejects the idea of fixed consumer preferences and the western Greco-Christian dichotomy between humans and nature. Environmental ethics rejects traditional anthropocentrisim. The problem is that strong environmental ethics that posit non-human rights are too inflexible. Ultimately, biodiversity preservation requires both philosophers and economists to adopt modified perspectives. Environmental philosophers must make room for humans, and economists must look beyond short term efficiency.

Welfare economics' contribution to natural resources management was the idea that allocative efficiency should be the primary criterion to decide who should be entitled to use resources. Markets are presumed to allocate resources efficiency except when they fail. This theory has led to suggestions to complete the disposition of the public domain by selling it to various interest groups.[70] The promotion of allocative efficiency is the central justification for pollution regulation, but biological diversity has been difficult to incorporate into mainstream economics. Efficiency requires that resources be fully priced, otherwise they reflect a subsidy. Resources are not fully priced when they fail to reflect external costs caused by an activity.[71] Traditional economics identified monopoly power and the presence of pervasive externalities as the two major market failures, but economists are now concentrating on other market failures that have great consequences for future public lands and other resource management decisions.

The biggest environmental economic problem is to measure the value of resources that are unlikely ever to be allocated by a normal market. Economics favored market solutions or efficiency gains that were easy to measure, and they ignored off balance sheet values. However, environmental disputes are generally disputes about how difficult it is to measure "intangible" values. In recent years, economics has accepted the idea that intangible values, such as existence values, the benefit that people across the country receive knowing that the Department of Interior is not further degrading the Grand Canyon, are equal to those which are monetized by a market.

Modern resource economics now recognizes that the value of a resource has three components: the direct costs of resource exploitation, the external costs of the exploitation and the value of the resource over time. These three costs constitute the resource's marginal opportunity cost. This expanded view of resource value is being synthesized with conservation biology and environmental ethics through the concept of sustainable development. Sustainable development seeks to maintain natural capital stocks over time for the benefit of present and future generations.[72] It is both a response to the criticism of welfare economics that traditional efficiency standards are biased

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70. See RETHINKING THE PUBLIC LANDS (Sterling Brubaker ed., 1983) for a comprehensive presentation of the privatization debate which died after western commodity interests realized that they might not be the highest bidders if public lands and privileges were actually put on the auction block.

71. WARD BAUMOL & WILLIAM OATES, ECONOMICS, ENVIRONMENTAL POLICY, AND THE QUALITY OF LIFE 75-79 (2d ed. 1988).

72. DAVID PEARCE, EDWARD BARBIER & ANIL MARKANDYA, SUSTAINABLE DEVELOPMENT: ECONOMICS AND ENVIRONMENT IN THE THIRD WORLD (1990).

in favor of the presumption consumptive of resources and an attempt to redefine efficiency to include environmental protection across generations.

A current dispute about the management of Glen Canyon Dam on the Colorado River illustrates the power (pun intended) of the use marginal opportunity cost to move toward managed sustainable development. The dam was built between 1963 and 1980 to store water to allow the Upper Basin states to meet their downstream delivery obligations under the Colorado Compact and to allow the Bureau of Reclamation to pay off subsidized irrigation projects with hydroelectric revenues. When the dam was built, no one paid attention to the effect that it might have on the Colorado River through the Grand Canyon. We now know that the dam has trapped sediment which limits the sediment available for needed beach building in the canyon to support riparian habitats and campers. The dam has lowered the temperature of the river and threatens the survival of two species of fish now listed as endangered, and the pulsating flows that cause peaking power operations put rafters at risk.

The Bureau of Reclamation is currently quantifying these impacts and reluctantly deciding whether to modify the operations of the dam to protect the canyon. Economic studies are a component of the Glen Canyon Environmental Studies Project.[73] In the past, these costs would have been swamped by the dollar value of the power generated and foregone if the dam could not be used for unlimited peaking power generation. Today, however, the Bureau is attempting to quantify the immediate recreation benefits that less fluctuating flows will generate, as well as the existence value of a flow regime that more closely mimics the pre-dam river.

Environmental disputes will always be driven by politics and ideology, but the future of environmentalism lies in finding a balance among science, economics and ethics. We now know that the problems are much more complex than we anticipated, and that the stakes are higher. *The Quiet Crisis* will continue to influence the search for this balance because it tells us clearly where we have come from and where we should be going.

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73. Two studies by the Water Science and Technology Board of the National Academy of Sciences Committee to Review the Glen Canyon Environmental Studies, of which I have been a member since 1986, are a good introduction to this on-going problem. *See sources* cited at note 39.