



THE WILDERNESS CONDITION

Essays on Environment and Civilization

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A SIERRA CLUB BOOK

The Utility of Preservation and the Preservation of Utility: Leopold's Fine Line

by Curt Meine

"Conservation, without a keen realization of its vital conflicts, fails to rate as authentic human drama; it falls to the level of a mere Utopian dream."

Aldo Leopold, 1937¹

"There is nothing more practical in the end than the preservation of beauty, than the preservation of anything that appeals to the higher emotions of mankind."
Theodore Roosevelt, 1903²

A short-tailed weasel, poking its curious nose out from under a pile of old boards, provides a fitting introduction.

Last summer my brother and I rebuilt an aging footbridge, piling the old planks randomly along the creek bank. The crossboards, green with moss, brown with fungal rot, grey with the weather of the northwoods, were an eyesore. Rusty tenpenny nails, four to each rotten remnant, protruded dangerously. We were intent on getting the bridge finished, so we left the clean-up for later.

This summer I put aside time to correct the mess. As I set about dismantling the main pile, I noticed a scurrying amidst the alders, ferns, and blue flags every time I removed an offending board. The scurrier always returned—until I returned for more boards. Curiosity finally overcame both of us. It seems my brother and I, in our act of destruction, had created ideal short-tailed weasel cover, and with every piece of old bridge I removed, the weasel's roof diminished. I ceased and desisted,

and moved on to another pile. The weasel, constitutionally incapable of apathy, sat on his front porch to watch me work, his dark summer pelage gleaming like graphite in the morning light.

It seems that the most tempting metaphors from nature must always be read with the most caution. I recall a chilly spring morning spent foraging about a junk yard for a steering column mount for my old Plymouth Valiant, quite impressed by the quality of habitat the old wrecks provided for black-capped chickadees. Were they better off there than in the prairie edge oak grove that the junk yard now occupied, a hundred and fifty years later? Then there was the sparrow who, with no sentimental qualms whatsoever, built a nest in the hybrid maple outside the college chemistry building. The nest consisted wholly of shredded computer paper. Neither the sparrow, the tree, nor the paper were native to the scene. Who can measure that practical adaptation against the enormous changes wrought by the computer?

In the case of the northwoods weasel, the point is a modest one: just that the line between utility and beauty is not always as sharp as we sometimes suppose. Depending on definitions and circumstance, waste can contain wonder, preservation can lead to destruction, and one generation's "wise use" can become the height of folly to those who follow. The formula for conservation, like the formula for human wisdom itself, is rarely as simple as it appears.

Likewise, individual lives are never as simple as the convenient isms in which we attempt to confine them. If they sometimes come close, it is testament less to the profundity of the ism than to the ardor with which some individuals adhere, whether consciously or not, to self-imposed constraints. The biographical approach to history has many shortcomings, but one special saving grace: it allows us to understand historical forces not as monolithic isms, but as influences in the experience of fellow human beings. It restores soul to the skeleton of facts and the sinew of ideas.

The impetus for this discussion was provided by a reviewer of Aldo Leopold's life, who noted that "he had a practical understanding of conservation as wise use as well as a sense of the aesthetic and idealistic;

his evolving ecological reasoning bound those strains. His life is evidence that the traditional division between aesthetic preservationists and utilitarian conservationists is not as clear as historians have often portrayed it."³ An accurate judgment. Leopold, with good reason, has become a significant figure in our search for environmental sanity, and his reputation continues to grow as the aptness of his thought reveals itself. Yet, like any seminal figure, Leopold was a complicated individual whose growth, inner tensions, and external influences have often been overlooked in the rush to embrace, apply, analyze, modify, reject, and otherwise employ his "Big Conclusions." Details may be the dress of great social movements, but they are the very stuff of historical biography.

Environmental scholars have seized upon the split between utilitarians and preservationists—or between the utilitarian and aesthetic; the distinction bears examination—as a primary organizing device in interpreting the human-environment relationship. It has become a standard approach to understanding American conservation and environmental history: the natural world is either a commodity to be controlled and used (albeit "wisely"), or it is a beautiful unity, possessed of inherent value and right, to be preserved. The prototypical joiners of the battle, Gifford Pinchot and John Muir, continue through their ideological successors to vie for the consciences of the committed.

That the "traditional division" is real, and the approach valid, is attested to by its usefulness as an historical tool. With it we have begun to understand the unfolding of conservation as a human idea and as a force on the landscape. It has helped us to identify the social response to rates of environmental change unprecedented in the human experience, and to gauge, we hope, adequate responses. This is not the place for a full critique of the utilitarian/preservationist dichotomy in the historiography of conservation. My intent is only to show, through the words and experiences of Aldo Leopold, that there are chinks in this scholarly edifice, and that if we take them into account we may thereby gain some better handholds with which to scale it.

What follows is a sort of informal extended discussion with Leopold. Once one recognizes that Leopold does not so easily fit the standard pattern in the utility vs. beauty debate, certain selections from

his writings over the years stand out as particularly provocative. I have gathered some of these together and discuss them as they pertain to three areas of vital concern to Leopold throughout his varied career: wildlife management, wilderness preservation, and general conservation philosophy. Leopold speaks for himself in the quotations; I provide context and interpretation.

Before that, however, it may be worthwhile to identify several problems with the strict reliance on the utilitarian/preservationist dichotomy in interpreting conservation history. This is not an exhaustive roster; only a list of some of the most obvious.

Conservation is a big thing, and this historical tool is better suited for certain tasks than others. The use vs. preservation argument has different shades of meaning when applied to minerals, oceans, the atmosphere, groundwater, surface waters, wetlands, soils, vegetation, forests, biodiversity, game, fish, wildlife, range, parks, wilderness, recreation, and agriculture. We yearn for a uniform approach to these components of the whole, and the need for holistic consideration grows only more apparent with every pollution, extinction, and erosion; yet is it wise to ignore the particular needs and dynamics of each? The traditional split in conservation is most applicable, conversely, in considering the most extreme—and usually important—cases: the initial status of the early national forests, the damming of Hetch Hetchy, the demise of the old growth forests, the fate of remaining roadless areas, the management of wild lands, the oil fields of Alaska. Yet, conservation has always involved quieter, more pervasive skirmishes, away from the major battlegrounds. Those conflicts continue—on tired acres of farmland, in poisoned plumes of well water, on the outskirts of cities whose fringes sprawl as their guts decay, in ecosystems whose deaths are too slow to draw cameras or concern. These demand *conserving* as much as do our most spectacular sceneries, but the traditional divisions speak less directly to the issues here.

The division also tends to oversimplify. "Use" can connote a wide range of relationships—depending on *its* use—from outright slavery and exploitation to communion and symbiosis. It is an unalterable fact that all living creatures "use" their environments. But to those who would convert this biological truth into economic dogma, and so

prescribe the intensive use of all natural objects and processes, we hastily add that preservation does not imply a lack of purpose or utility. To the contrary: if we breathe, it is because the oxygen-producing capacity of our photosynthetic planet-mates still persists; if we drink, it is because the world's hydro-logic still pertains; if we eat, it is because wild nature gave us seed stock, and because a sufficiency of soil fertility and solvent farmers still endure; and if we dream, it is because there still exists wilderness large enough to contain our wonder.

The use/preservation division is limited to a certain degree by the fact that it is largely an outgrowth of the American experience. The conquest of this continent was so fast, so destructive, and remains so vital a part of American myth and symbolism that the environmental rationale it left in its wake can be applied only with caution to other settings. Conservation now knows no boundaries—as if it ever really did—and the American experience, crucial though it be in the development of an environmental ethic, cannot be its sole source.

A more subtle fault with the dichotomy is that it too easily glosses over some basic historical connections: that, for instance, but for the progressive utilitarian conservation movement of the early 1900s, we would be arguing over ashes, stumps, and gullies; that the movement for wilderness protection and preservation emerged in large part from the utilitarian confines of the U.S. Forest Service; that the programs for endangered species preservation had their "test runs" on game species; that before ecology got "deep" it had to get *born*. Perhaps these boil down to this: solid thematic analysis requires that the historical homework be done first, and not as an afterthought. In our explorations, we have favored the end over the sequence—the intellectual climax over the successional sere. In crisis situations, this may be a necessary sacrifice; in charting long-term strategies, though, more attention must be given to the historical record.

A further fault of the dichotomy is that it all but automatically opposes the active development or use of "resources" with the passive preservation of same. It allows little space for alternative activity. This concern will emerge strongly in Leopold's words. Leopold was impatient with those who believed that the cure-all to conservation dilemmas was negative, compulsory restriction; he constantly pressed for positive

actions, for taking necessary steps to create new initiatives that engaged people in the landscape, and engaged their aesthetic sense in doing so. Again, this applied variously from case to case, most strongly in farm wildlife programs and education, less so in the obvious instance of wilderness preservation. The point: "hands off" is not always, or necessarily, the wisest conservation strategy.

Finally, there is the concern that a strict adherence to the worldview implied by the utility vs. beauty split can only reinforce the alienation that afflicts the human/nature relationship. Others are far better qualified than I to discuss the philosophical implications of this.

Again, these cracks in the edifice, and others I have overlooked, should serve not to diminish the real value of the utility vs. preservation approach, but to lead in to a discussion of how Leopold confronted it in his own work, and how he used it to address ultimate conservation questions. I hope to show how Leopold endeavored to be a healing presence, how he tried to staunch the flow from this psychic split in American conservation—perhaps even in the American mind—by emphasizing common ground wherever it existed, by employing history's synoptic view as a unifying force, by appealing to abstractions but always being comfortable with and conversant in the technical details of conservation, and by reaching outside conservation proper for insight and reinforcement. It may be that the harmony he sought came to exist more in his own soul than in the exterior landscape, but it is equally true that that landscape, what he once termed "that great biota we call America," was nudged closer toward a richer and more enduring balance through his efforts.

The place to begin is at the end, when Leopold was in the fullness of his creative powers, when his vision of conservation was equal to his profound concern, when he himself recognized his role as a statesman in the movement, when he was secure in both his emotion and intellect. He is standing before a class of post-World War II undergraduates, pausing mid-way in his wildlife ecology course to discuss, briefly, his aims and motives:

...I am interested in the thing called "conservation." For this I have two reasons: (1) without it our economy will ultimately fall apart; (2) without it many plants, animals, and places of entrancing interest to me as an explorer will cease to exist. I do not like to think of economic bankruptcy, nor do I see much object in continuing the human enterprise in a habitat stripped of what interests me most.

If the individual has a warm personal understanding of land, he will perceive of his own accord that it is something more than a breadbasket. He will see land as a community of which he is only a member, albeit now the dominant one. He will see the beauty, as well as the utility, of the whole, and know the two cannot be separated. We love (and make intelligent use of) what we have learned to understand.

...Once you learn to read the land, I have no fear of what you will do to it, or with it. And I know many pleasant things it will do to you.⁴

This is the statement, not just of a teacher who has learned the value of reason and enthusiasm in communicating lessons that mere propaganda cannot, but of a human being who has wrestled with his own vision through a lifetime of constant inquiry, and emerged with full confidence in his values, his message, and his approach. There is circumspection here—the ability to understand other points of view while staying centered on one's own—and there is tolerance. There is concern, but not despair. Leopold was under intense pressure during these final years of his life, yet here, as in many of his final statements, we sense a balance that allows him to spread the pressure evenly and so maintain his equilibrium.

The reference to the "utility and beauty of the whole," and the emphasis on their essential coherence, is not anomalous. It is, in fact, rather typical, a clear expression of a theme that had existed in Leopold's thinking and writing since his earliest days as a working conservationist. That theme changed in its make-up and application through Leopold's forty-year career, growing along with his emerging ecological worldview, and culminating in his framing of the land ethic.

Leopold is a delightfully difficult figure to pigeonhole. He is a fountainhead for the deep ecologists, but his utilitarian roots are deep,

important, and unavoidable. He was the most practical of field men, and a pioneer in several branches of conservation, but his grasp of conservation's breadth and historical context continues to challenge the field forces, not to mention the general public, to seek new levels of understanding. Because Leopold became best known as an active defender of wilderness and as a popularizer, through *A Sand County Almanac*, of ecological reasoning, and because that fame first came in a big way during the environmental awakening of the 1960s and early '70s, when the subtleties of personality and history were easily overwhelmed, we have begun to understand only recently the quiet, personal, ongoing dialectic that produced Leopold's mature philosophy.⁵

One cannot divorce Leopold the hunter from Leopold the preservationist, although that divorce in the wildlife conservation community has often been loud and bitter. As a naturalist and a sportsman, Aldo from his earliest excursions practiced his pastimes with self-discipline, self-criticism, and enthusiasm. They were paths to a common destination: the natural world. Leopold came to maturity during the heyday of Teddy Roosevelt as national leader, conservationist, and cult figure, and Aldo absorbed the flavor of the era. In many ways, he resembled Roosevelt more than either of the rivals for Roosevelt's conservationist heart, soul, and ear—Muir and Pinchot. Roosevelt could live the extremes of their positions, and did, bringing the same brio to the creation of national parks, forests, and refuges that he brought to the buffalo plains of North Dakota and the safari savannas of Africa. If ever the split between Muir and Pinchot was manifest, it was in the person and era of Roosevelt.

Leopold's training at the Yale Forest School placed him in the *avant-garde* of conservation, and if Pinchot's utilitarian doctrine ran free in the classrooms, it did not necessarily in the minds of the individual students. Leopold learned his proper forestry, but he had other classes, and experiences, and realizations on which to draw during his years out east. Forestry had become a profession, and was quickly gaining all the statistical, technical, and bureaucratic accoutrements of a profession. Nonetheless, it was still a romantic profession, and in the end the fire that fueled most young foresters was not board feet figures, or sales potentials, or tensile strengths, but *forests*, especially *western*

forests. So with Leopold. In 1909, he arrived on the Apache National Forest in the Arizona Territory ready to impose forestry, but just as eager to explore the new country. In the age of Roosevelt, both were still possible.

Leopold left wildlife behind during these early years in the U.S. Forest Service, but never completely. And his vision of forestry even at that time was broad enough to foreshadow his later devotion. An important early expression of this was in a letter to his fellow officers on New Mexico's Carson Forest in 1913, when during his protracted bout with nephritis he took the opportunity to discuss the mandate of the Forest Service:

... We are entrusted with the protection and development, through wise use and constructive study, of the timber, water, forage, farm, recreative, game, fish, and aesthetic resources of the areas under our jurisdiction. I will call those resources, for short, "The Forest" And it...follows that the sole measure of our success is the effect which [our efforts] have on *the Forest*.⁶

Already he was thinking of the forest as something more than trees, and of trees as something more than timber. As a forester, Leopold made his share of mistakes during the early years of his career, but he had not made the more serious blunder of putting economic function above functional integrity.

It was shortly after his recuperation from nephritis that Leopold began to devote more of his energies to the cause of wildlife conservation—or, more properly, *game protection*. The wildlife movement had not yet broadened enough to take into account, except in a few special cases, non-game species or habitats, or to think in terms of positive conservation measures. Yet, Leopold as leader of the local movement in the Southwest plainly recognized both the ethical and political import of a balanced approach to wildlife protection. He said to a group of Albuquerque Rotarians in 1917:

... We conceive of these wild things as an integral part of our national environment, and are striving to promote,

restore, and develop them not as so many pounds of meat, nor as so many things to shoot at, but as a tremendous social asset, as a source of democratic and healthful recreation to the millions of today, and the tens of millions of tomorrow....

...It is our task to educate the moral nature of each and every one of New Mexico's half million citizens to look upon our beneficial birds and animals, not as so much gun fodder to satisfy his instinctive love of killing, but as irreplaceable works of art, done in life by the Great Artist. They are to be seen and used and enjoyed, to be sure, but never destroyed or wasted.⁷

Leopold conveyed this attitude through his leadership, and his notable successes during the years 1916-1921, in so *western* a state as New Mexico, were due in large part to this combination of boldness and balance.

Of course, anyone familiar with Leopold's personal progression toward an ecological view knows that at this time not all species qualified as "irreplaceable works of art." Leopold's ethical boundaries, and one might say his aesthetic boundaries, still failed to include species not deemed "beneficial," i.e. varmints. The issue of predator persecution would not even present itself as an issue for another decade. That story has been told elsewhere, by Leopold and others. The important point is that while other leaders in the field were still fighting for restrictive measures and negative actions—lower bag limits, predator control, a strict system of refuges—Leopold was beginning to lay the foundations for a positive management approach. He would continue to fight, differentially, for these other measures, but he would increasingly concern himself with outlining the real biological needs that would produce self-sustaining wildlife populations.

This priority would allow Leopold to rise above, or at least to sidestep, the rancorous debates, often centered on the utility/preservation line, that rocked the wildlife conservation movement from 1924-1934. That line cut somewhat differently than it had earlier in the century, when the debates concerned parks, forests, waters, and range-land. The use and/or preservation of those features involved large institutions, industries, and agencies, and most of the action took place

in the halls of government. With wildlife, the institutions were often more local, the habits and attitudes more personal, the sociological baggage heavier. Leopold was familiar with all the players, and as well versed in the issues—refuge policy, predator control, bag limits and other hunting regulations—as anyone in the country. He spoke out when necessary, but devoted most of his energies, especially after he left the Forest Service in 1928 to go full-time into wildlife work, to the background field work necessary to get game management off the ground.

Although Leopold preferred such background work, his prominence in the wildlife conservation community would not allow him to avoid the divisions within it. He was in a precarious position. Under the employ, at first, of the arms and ammunitions industry, he was naturally the object of suspicion from the vocal opponents of hunting, especially the bird-watching contingent (this despite Leopold's credentials as an ornithologist). Hunters were skeptical of, if not openly hostile to, Leopold's management theories, especially as they affected the traditional American freedom to hunt on private lands. Game farmers did not share Leopold's enthusiasm for the preservation and creation of habitat. Zoologists rarely concerned themselves with the applied arts of conservation, and those who did viewed Leopold as an agent of the hunting fraternity. Few appreciated Leopold's vision of a wildlife profession skilled in the recognition, study, preservation, and careful manipulation of habitat to enhance the survival of game in the wild, under conditions as close to natural as possible.

Difficult though his position was, Leopold benefitted from the direct confrontation with antagonistic attitudes that came with his prominence. As he prepared to chair the American Game Policy Committee, the purpose of which was to forge a new policy to guide wildlife conservation across the country, Leopold began to think more deeply about the motives behind conservation, and his own aims as promoter of an alternative vision. In an unfinished manuscript, he assessed the relationship between the "wild lifers" and the "gunpowder faction":

The devotees of each [faction] like to consider it the antithesis of the other. The nature student is at small pains

to conceal [the belief] that he is superior to mere atavistic blood-letting, while the sportsman sees a lack of Rooseveltian robustness in hunting with field glass or camera. This mutual intolerance would be amusing if it were merely personal. The fact is, however, that each side is nationally organized, and that a state of deadlock between the opposing factions has more than once prevented action on measures obviously advantageous to both, not to mention the development of ideas which might lessen the apparent conflict of interest.⁸

To Leopold, at this point, those who appreciated the utility of a wild creature and those who appreciated its beauty were both missing the boat; whether useful, or beautiful, or both, no creature could survive and perpetuate itself if its basic habitat needs were not met. Leopold, of course, was in Wisconsin by this time, and the impact of intensifying agriculture on wild game in the midwest in the 1920s made this a point of utmost concern.

Leopold was a superb diplomat. When his game policy statement came out, it explicitly called for greater cooperation among the factions as well as greater attention to habitat needs, including those of non-game species. This did not guarantee its success, however, and Leopold took the initiative in selling the policy, in speeches, articles, conferences, and editorials, in cornfields and classrooms and offices. He met continued resistance, again from all sides of the issue. In a reply to one preservationist broadside against the new policy and Leopold's work, Leopold laid his feelings on the line:

...Does anyone still believe that restrictive game laws alone will halt the wave of destruction which sweeps majestically across the continent, regardless of closed seasons, paper refuges, bird-books-for-school-children, game farms, Izaak Walton Leagues, Audubon Societies, or the other feeble palliatives which we protectionists and sportsmen, jointly or separately, have so far erected as barriers in its path?

...I have tried to build a mechanism whereby the sportsmen and the ammunitions industry could contribute financially to the solution of this problem without dictat-

ing the answer themselves.... These things I have done, and I make no apology for them.⁹

In making this reply, Leopold gave evidence that, on this issue at least, pragmatism took precedence over purism. Never one to be content with platitudes, Leopold may have begun his conservation career with romantic visions, but he had long since tempered them with practical realizations. To achieve conservation, attitude change was essential, but not enough; success required sound science, political will, and much education. Realism and self-criticism were also crucial:

I realize that every time I turn on an electric light, or ride on a Pullman, or pocket the unearned increment on a stock, or a bond, or a piece of real estate, I am "selling out" to the enemies of conservation. When I submit these thoughts to a printing press, I am helping cut down the woods. When I pour cream in my coffee, I am helping to drain a marsh for cows to graze, and to exterminate the birds of Brazil. When I go birding or hunting in my Ford, I am devastating an oil field, and re-electing an imperialist to get me rubber. Nay more: when I father more than two children I am creating an insatiable need for more printing presses, more coffee, more oil, and more rubber, to supply which more birds, more trees, and more flowers will either be killed, or what is just as destructive, evicted from their several environments.

What to do? I see only two courses open to the likes of us. One is to go live on locusts in the wilderness, if there is any wilderness left. The other is surreptitiously to set up within the economic juggernaut certain new cogs and wheels whereby the residual love of nature, inherent even in "Rotarians," may be made to recreate at least a fraction of those values which their love of "progress" is destroying. A briefer way of putting it: if we want Mr. Babbitt to rebuild outdoor America, we must let him use the same tools wherewith he destroyed it. He knows no other.¹⁰

In his classic essay "Nature," Ralph Waldo Emerson discussed the role of nature as "Commodity"; Henry David Thoreau opened *Walden* with a chapter on "Economy," and an accounting of his bean business;

John Muir was raised on a farm and in his later years managed a California orchard; Ansel Adams needed silver nitrate to produce his images. Even these most potent sources of the aesthetic and preservationist impulse have accounted for their utilitarian debts to the natural world—and have done so far more openly, one somehow feels, than the utilitarian leaders have accounted for their physical, cultural, and spiritual debts. Leopold had no illusions about the task of conservation, and in a time when the conservation of wildlife existed more on paper than it did on land, in the air, or under water, he was prepared to strip down to realities in order to begin the process of real advance. "It takes all kinds of motives to make a world," he wrote in 1933.

If all of us were capable of beholding the burning bush, there would be none left to grow bushes to burn. Doers and dreamers are the reciprocal parts of the body politic: each gives meaning and significance to the other. So also in conservation. Just now, conservation is short of doers. We need plants and birds and trees restored to ten thousand farms, not merely to a few paltry reservations.¹¹

Progress may not always require balance, but in this time and place it did. Leopold saw the need in the outer world because his inner constitution reflected it. The environment is a dynamic entity, as is civilization. In the past, conservation has changed to reflect different adjustments necessary between them. Leopold's work succeeded, and still endures, because he anticipated needs and responded to them with astounding accuracy.

In 1933, *Game Management*, several years in the writing, finally came out. Leopold, in its opening line—a statement guaranteed to raise the hackles of many preservationists, then and now—made his intention plain: "Game management is the art of making land produce sustained annual crops of wild game for recreational use."¹² It requires some reading beyond the opening line, however, to sense Leopold's full vision, and to realize that Pinchot never saw forests the way Leopold saw game.

At the end of his opening chapter, Leopold answered those who (paradoxically?) for aesthetic reasons might be reluctant to hunt, or

perhaps even watch, game tainted by the taste of management, even the faint taste advocated by Leopold:

There are still those who shy at this prospect of a managed game crop as at something artificial and therefore repugnant. This attitude shows good taste but poor insight. Every head of wild life still alive in this country is already artificialized, in that its existence is conditioned by economic forces. Game management merely proposes that their impact shall not remain wholly fortuitous. The hope of the future lies not in curbing the influence of human occupancy—it is already too late for that—but in creating a better understanding of the extent of that influence and a new ethic for its governance.¹³

Even as Leopold was writing these words, words that would go on to train several generations of wildlife managers, his understanding of the promise of ecologically informed management was increasing, and filtering through his conservation philosophy as a whole. Some of this emerged in later portions of the book in chapters entitled "Economics and Esthetics" and "Game as a Profession." In the former, Leopold devoted several pages to "Management of Other Wild Life," a clear indication that he recognized management for the consumptive use of animals through hunting as only a necessary first step toward a broader commitment to "wild life" conservation:

The objective of a conservation program for non-game wild life should be exactly parallel [to that for game]: to retain for the average citizen the opportunity to see, admire and enjoy, and the challenge to understand, the varied forms of birds and mammals indigenous to his state. It implies not only that these forms be kept in existence, but that the greatest possible variety of them exist in each community.¹⁴

Leopold's impatience with factionalism and grandstanding again emerged in this same section. He described the advances that even the most basic research into wildlife habitat needs could promote, to the benefit of all factions (including the oft-forgotten animals):

Measured by its effectiveness, this [research] is worth 10,000 platitudes about forests and wild life. The crying need at this stage of the conservation movement is *specific definitions* of the environment needed by each species.

...There is, in short, a fundamental unity of purpose and method between bird-lovers and sportsmen. Their common task of teaching the public how to modify economic activities for conservation purposes is of infinitely greater importance, and difficulty, than their current differences of opinion over details of legislative and administrative policy. Unless and until the common task is accomplished, the detailed manipulation of laws is in the long run irrelevant.¹⁵

In the final passage of *Game Management*, under the label "Social Significance of Game Management," Leopold expanded fully on his expectations for the profession he was creating. In the process, he explicitly alluded to the pure utilitarian and aesthetic attitudes toward land that he was trying to unify through his overarching intentions. The passage is long, but worth quoting in full, for in it one reads Leopold defining himself:

The game manager manipulates animals and vegetation to produce a game crop. This, however, is only a superficial indication of his social significance. What he really labors for is to bring about a new attitude toward land.

The economic determinist regards the land as a food-factory. Though he sings "America" with patriotic gusto, he concedes any factory the right to be as ugly as need be, provided only it be efficient.

There is another faction which regards economic productivity as an unpleasant necessity, to be kept, like a kitchen, out of sight. Any encroachment on the "parlor" of scenic beauty is quickly resented, sometimes in the name of conservation.

There is a third, and still smaller, minority with which game management, by its very essence, is inevitably aligned. It denies that kitchens or factories need be ugly, or farms lifeless, in order to be efficient.

That ugliness which the first faction welcomes as the inevitable concomitant of progress, and which the second

regretfully accepts as a necessary compromise, the third rejects as the clumsy result of poor technique, bunglingly applied by a human community which is morally and intellectually unequal to the consequences of its own success.

These are simply three differing conceptions of man's proper relation to the fruitfulness of the earth: three different ideas of productivity. Any practical citizen can understand the first conception, and any esthete the second, but the third demands a combination of the economic, esthetic, and biological competence which is somehow still scarce.

It would be, of course, absurd to say that the first two attitudes are devoid of truth. It seems to be an historical fact, however, that such few "adjustments" as they have accomplished have not kept pace with the accelerating disharmony between material progress and natural beauty. Even the noble indignation of the second school has been largely barren of any positive progress toward a worthier land-use.

...Examples of harmonious land-use are the need of the hour.¹⁶

Even in his most technical discussions of game management, Leopold never failed to include or imply the aesthetic component of the work; conversely, even in his most preservation-oriented wilderness papers, he never dismissed or ignored the human economic response, but always faced it head on. His conviction was that the two "conceptions" of conservation were not necessarily incompatible; that, in most cases, they could be harmonized to the benefit of both man and nature.

By the late 1930s, Leopold was one of many who saw that they *had to be* harmonized. This is a complicated period, and the influences on Leopold were manifold—his university appointment, his travels in Germany and Mexico, the Dust Bowl (especially), the economic upheaval of the Depression, the intellectual syntheses in biology, the purchase of his worn-out farm along the Wisconsin River. Even as the ink on *Game Management* dried, Leopold began to confront the essential question that ecology now raised: where does utility lie? By now Leopold had completed his full conversion on the question of predator control, but this was only the most conspicuous expression of his

expanded vision. In terms of wildlife management, ecology had brought all species into the intellectual fold (if not yet the field operations) of conservation. Species, until then, had gained attention if they were useful, helpful or harmful, beautiful or ugly, from the human perspective; henceforth, they were worthy of attention by the basic fact of their existence. And to the intellectual leaders in ecology, the old message of George Perkins Marsh reemerged with new clarity and immediacy: *ultimate* utility lay in the overall stability of the environment. Ecology and evolution had emerged as intersecting axes on which we might gauge that relative stability.

Leopold's published and unpublished work is rich in the early exploration of this new world of understanding. Reflecting the synthesis of the times, his topics overlap and connect, and their foci are just that—specific points where Leopold grounds broader discussions. Wildlife management—soon to become wildlife ecology—was no longer an obscure, isolated, founding field; it was now a crucial nexus of inquiry. Hardly used to its legs, it was being asked to run. Leopold summarized the changes, and his own comprehension of ecology's full meaning, in his 1939 paper, "A Biotic View of Land":

...The emergence of ecology has placed the economic biologist in a peculiar dilemma: with one hand he points out the accumulated findings of his search for utility in this or that species; with the other he lifts the veil from a biota so complex, so conditioned by interwoven cooperations and competitions, that no man can say where utility begins or ends. No species can be "rated" without the tongue in the cheek; the old categories of "useful" and "harmful" have validity only as conditioned by time, place, and circumstance. The only sure conclusion is that the biota as a whole is useful, and [the] biota includes not only plants and animals, but soils and waters as well.¹⁷

With that, all bets were off in terms of indiscriminate environmental manipulation. The game of conservation now had new rules, and the "line" had to be redefined.

Leopold's wildlife work would concentrate during his final decade on the refinement of management techniques, but not at the expense of

the broader vision. On the contrary, part of the responsibility of wildlife ecology, to Leopold's thinking, was to "help rewrite the objectives of science."¹⁸ Increasingly frustrated with the excesses of what he began to call "power science," Leopold saw clearly the potential of his field to counter the increasing intensity of land-use technologies. Although at work in that bastion of utility, the land grant college of agriculture, he was not reluctant to state his case. In a 1946 review, "The Outlook for Farm Wildlife," he explicitly depicted rural development as a competition between two different attitudes toward farm life:

- 1) The farm is a food factory, and the criterion of success is salable products.
- 2) The farm is a place to live. The criterion of success is a harmonious balance between plants, animals, and people; between the domestic and the wild; between utility and beauty.

Wildlife has no place in the food factory farm, except as an accidental relic of pioneer days. The trend of the landscape is toward a monotype, in which only the least exacting species exist.

On the other hand, wildlife is an integral part of the farm-as-a-place-to-live. While it must be subordinated to economic needs, there is a deliberate effort to keep as rich a flora and fauna as possible, because it is "nice to have around."

It was inevitable and no doubt desirable that the tremendous momentum of industrialization should have spread to farm life. It is clear to me, however, that it has overshoot the mark, in the sense that it is generating new insecurities, economic and ecological, in place of those it was meant to abolish. In its extreme form, it is humanly desolate and economically unstable. These extremes will someday die of their own too-much, not because they are bad for wildlife, but because they are bad for farmers.¹⁹

The very meaning of utility in conservation, Leopold now realized, had changed as a consequence of economic pressures and technological advance. The unnecessary disappearance of cultural amenities from the landscape was not merely unfortunate; it was a warning sign.

Through these years, Leopold had simultaneously, and impor-

tantly, begun to buttress his science with aesthetic appreciation, based on the insights of ecology. This intermixture would, like estuarine waters, prove uncommonly rich and productive. Leopold composed most of the *Sand County* essays at this time. His teaching began to stress perception, as opposed to manipulation, as the first priority. As he reached the end of his days, his philosophy came into final focus, culminating in his bequest of "The Land Ethic."

Ironically, ecology had wrought a revolution in the old debate: perception now had *survival value*; aesthetic sensitivity, as partially redefined by the new science, was *useful*. Leopold, typically, made the point more wryly. In *Sand County*, he described the "educated lady, banded by Phi Beta Kappa," who had never seen or heard the Canada geese "that twice a year proclaim the revolving seasons to her well-insulated roof." He then wondered: "Is education possibly a trading of awareness for things of lesser worth? The goose who trades his is soon a pile of feathers."²⁰

In 1921, Leopold opened the debate over the fate of wildlands within the National Forests with these words:

Very evidently we have here the old conflict between preservation and use, long since an issue with respect to timber, waterpower, and other purely economic resources, but just now coming to be an issue with respect to recreation. It is the fundamental function of foresters to reconcile these conflicts, and to give constructive direction to these issues as they arise.²¹

Appearing in the *Journal of Forestry*, Leopold's words were certain to provoke consternation among many of his professional colleagues. Sensitive to bureaucratic politics and tradition, he made his case by invoking the holy writ: "The argument for such wilderness areas is premised wholly on highest recreational use."²² As a case example, Leopold suggested granting protected status to the headwaters of the Gila River in western New Mexico. In so doing, he provided a wonderful oxymoron for foresters and future environmental historians to ponder. "Highest use," he insisted, "demands its preservation."²³

With that statement, Leopold signalled a breakaway from the utilitarian fold. That romantic yearning that had led him into forestry and lured him west still guided him, even after ten years of ascension through the Forest Service hierarchy. His break was not total. He remained in every way a loyal, dedicated, and innovative Forest Service officer. His move, though, would force the Forest Service to recognize and, even more important, *protect* values not easily quantified. And it would force Leopold, as (in Bob Marshall's words) "the Commanding General of the Wilderness Battle," to justify a bureaucratic innovation not easily understood.

Wilderness protection was different from wildlife protection. The grain of attitudes ran in a different direction. The economics were less amenable. A sense of history was more essential. The constituency was harder to define—if indeed it existed at all. And after all, the country already had a National Park Service devoted to preserving wild wonders; wasn't that enough?

It was not enough for Leopold and a small circle of his Southwestern colleagues. The parks were closed to hunting, and in any case were being riddled with roads and tourist accommodations. And scenery was not enough. Leopold wanted a *functional* wilderness, "big enough to absorb a two weeks' pack trip," yet accessible to those not wealthy enough to travel to the ends of the earth. His 1921 call for preserving wilderness areas was *very* utilitarian, but launched him on a career of advocacy which would, again, show that the line dividing utility and preservation was neither simple nor immutable.

That Leopold's initial interest in wilderness was more than aesthetic, i.e. involved more than scenery, became plain when the subject of wilderness status for national forest lands first arose in his discussion with Arthur Carhart in 1919.²⁴ Carhart, a landscape architect, argued for preservation of the scenic value of Colorado's Trapper's Lake through protection of its immediate shoreline. Leopold had something bigger in mind. Leopold's seminal 1921 article, "The Wilderness and Its Place in Forest Recreation Policy," stressed exclusively the recreational value of wilderness areas, with no word given to the scenic, biological, or ecological values, and only an implication of the social, cultural, and historical values. And yet, of course, there was an aesthetic aspect to the

form of recreation that Leopold was seeking to perpetuate: the sort of travel and hunting Leopold most enjoyed demanded a large and wild environment.

By 1924, when the Gila Wilderness Area was designated, Leopold was beginning to express deeper reasons for preserving wilderness. But even in doing so, there was always a practical tack to his argument. Preservation, evidently, had higher "uses":

What I am trying to picture is the tragic absurdity of trying to whip the March of Empire into a gallop. Very specifically, I am pointing out that in the headlong stampede for speed and ciphers, we are crushing the last remnants of something that ought to be preserved for the spiritual and physical welfare of future Americans, even at the cost of acquiring a few less millions of wealth or population in the long run. Something that has helped build the race for such innumerable centuries that we may logically suppose it will help preserve it in the centuries to come.²⁵

In essence, Leopold was asking the Forest Service to commit itself, in a real way, to forest uses other than those most readily translatable into the "ciphers" of economics; simultaneously—and in a fashion similar to his later wildlife work—he was emphasizing the very practical value of wilderness preservation. The line between utility and preservation had become very thin indeed.

In the years immediately following Leopold's move to Wisconsin in 1924, he produced a series of articles advocating preservation and rounding out the reasoning behind "the wilderness idea." Directed to different audiences, and appearing in a broad range of publications, these articles nonetheless spoke from common themes: wilderness as a complement to civilization; the limits of standard economic arguments; the need for balance in the nation's vision of land use; the important role of wilderness in American history. Fighting a rearguard battle, Leopold chose not to deny the possible economic value of the lands in question, but used this as a starting point. Realism was his hallmark:

The Forest Service will naturally select for wilderness playgrounds the roughest areas and those poorest from the

economic standpoint. But it will be physically impossible to find any area which does not embrace some economic values. Sooner or later some private interest will wish to develop these values, at which time those who are thinking in terms of the national development in the broad sense and those who are thinking of local development in the narrow sense will come to grips. And forthwith the private interests will invoke the aid of the steamroller. They always do. And unless the wilderness idea represents the mandate of an organized, fighting, and voting body of far-seeing Americans, the steam roller will win.²⁶

In order to build such a mandate, Leopold resorted less to Muir-like evocations of wild beauty and sublime majesty than to building an appreciation of the contrast value of wilderness. This called for a sense of history and cultural wholeness that stood out against the prevailing mood of America in the 1920s:

...the measure of civilization is in its contrasts. A modern city is a national asset, not because the citizen has planted his iron heel on the breast of nature, but because of the different kinds of man his control over nature has enabled him to be. Saturday morning he stands like a God, directing the wheels of industry that have dominion over the earth. Saturday afternoon he is playing golf on a kindly greensward. Saturday evening he may till a homely garden or he may turn a button and direct the mysteries of the firmament to bring him the words and songs and deeds of all the nations. And if, once in a while, he has the opportunity to flee the city, throw a diamond hitch upon a pack-mule, and disappear into the wilderness of the Covered Wagon Days, he is just that more civilized than he would be without the opportunity. It makes him one more kind of man—a pioneer.²⁷

In a time when wilderness preservation was still only a distant dream, Leopold recognized the *realpolitik* need, not to alienate potential supporters, but rather to gather them in through an expanded vision of the national saga, and the national landscape. Building on the ideas of Muir and Frederick Jackson Turner, drawing on such writers and poets

as Whitman, Stephen Vincent Benet, and Sinclair Lewis, Leopold argued for wilderness protection, not as a denial of the American myth of progress, but as a fulfillment of it.

The economic dragon had to be faced, however. "Economic development," then as now, was roughly synonymous with "roads." To Leopold, it was a matter of scale and balance: roads were not good nor evil in and of themselves; their utility, or lack thereof, was simply a function of time, place, and density. Viewed on a national scale, and in historical context, the rise of the automobile culture demanded a parallel commitment to wilderness preservation:

Roads and wilderness are merely a case of the pig in the parlor. We now recognize that the pig is all right—for bacon, which we all eat. But there was no doubt a time, soon after the discovery that many pigs meant much bacon, when our ancestors assumed that because the pig was so useful an institution he should be welcomed at all times and places. And I suppose that the first "enthusiast" who raised the question of limiting his distribution was construed to be uneconomic, visionary, and anti-pig.²⁸

In an article tellingly titled "Wilderness as a Form of Land Use," Leopold made the same point more broadly:

Our system of land use is full of phenomena which are sound as tendencies but become unsound as ultimates.... The question, in brief, is whether the benefits of wilderness-conquest will extend to ultimate wilderness-elimination.

...To preserve any land in a wild condition is, of course, a reversal of economic tendency, but that fact alone should not condemn the proposal. A study of the history of land utilization shows that good use is largely a matter of good balance—of wise adjustment between opposing tendencies.²⁹

Leopold did not expand here on what he thought the "benefits" of wilderness "conquest" had been, and it is difficult to know the degree to which he was holding his tongue in his cheek in order to make his argument. It is plain that the ecological value of wilderness was not yet

a substantial component of "the wilderness idea." But if one of the benefits of wilderness conquest had been a heightened appreciation of the *remaining* wilderness, then use and preservation were inevitably and closely coupled, and the history of that coupling became a crucial part of the consideration of any future development aspiring to the adjective "wise."

Leopold put this latter point into a particularly American context. Scorning the superficial definitions of utility and Americanism that marked the "Babbitian" decade, he presented the wilderness not as a source just of use *or* beauty, but as *the* source of a still incomplete, evolving nation:

Wilderness as a form of land use is, of course, premised on a qualitative conception of progress. It is premised on the assumption that enlarging the range of individual experience is as important as enlarging the number of individuals; that the expansion of commerce is a means, not an end; that the environment of the American pioneers had values of its own, and was not merely a punishment which they endured in order that we might ride in motors. It is premised on the assumption that the rocks and rills and templed hills of this America are something more than economic materials, and should not be dedicated exclusively to economic use.³⁰

The American experience of wilderness would come to be overshadowed in Leopold's wilderness philosophy by the globally applicable lessons of ecological stability and land degradation. Through the 1920s, however, it was a principal, and effective, part of his argument. The "real" wilderness, as white Americans had known it, was forever gone—that too was a lesson of history—but its cultural significance was as potent as ever. By forcing those who patriotically invoked the symbol to confront the stark reality of dwindling wild spaces, Leopold implicitly and explicitly invited action. To those who questioned whether there was any place for wilderness in an America whose business was business, Leopold could simply ask, "Shall we now exterminate this thing that made us American?"³¹

After this pulse of wilderness advocacy papers in the mid-1920s,

Leopold devoted most of his energies to laying the foundations of wildlife management. When he returned to an active role in the wilderness preservation movement in the mid-1930s, he did so with all the additional insight that his intellectual evolution could bring to the cause. The significance of wild lands was no longer just aesthetic, recreational, cultural, historical, or social, but scientific and ecological.

With this came an intensified sense of the practical benefits to be gained by preserving wilderness. Leopold stressed these in his contribution to the inaugural issue of *The Living Wilderness*, the journal of the new Wilderness Society:

I suspect...that the scientific values [of wilderness] are still scantily appreciated, even by members of the Society....

The long and the short of the matter is that all land-use technologies—agriculture, forestry, watersheds, erosion, game, and range management—are encountering unexpected and baffling obstacles which show clearly that despite the superficial advances in technique, *we do not yet understand and cannot yet control* the long-time interrelations of animals, plants, and mother earth.³²

The logical corollary? We needed the dynamic of wilderness as an alternative to the dynamic of civilization. Leopold had said as much in the 1920s, but his emphasis then was on the benefits to society; now he emphasized the benefits to the whole culture-nature community.

Focused in thought by journeys to Germany and the Sierra Madre, humbled by his increasing appreciation of the complexity of population ecology (the “yet” would fade from his statement above), and tempered by the harsh lessons of the Dust Bowl years, Leopold would henceforth emphasize this argument for wilderness above all others. It would take its place at one end of the spectrum of his overall conservation philosophy, inseparable from his other conservation interests. As Leopold endeavored to integrate the “biotic view of land” into conservation strategies, wilderness became the vital check:

Every region should retain representative samples of its original or wilderness condition, to serve science as a

sample of normality. Just as doctors must study healthy people to understand disease, so must the land sciences study the wilderness to understand disorders of the land-mechanism.³³

Leopold employed this “land health” analogy regularly during these years—the late 1930s and early 1940s—as he worked to communicate the ecological message. The preservationist sounded very practical at this point:

The most important characteristic of an organism is that capacity for internal self-renewal known as health....

In general, the trend of the evidence indicates that in land, just as in the human body, the symptom may lie in one organ and the cause in another. The practices we now call conservation are, to a large extent, local alleviations of biotic pain. They are necessary, but they must not be confused with cures. The art of land-doctoring is being practiced with vigor, but the science of land-health is a job for the future....

A science of land health needs, first of all, a paradigm of normality, a picture of how healthy land maintains itself as an organism....

All wilderness areas, no matter how small or imperfect, have a large value to land-science. The important thing is to realize that recreation is not their only or even their principal utility. In fact, the boundary between recreation and science, like the boundaries between park and forest, animal and plant, tame and wild, exists only in the imperfections of the human mind.³⁴

This is a utilitarian rationale on an expanded, even global, scale. It is one we, five decades later, can only appreciate all the more; what a wonder if we could have an intact expanse of buffalo range, or a great unbroken stand of mixed hardwood-white pine forest, or a county or two of Iowa tallgrass prairie, or a virgin salmon fishery, or a cylinder of pre-industrial atmosphere. One suspects that even the most avaricious and manipulative of modern utilitarians would cry to see them.

Although Leopold regularly emphasized the practical benefits to be gained through preservation, we need to recall that his aesthetic re-

sponse, too, remained profound. One has only to read his *Sand County* accounts of Arizona and Mexico, of Manitoba and Baja, California, of the less monumental but still enriching wilds of Wisconsin. These were written in the 1940s, when his wilderness philosophy was fully mature and gave context to his memories. At the same time, he remained an active defender, in print and person, for threatened wild lands from the Arctic to the Wisconsin cutover. His art, his activism, his science, and his concern, were of a piece.

There will always be those unable to think of wilderness as anything but a "locking up of resources." If there be so unthinking a counterpart on the preservationist side, is it the activist working to save such wild remnants as remain, or the individual who will profess a love of wilderness—the "parlor of scenic beauty" that Leopold referred to in *Game Management*—but not allow that love to filter through to the other compartments of his or her life? The latter, I think. If there is ever to be a reconciliation of the utilitarian and preservationist traditions on this issue, it will come only when enough individuals have come to understand the historical and geographical context of wilderness, and have allowed that understanding to be translated, in as many ways as there are modes of living, into personal commitment. This is the point to which the evolution of Leopold's wilderness philosophy—and of his full land ethic—finally led. In his final essay on wilderness, he wrote:

Wilderness is the raw material out of which man has hammered the artifact called civilization....

To the laborer in the sweat of his labor, the raw stuff on his anvil is an adversary to be conquered. So was wilderness an adversary to the pioneer.

But to the laborer in repose, able for the moment to cast a philosophical eye on his world, that same raw stuff is something to be loved and cherished, because it gives definition and meaning to his life.³⁵

Wilderness has given "definition and meaning" even to the lives of those most removed from, ignorant of, hostile towards, and oblivious to, its existence. This is a "use" so all-encompassing that even we who choose to defend wilderness have difficulty comprehending it. It has challenged the most creative of our race's minds. It goes beyond "use" to the very

essence of our existence, diving to the depths of our evolutionary origins, asking profound questions of human intentions, calling us to creation's brink. Though not always pleasant or comfortable, the human experience of the wild has *made us* human. This is true ontogenetically as well as phylogenetically—for each of us as individuals and all of us as human beings. Lose the wild, and we lose the human. That would be very impractical. And very ugly.

The same independent thinking that fueled Leopold's innovations in wildlife conservation and wilderness preservation also led him to expand the scope of his overall conservation philosophy. The "ratio" of utility to other values shifted as Leopold matured in his understanding of conservation; the usefulness of nature was never forgotten or ignored, but was finally placed within the broader context provided by ecology.

Leopold was never wholly comfortable with the utilitarian party line. Even in his headiest days as a young forester in Pinchot's Forest Service, he saw forestry as far more than the mere securing or refining of timber. "I have no ambition to be a timber-tester or tie-pickler," he declared when contemplating his professional path. Among his first self-initiated chores on the Apache: setting boundaries for a proposed game refuge. The Pinchot influence was pervasive in those early days of the Forest Service, but that is not to say that it was monolithic.

By the time Leopold first began to express himself on the broader meaning of conservation, he had clearly formulated a personal set of premises and conclusions far more comprehensive than those he was trained on. In an early effort to explain his views, 1924's "Some Fundamentals of Conservation in the Southwest," Leopold revealed his frustration with the limits of pure utilitarianism:

Most religions, in so far as I know, are premised squarely on the assumption that man is the end and purpose of creation, and that not only the dead earth, but all creatures thereon, exist solely for his use. The mechanistic or scientific philosophy does not start with this as a premise, but ends with it as a conclusion.³⁶

At the same time, however, his alternative was not to deny outright the utilitarian attitude, but to harness it to a decency guided by respect:

...the privilege of possessing the earth entails the responsibility of passing it on, the better for our use, not only to immediate posterity, but to the Unknown Future, the nature of which is not given us to know. It is possible that Ezekiel respected the soil, not only as a craftsman respects his material, but as a moral being respects a living thing.³⁷

The use of the earth by humans was a given. But Utility, if it disregards past and future considerations, becomes ultimately self-defeating.

It is important to remember that Leopold arrived at this attitude as much through his reading of the landscape as his reading of books. He already had fifteen years of Forest Service field work under his belt, and his studies of overgrazing, vegetation change, soil erosion, and fire ecology in the Southwest had shown him the long-term results of shortsighted land use. Without that experience it is doubtful that the words he was reading would have resonated so deeply. Now, when Leopold called out Ouspensky and Bryant and Whitman against the rimrock of the Colorado Plateau, along the extrusions of the Mogollon Rim, and up the side canyons of the Gila, his own voice, enriched and invigorated by contact with the country, echoed back:

Possibly, in our intuitive perceptions, which may be truer than our science and less impeded by words than our philosophies, we realize the indivisibility of the earth—its soil, mountains, rivers, forests, climate, plants, and animals, and respect it collectively not only as a useful servant but as a living being, vastly less alive than ourselves in degree, but vastly greater than ourselves in time and space—a being that was old when the morning stars sang together, and when the last of us has been gathered unto his father, will still be young.³⁸

Aware of the limits of scientific truth, undaunted by the commands of formal philosophy, Leopold allowed his intuitive sense of the living,

indivisible earth to inform, though not to dictate, his conservation stance. He recognized the earth “not only as a useful servant but as a living being.” The understated tension in that phrase would be a constant goad to Leopold, changing along with his perspective and his priorities, leading him on to the synthesis of “The Land Ethic.” Were Leopold not so inherently forward-looking, or so possessed of the naturalist’s ingrained respect for the natural world, or so plain stubborn in his concern for the fate of the earth, the tension might have been depressive and draining. Instead, it became a creative tension, driving him to comprehend the rapidly changing relationship between humankind and the earth in a newly industrialized world.

That that relationship need not be destructive, and that we need not acquiesce in the impoverishment of the landscape, were fundamental premises behind Leopold’s push to establish game management. Others could cry loudly over the loss of wildlife and righteously deplore its most obvious (if not most important) causes; Leopold, as noted above, was determined to counteract the broader trends by beginning the painstaking study of actual, on-the-ground needs of species. A conceptual revolution! When in 1933 Leopold next tried to summarize his conservation philosophy in “The Conservation Ethic,” it bore the mark of his detailed habitat studies. The measure of success in conservation was not merely efficiency, even long-term efficiency. “The real end [of conservation],” he wrote, “is a universal symbiosis with land, economic and esthetic, public and private.”³⁹

Flush with the promise of this new aim and new methods with which to attain it, Leopold had high hopes for the infant field of game management, and was already anticipating the extension of its principles to other areas. Through active husbandry of the wild environment, people might make some progress toward that “universal symbiosis”:

...[The] idea of controlled wild culture or “management” can be applied not only to quail and trout, but to *any living thing* from bloodroots to Bell’s vireos. Within the limits imposed by the plant succession, the soil, the size of the property, and the gamut of the season, the landholder can “raise” any wild plant, fish, bird, or mammal he wants to. A rare bird or flower need remain no rarer than the people

willing to venture their skill in *building it a habitat*. Nor need we visualize this as a new diversion for the idle rich. The average dolted-up estate merely proves what we will someday learn to acknowledge: that bread and beauty grow best together. Their harmonious integration can make farming not only a business but an art; the land not only a food factory but an instrument for self-expression, on which each can play music of his own choosing.⁴⁰

The influence of the midwestern landscape is apparent in this statement. Wildlife management learned many of its early lessons working with small game on midwestern farmsteads, where "bread and beauty" could, with effort, grow together. Leopold well understood, however, that certain environmental values would be sacrificed if this formula were applied consistently across the landscape; in the Gila Wilderness, for instance, where bread—or beef, or timber—took a back seat to beauty. The explanation of this seeming contradiction lay in an appreciation of scale: bread and beauty grew best together on a continent—on a planet—as well as on the back forty. The trick was to strike some balance in a world so increasingly blind to beauty and hungry for bread that the environmental conditions necessary for balance were threatened.

This would be the moral lesson of the Dust Bowl and of other environmental conundrums of the 1930s. Leopold saw aesthetic appreciation of the environment not as a luxury for the elect, but as an absolute social necessity. Only by increasing the general sensitivity to environmental health, to the processes and functions that determined stability, could that health be maintained for the common good. We have already seen how important a role wilderness came to play in the framing of this idea. But the land ethic toward which Leopold was moving applied "across the board."

Leopold was quickly coming to understand the full impact that the science of ecology bore for conservation. An important milestone along the path—in fact the place where the phrase "land ethic" first appeared in Leopold's writing—was a 1935 address entitled "Land Pathology." Leopold began by discussing the problems of applying the profit motive in conservation, and then went on to consider the social, cultural, and historical reasons for conservation's too limited success. The divorce of

utility and beauty, virtually institutionalized in the conservation bureaus, and in society at large, played prominently in Leopold's argument:

Conservation is a protest against destructive land use. It seeks to preserve both the utility and beauty of the landscape. It now invokes the aid of science as a means to this end. Science has never before been asked to write a prescription for an esthetic ailment of the body politic. The effort may benefit scientists as well as laymen and [the] land.

Conservationists are sharply divided into groups, interested respectively in soil fertility, soil erosion, forests, parks, ranges, water flows, game, fish, fur, non-game animals, landscape, wildflowers, etc.

These divergent foci of interest clearly arise from individual limitations of taste, knowledge, and experience. They also reflect the age-old conflict between utility and beauty. Some believe the two can be integrated, on the same land, to mutual advantage. Others believe by opposing claims must be fought out and settled by exclusive dedication of each parcel of land to either one use or the other.

This paper proceeds on two assumptions. The first is that there is only one soil, one flora, one fauna, one people, and hence only one conservation problem. Each acre should produce what it is good for, and no two are alike. Hence a certain acre may serve one, or several, or all of the conservation groups.

The second is that economic and esthetic land uses can and must be integrated, usually on the same acre. To segregate them wastes land, and is unsound social philosophy. The ultimate issue is whether good taste and technical skill can both exist in the same landowner.⁴¹

Leopold again displays his unifying instincts here—but with even greater conviction as a consequence of several field assignments that showed him that such integration was not only desirable and possible, but necessary.

Such integration, however, was increasingly difficult in an urbanizing society whose legacy of conservation was nothing to brag about in

the first place. Leopold saw clearly that the forces were pulling in precisely the wrong directions:

The unprecedented velocity of land subjugation in America involved much hardship, which in turn created traditions which ignore esthetic land uses. The subsequent growth of cities has permitted a rebirth of esthetic culture, but in landless people who have no opportunity to apply it to the soil. The large volume and low utility of conservation legislation may be attributed largely to this maladjustment; also the dissentious character of the conservation movement.⁴²

And when such tastes and traditions became compartmentalized in a nation's collective mind, they sooner or later became compartmentalized on the nation's landscape. In the worst case scenario, the segregation of ethics, aesthetics, and economics would work to the detriment of each. Leopold did not shy from the most disturbing lessons of this condition:

...Parks are over-crowded hospitals trying to cope with an epidemic of esthetic rickets; the remedy lies not in hospitals, but in daily dietaries. The vast bulk of land beauty and land life, dispersed as it is over a thousand hills, continues to waste away under the same forces as are undermining land utility. The private land owner who today undertakes to conserve beauty on his land does so in defiance of all man-made economic forces from taxes down—or up.⁴³

Writing in the midst of the Depression, Leopold was particularly sensitive to the limits of "man-made economic forces" in bringing about the good life. In conservation he saw an important corrective, a balance-weight, a force that could begin again to meet the inseparable spiritual, material, and psychic needs of human beings:

Every American has tattooed on his left breast the basic premise that manifestations of economic energy are inherently beneficent. Yet here is one which to me seems

malignant, not inherently, but because a good thing has outrun its limits of goodness. We learn, in ecology at least, that all truths hold only within limits. Here is a good thing—the improvement of economic tools. It has exceeded the speed, or degree, within which it was good. Equipped with this excess of tools, society has developed an unstable adjustment to its environment, from which both must eventually suffer damage or even ruin. Regarding society and land collectively as an organism, that organism has suddenly developed pathological symptoms, i.e. self-accelerating rather than self-compensating departures from normal functioning. The tools cannot be dropped, hence the brains which created them, and which are now mostly dedicated to creating still more, must at least in part be diverted to controlling those already in hand. Granted that science can invent more and more tools, which might be capable of squeezing a living even out of a ruined countryside, yet who wants to be a cell in that kind of a body politic? I for one do not.⁴⁴

In showing us the potential of conservation, Leopold has conversely presented us with the ultimate result of the divorce of utility and beauty: a compulsive, inescapable devotion to increases in efficiency and productivity on such land as is left after the original stability and productivity are vanquished, all to support an urbanized population that finds its aesthetic desires satisfied mainly by urban pleasures, content that it has "conserved nature" by setting aside a few scenic parks. It was a dark vision from a dark time.

Leopold, on rare occasion, hinted at the full personal cost of being ecologically literate, at the sadness that came from "living alone in a world of wounds." Yet, he was not by nature a pessimist or a cynic. It was always his style to realistically assess a situation, weigh the options, make the best informed choice, and press forward. As the lessons of ecology seeped ever more deeply into his work through the late 1930s, his response continued to be positive and self-critical. The deeper his realizations, the calmer but more confident his convictions. Without letting down his wilderness guard—wilderness protection remained the *initial* priority—Leopold began to explore in greater detail the questions of humanity's proper interaction with the wild and the semi-wild.

Wrestling time and again with the very definition of "conservation," he regularly came up against the "age-old conflict between utility and beauty." If the roots of that conflict lay in the historically parallel rise of romanticism on the one hand and economics and engineering technologies on the other, then conservation had to be redefined as the biological sciences led the way toward a new, unified understanding of the natural world.

In unpublished "notes on a new theory of conservation," Leopold wrote:

Conservation...has been presented to us as a threat of *deficit* in natural resources (timber famine, soil rape, extinction of wildlife). Certainly we are running deficits, but the cry of "wolf wolf" is negative and incomplete, like frightening children.... Ecological conservation is a *positive* proposal to learn the act of skillful burling.⁴⁵

"Skillful burling" implied that the human race was, inevitably, a part of the great river, a force in its movement, a part of its flow, though not the sole reason for, nor object of, its progression. And to Leopold, the first step in achieving the kind of use truly worthy of the term "wise" was to overcome routine paeans to utilitarianism itself. In one of many articles Leopold wrote for farmers at this time, he made the point:

Sometimes I think that ideas, like men, can become dictators. We Americans have so far escaped regimentation by our rulers, but have we escaped regimentation by our own ideas? I doubt if there exists today a more complete regimentation of the human mind than that accomplished by our self-imposed doctrine of ruthless utilitarianism. The saving grace of democracy is that we fastened this yoke on our own necks, and we can cast it off when we want to, without severing the neck. Conservation is perhaps one of the many squirmings which foreshadow this act of self-liberation.⁴⁶

Once utility was thus brought under rein, or at least defined with greater care, Leopold had no qualms about admitting it a place in conservation.

At times, he anticipated our latest discussions of sustainable development:

This science of relationships is called ecology, but what we call it matters nothing. The question is, does the educated citizen know he is only a cog in an ecological mechanism? That if he will work with that mechanism his mental wealth and his material wealth can expand indefinitely. But that if he refuses to work with it, it will ultimately grind him to dust. If education does not teach us these things, then what is education for?⁴⁷

To say that utility was not the only or ultimate guide in conservation, but was yet a part of the human-environment relationship, was to suggest that better ethical guidelines were needed for its exercise. Another decade would pass before urgency prompted the compilation of "The Land Ethic," though Leopold now saw fully the extent of the conservation dilemma. In a lecture to a group of engineering students, he spoke directly:

We end, I think, at what might be called the standard paradox of the twentieth century: our tools are better than we are, and grow better faster than we do. They suffice to crack the atom, to command the tides. But they do not suffice for the oldest task in human history: to live on a piece of land without spoiling it.⁴⁸

After 1939, utility and beauty grew ever closer in Leopold's thinking. In formulating a "land aesthetic" that celebrated not merely the outward appearance of natural objects, but their evolutionary history and ecological role, he broadened traditional criteria of natural beauty to a point where they overlapped his sense of long-term utility based on ecosystem stability.⁴⁹ The converse interpretation is equally valid: in exploring the practical value of long-term ecosystem stability, Leopold came to appreciate the subtleties of an entity too beautiful in its workings merely to *study*. In either case, perception was the key. In some 1938 notes on "Economics, Philosophy, and Land," he wrote under the label "Esthetics":

We may postulate that the most complex biota is the most beautiful. I think there is much evidence that it is also the most useful. Certainly it is the most permanent, i.e. durable. Hence there is little or no distinction between esthetics and utility in respect of biotic objective.

Esthetics is an aspect of argument about land, not of land. It is part of the package system. We segregate esthetics so as to give farmers none and women's clubs a lot. In actual practice, esthetics and utility are completely interwoven. To say we do a thing for either reason alone is *prima facie* evidence that we do not understand what we are doing, or are doing it wrong.⁵⁰

The dividing line for Leopold had become obscured when ecology itself proffered a vision of the whole too great to be contained by conservation as he had known it. And in applying that vision back to conservation, the old definitions of utility and beauty were altered. In an oft-quoted passage, Leopold wrote:

The last word in ignorance is the man who says of an animal or plant: "What good is it?" If the land mechanism as a whole is good, then every part is good, whether we understand it or not. If the biota, in the course of aeons, has built something we like but do not understand, then who but a fool would discard seemingly useless parts? To keep every cog and wheel is the first precaution of intelligent tinkering.⁵¹

Burling and tinkering, then, were legitimate human activities, but to undertake them with twentieth-century tools, without full environmental awareness, was foolhardy, wasteful, disrespectful, and dangerous.

The fallout—literal and figurative—of World War II added immediacy to the conservation cause. Leopold was only one, albeit leading, framer of the now globalized imperative. In his case, we find richer post-war shades of concern over the role of science, the primacy of indiscriminate utility, and the neglect of aesthetic values. One may read *A Sand County Almanac* as, in part, his personal reaction to these trends. There is also, however, a difficult-to-define fullness to Leopold's work at this point, a mellowness hard-won in the struggle to *comprehend*

conservation. There is, too, a degree of clarity remarkable even by Leopold's standards:

The citizen who aspires to something more than milk-and-water conservation must first of all be aware of land and all its parts. He must feel for soil, water, plants, and animals the same affectionate solicitude as he feels for family and friends. Family and friends are often useful, but affection based on utility alone leads to the same pitfalls and contradictions in land as in people.⁵²

In the original foreword to *Sand County*, Leopold reiterated this provisional reconciliation of utility and beauty, and extrapolated to suggest the cultural potential of their symbiosis:

We regard land as an economic resource, and science as a tool for extracting bigger and better livings from it. Both are obvious facts, but they are not truths, because they tell only half the story.

There is a basic distinction between the fact that land yields us a living, and the inference that it exists for this purpose. The latter is about as true as to infer that I fathered three sons in order to replenish the wood pile.

Science is, or should be, much more than a lever for easier livings. Scientific discovery is nutriment for our sense of wonder, a much more important matter than thicker steaks or bigger bathtubs.

Art and letters, ethics and religion, law and folklore, or still regard the wild things of the land either as enemies, or as food, or as dolls to be kept "for pretty."⁵³

"The wild things of the land" still have instrumental value for humans, and always will. And perhaps the realization of their long-term instrumental value provides rationale enough for those reluctant to invoke inherent value. For real-world conservation purposes, the bottom line is that human demands and impacts are now pervasive, unavoidable, and unlikely to diminish. Under such circumstances, the preservation of beauty can be difficult to rationalize, much less achieve. But along these lines, it is instructive to note that, in one of the *least*-quoted

passages from "The Land Ethic," Leopold combined an open "admission" of the utility of the natural world with his strongest defense of the preservationist position:

...A land ethic cannot prevent the alteration, management, and use of these "resources," but it does affirm their right to continued existence, and, at least in spots, their continued existence in a natural state.⁵⁴

Can the two positions, in fact, be reconciled? Not easily, and not quickly. But Leopold, finally, was practical enough to see that they *had* to be, and idealistic enough to believe that they *could* and *should* be.

The distinction between preservation and utility will not go away in discussions of environmental history, strategy, and philosophy. Nor should it. But the question arises: by focussing on it exclusively, do we diminish the opportunity for more effective consensus not only on sustainable use, but on preservation as well? We may predict that a mature conservation/environmental movement will work across the full spectrum of land types, from the wild to the semi-wild to the cultivated to the settled to the urbanized, and will recognize the relevance of each to all the others. Leopold's statement of a land ethic has been criticized for being so broad, even poetic, as to lose meaning in application. I would defend Leopold here: only a broad and poetic statement could span the spectrum, and call every land-use and land-user to attention. Only such a statement could encompass the common ground between Pinchot and Muir. And although Leopold himself might look askance at such tributes, it is an encouraging sign that his name has now been bestowed on both a federal Wilderness Area (in his one-time home state, New Mexico) and a university Center for Sustainable Agriculture (in his native state of Iowa).

For we who particularly value wildness, there is hesitancy to admit that utility is a legitimate and, in any case, inevitable, aspect of humanity's relationship with the natural world. As David Ehrenfeld has recently written, "In an ideological war it is always dangerous to adopt

the rationale of the enemy."⁵⁵ How do we avoid a potential weakening of the case for wilderness protection? By being on guard. By emphasizing the historical and geographical context. By being bigger, in numbers and character, than the blind economic determinists. By working and voting for the changes which will take pressures off of wilderness. By protecting our backyards. By spreading the word, until the ears of our rival brethren fall off if need be, that the attainment of a continuing, perpetual, self-renewing harmony with land—Leopold's definition of conservation—requires the fullest protection of wilderness and wild places that we can achieve. Ehrenfeld answers his own concern: "Neither of the classical varieties of conservation, protection or management, can by itself save the world's fauna and flora. Nevertheless, they are both vitally necessary as a holding action to save what can be saved until such a time, soon or far off, when humanity adopts a way of life in harmony with other life forms on the planet."⁵⁶

From this vantage point, the environmental movement, back through the entire roster of protean conservationists and pitched battles, is seen as a process of continual evolution of the human race's ability to perceive and, hence, to anticipate and react to, new self-generated environmental conditions. The utilitarian cast of the early American conservation movement was probably necessary, but ultimately its finest contribution was its own subduction. Critics from other cultures and other regions of the world are likely, and perhaps even obligated, to point out, as did one recent commentator, that we in America sometimes "tend to equate environmental protection with the protection of wilderness," and that "this is a distinctively American notion borne out of a unique social and environmental history."⁵⁷ But if that tendency can continue, as it always has, to feed a broader, global environmental vision, then it may yet be our own greatest contribution to a new and improved worldview.

Edward Abbey described wilderness as a complement to, and a compliment to, civilization. An underlying assumption to this paper is that unless we understand, accept, and incorporate this complementarity, both our civilization and our remaining remnants of wild country face inevitable degradation. Leopold saw in conservation the possibility of a positive interaction of the complements. If conservation remains a

state of harmony between people and land, we are now able to consider several corollaries: that that harmony cannot be static, for it eternally shifts and changes, creates and grows; that dissonance is not bad *in and of itself*—it allows us to appreciate harmony all the more—but only when it threatens the integrity of the whole composition; that even the most wonderful harmony can be enhanced by the solo expression. Allow cities. Allow wilderness. Allow everything in between. Allow people and land to sing separately, so that their recombinations may sing together even more wonderfully. But allow the song—*all songs*—to continue.