

The farmer as conservationist: Aldo Leopold on agriculture

Five decades ago, the "father of the land ethic" advocated a multidisciplinary approach to farm planning to achieve land health. That concept remains relevant today.

By Curt Meine

IN February 1939, as part of the Wisconsin Farm and Home Week observance at the University of Wisconsin, Aldo Leopold presented an address entitled "The Farmer as a Conservationist" (5). Leopold began his remarks with these words:

"When the land does well for its owner, and the owner does well by his land—when both end up better by reason of their partnership—then we have conservation. When one or the other grows poorer, either in substance, or in character, or in responsiveness to sun, wind, and rain, then we have something else, and it is something we do not like.

"Let's admit at the outset that harmony between man and land, like harmony between neighbors, is an ideal—and one we shall never attain. Only glib and ignorant men, unable to feel the mighty currents of history, unable to see the incredible complexity of agriculture itself, can promise any early attainment of that ideal. But any man who respects himself and his land can try to" (5).

This quotation is vintage Leopold, displaying his characteristic mix of idealism and practicality, expressing his dual concern for the fate of man and land. It was, in fact, the first time in print that he gave his classic definition of conservation as the state of "harmony between man and land." In it too we see what Leopold had learned over a period of many years: that when one addresses the subject of agriculture, one takes on a subject of immense proportions.

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For those who know of Leopold as the poet of *A Sand County Almanac*, or as an early voice for wilderness preservation, or as a founding father of wildlife management, it may come as a surprise to know that Leopold, while not a farmer himself, did work on a number of agricultural fronts. It is one of the less heralded aspects of his multifaceted career, but one that is bound to become increasingly important in these times of transition on the rural landscape.

Even a cursory review of Leopold's career shows that he was involved in agriculture throughout his professional life. He spent 19 years with the U.S. Department of Agriculture's Forest Service. As a pioneering formulator and practitioner of game management, he worked closely with farmers and became an expert observer of the farm landscape at a time—the 1920s and 1930s—when, like today, that landscape was undergoing great change. As a professor, Leopold

taught for 15 years in one of the nation's top colleges of agriculture. As a writer, he wrote for and about farmers extensively, as much perhaps as on any topic. Finally, as a conservation philosopher, he made a special effort to define the role farming played in the greater equation of mankind's relationship to the natural environment.

The farmer must do conservation

The year was 1928. Leopold was the somewhat disgruntled associate director of the Forest Products Laboratory in Madison, Wisconsin. He had spent four years in the position, waiting for a promised promotion that never came. Through his work and writing, Leopold was already a respected figure in conservation. When word spread that he was looking for new work, opportunities quickly arose.

For more than 10 years Leopold had been devoting much of his spare time to game conservation. Game management, as we now know it, existed only in its embryonic stages. For years, Leopold had been promoting the idea, a *new* idea, that wild game could be raised on a sustained-yield basis, much as foresters raised trees. Moreover, the idea was not merely to rear game and then release it to be shot, but to manipulate habitat so that, in effect, the game raised itself. This was a radical and unproven notion, but it was an important one—and growing more important with the passing seasons. Squeezed between a vastly increased hunting public and an increasingly intensified agriculture, game populations in the 1920s were plummeting. Action had to be taken if hunting, or even casual observation of game, were to remain a viable proposition.

On May 22, 1928, Leopold signed a con-

Aldo planting pines at the gate to the Shack on his sand county farm near Baraboo, Wisconsin.

tract with the Sporting Arms and Ammunition Manufacturers' Institute, a consortium of major firearms manufacturers, to conduct an unprecedented survey of game conditions across the country. So primitive was the state of wildlife science that it lacked even the most basic information on game ranges, life histories, food and habitat needs, population dynamics, and susceptibility to hunting pressure. The game survey was to make at least a start in gathering such information.

The game survey constituted a major landmark in Leopold's professional development. It was an opportunity to study what had been a life-long interest—in his own words, "to make my hobby my profession." Leopold was already an astute observer of land; the game survey would hone his talent into genius. The method was straightforward: Leopold spent a month or so in each state, meeting its local experts, learning its geography, touring its backroads, talking to an amazing assortment of sportsmen, administrators, botanists, zoologists, farmers, professors, wardens, and foresters. The result, he hoped, would be a fair estimate of a state's game resources and a growing body of knowledge about game biology.

That summer of 1928, Leopold completed his first tentative surveys in Michigan, Minnesota, and Iowa. Conditions, of course, varied according to species and locality, but after his first months on the job, Leopold had begun to find evidence to support the one overriding suspicion of the times: that the sudden intensification of agriculture was eliminating the food and cover plants required by the majority of game species. Fencerows, borders, woodlots, remnant prairies, and wetlands were disappearing from the midwestern farmscape, and the quail, prairie chicken, grouse, snipe, woodcock, and in some areas even rabbits and squirrels were disappearing with them. This realization came as no surprise, but Leopold, for the first time, was giving it factual substance.

By 1929 it became apparent that the game survey as originally designed was too ambitious. Leopold and his sponsors decided to confine its coverage, at least for the time being, to the north central block of states: Minnesota, Wisconsin, Michigan, Ohio, Indiana, Illinois, Iowa, and Missouri. Leopold spent much of the next year and a half on the road, crisscrossing the Midwest, coming to know its contours with an intimacy that only grew with each new effort.



It was at this point that Leopold first began to devote his attention to the question of the farmer's role in wildlife conservation. The question had arisen before in Leopold's work and writing, but not with the same urgency. His answer was unequivocal:

"Most of what needs doing must be done by the farmer himself. There is no conceivable way by which the general public can legislate crabapples, or grape tangles, or plum thickets to grow up on these barren fencerows, roadsides, and slopes, nor will the resolutions or prayers of the city change the depth of next winter's snow nor cause cornshocks to be left in the fields to feed the birds. All the non-farming public can do is to provide information and build incentives to which farmers may act" (2).

And those were the keys: to provide information and build incentives. Farmers had no more idea about the needs of game animals than anyone else, so Leopold began to write his earliest articles for farmers on the subject. The first apparently was a 1929 article, "How the Country Boy or Girl Can Grow Quail."

The second point—building incentives—proved more provocative. Throughout the 1920s, farmers were increasingly posting their lands against hunting, in order to keep their undisciplined city cousins out of their fields. The last thing farmers wanted was more game. Posting became so widespread that conscientious sportsmen were forced to come up with alternative proposals.

In 1929 and 1930, Leopold took on this issue in his work as chairman of the Game Policy Committee for the American Game Conference. The purpose of the committee, which included many of the nation's foremost game experts, was to draw up a definitive national game policy, a statement that was destined to guide the wildlife profession for the next 40 years. The policy, most of which Leopold himself wrote, was premised on the idea that "only the landowner can practice management efficiently, because he is the only person who resides on the land and has complete authority over it." A principle recommendation of the policy read:

"Recognize the landowner as the custodian of public game on all other land, protect him from the irresponsible shooter, and compensate him for putting his land in productive condition. Compensate him either publicly or privately, with either cash, service, or protection, for the use of his land and labor, on condition that he preserves the game seed and otherwise safeguards the public interest. In short, make game management a partnership enterprise to which the landowner, the sportsman, and the public each contribute appropriate services, and from which each derives appropriate sup-

port" (1).

The important point here again is Leopold's steadfast conviction that the farmer, for reasons both practical and philosophical, was the one to *do* conservation. At the time, Leopold was speaking only of the conservation of game animals, but in the important years yet to come he would extend this notion to include nongame wildlife, plants, soil, water, and even scenic values. And it was this emphasis on individual landowner action that would lead him to be such an outspoken critic of the New Deal's top-heavy approach to conservation.

Building communication channels

A great deal of Leopold's success as a conservation leader must be attributed to his unique communication skills. This was never so true as when he was working with farmers, whether in print, in the classroom, over the airwaves, or in personal contacts. This skill undoubtedly derived from his curiosity, as infectious as it was insatiable, about the land itself—its human and non-human denizens, its dynamic processes, its history and destiny. Many were the farmers who themselves learned to see their land more acutely as a result of Leopold's insight.

In his days as a forester, Leopold had gained a solid appreciation of rural psychology. Before getting down to business he enjoyed talking over crop prospects, soils, local lore, the vicissitudes of the weather and seasons. One day in the summer of 1931, Leopold was driving through Dane County, west of Madison, scouting potential hunting grounds for the upcoming season. Upon coming to a mail stop on the Chicago and Northwestern line known as Riley, he pulled in at a farm for a drink of water. He and the farmer, a man named Reuben Paulson, talked over their mutual concerns. Paulson needed relief from poachers and trespassers. Leopold needed a place to try out his ideas about game management. Paulson organized 11 of his neighboring farmers, while Leopold called on four of his hunting partners from town. Thus was born the Riley Game Cooperative, an important example of the kind of cooperative management arrangement that the American Game Policy had tried to promote. Riley became a significant center for Leopold's work (as well as his recreation) for years to come, and the Riley farmers became his close friends. Leopold was, in turn, a trusted advisor to them (3).

Riley was but one of several cooperative arrangements with farmers that Leopold helped organize and develop in the 1930s and 1940s. After Leopold joined the University of Wisconsin, these farms played an im-

portant role as study areas for the first generation of professionally trained wildlife managers. Much of the groundbreaking research in wildlife management was in fact performed on farms in southern Wisconsin. The importance of Leopold's style in these matters cannot be overstated. Even as his ecological vision sharpened in the 1930s and his conservation message became correspondingly more impassioned, Leopold never forgot that, in the midwestern farmbelt at least, it was the farmer who was on the front lines of conservation and had to be treated accordingly.

Leopold's appointment to the chair of game management at the University of Wisconsin in 1933 provided him, for the first time, a secure position from which to implement his management ideas. It is important to note that the chair was initially established within the Department of Agricultural Economics, and from this point on in Leopold's work one sees an increasing sophistication in his views on rural culture. The department was the first of its kind in the nation, and the pioneering work on rural economics, particularly that performed by his good friend George Wehrwein, would have a lasting impact on his own approaches to land use reform.

Leopold's new position entailed a number of responsibilities, including acting as a wildlife extension specialist. It was in this capacity that he served as advisor to the Coon Valley soil conservation project, the world's first watershed-wide soil erosion control effort. Leopold's interest in soil erosion dated back to the early 1920s, when as a forest inspector on the national forests in the Southwest he initiated a remarkable personal study of the ecological cause-and-effect of soil erosion on the southwestern range. With his work at Coon Valley, that interest reemerged in the Midwest, never again to go into eclipse. Situated in the erosion-prone driftless area of western Wisconsin, Coon Valley was in 1933 a wasted watershed, ruined by deforestation, poor tillage practices, overgrazing, and soil depletion. It was, in Leopold's bitter phraseology, "one of the thousand farm communities which, through the abuse of its originally rich soil, has not only filled the national dinner pail, but has created the Mississippi flood problem, the navigation problem, the overproduction problem, and the problem of its own future continuity" (4). The work of the new Soil Erosion Service—later renamed the Soil Conservation Service—would turn the situation around through a unique program of integrated land use. In an article describing the success of Coon Valley, Leopold later wrote:

"There are two ways to apply conserva-

tion to land.

"One is to superimpose some particular practice upon the preexisting system of land use, without regard to how it fits or what it does to or for other interests involved.

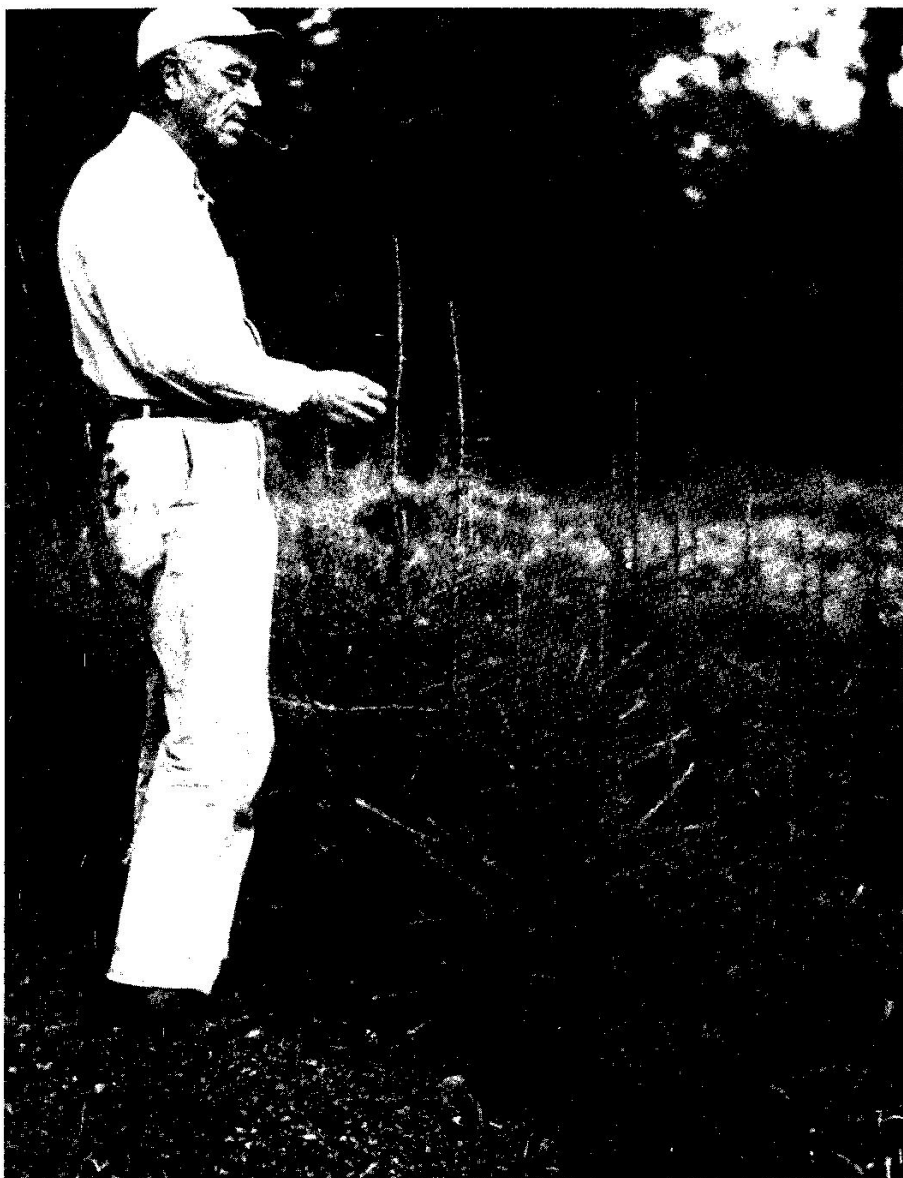
"The other is to reorganize and gear up the farming, forestry, game cropping, erosion control, scenery, or whatever values may be involved so that they collectively comprise a harmonious balanced system of land use.... The crux of the land problem is to show that integrated use is possible on private farms, and that such integration is mutually advantageous to both the owner and the public" (4).

Among his other extension activities as a professor of game management, Leopold instituted a short course for young farmers and presented a number of radio talks for farmers over WHA, the university-sponsored radio station. In both cases Leopold was trying to disseminate basic information on wildlife conservation to farmers. His first radio talk, delivered just after joining the university, was called "Building a Wisconsin Game Crop: Leaving Food and Cover." Others were similar: "The Farm Woodlot and the Bird Crop," "Game on the Modern Farm," and so on. The following excerpt gives the flavor of these talks:

"There are many little tricks for increasing the service of woods and vegetation to wildlife. Take the grapevine, for example. A new grape-tangle on or near the ground is usually good for a new covey of quail, provided there be food nearby. How to get a new grape-tangle quickly? Select a tree with a grapevine in its top. Cut the tree but not the vine, and let it lie. In one season the vine will weave an 'umbrella' over the down top which is hawk-proof and nearly man-proof—a mighty fortress for bobwhite in even the deepest of snows. Leave a few cornshocks in the adjoining field and you have the 'makings' of a new covey range which your friends the quail will not long overlook. One of the real mysteries of nature is the promptness with which habitable niches in the cold wall of the world are filled by living things. Our own place in the scheme of things is not the less tolerable for making room for a few of our fellow-creatures....

"Your woodlot is, in fact, an historical document which faithfully records your personal philosophy. Let it tell a story of tolerance toward living things, and of skill in the greatest of all arts: how to use the earth without making it ugly."

Leopold would continue to provide this sort of encouragement throughout his university years. In 1938 he began writing similar pieces for the *Wisconsin Agriculturalist and Farmer* on a variety of topics: "Plant Evergreens for Bird Shelter," "Wild Flower



Leopold nursed his own sand county farm back to health. In this 1940 photograph he examines his tamarack nursery at the Shack.

Corners," "Look for Bird Bands," "Windbreaks and Wildlife." A few of these, in revised form, were incorporated into *A Sand County Almanac*.

Ecology and agriculture

When the Dust Bowl of the mid-thirties hit, Leopold was already well on his way to the fully developed ecological philosophy that would mark his mature writings in *A Sand County Almanac*. The Dust Bowl only hastened this development and led directly to the question of what ecology had to offer by way of advice to agriculture in America. Increasingly, that advice would be framed in terms of what he called "land health": the ability of land as an integrated

whole to regenerate itself. This was an issue inclusive of, but far greater than, agriculture alone.

The Dust Bowl was the upshot of the indiscriminate agricultural expansion of the post-World War I era. For Leopold and others it focused attention on the overarching problem of how, in Leopold's tight phrasing, to "adjust men and machines to land." On April 15, 1935, coincidentally the day after the greatest dust storm yet swept out of the southern High Plains, Leopold delivered an address that he called "Land Pathology." In that unpublished speech he

stated:

"This paper proceeds on two assumptions. The first is that there is only one soil, one flora, one fauna, 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 [assumption] is that economic and aesthetic land uses can and must be integrated, usually on the same acre. The ultimate issue is whether good taste and technical skill can both exist in the same landowner. This is a challenge to agricultural education."

After tracing the history of destructive land use in America, Leopold in the speech asked what might be done in the social and physical sciences to hasten "the needed adjustment between society as now equipped, and land use as now practiced." The profit motive, for a number of reasons, was insufficient. Public ownership was, to a true conservative like Leopold, a last resort and impractical to boot. Legislative compulsion was unpalatable. Besides, science by this time had "shown good land use to require much positive skill as well as negative abstinence." The only alternative was a kind of land ethic, and this 1935 paper was one of Leopold's important early expressions of this maturing idea. He wrote:

"I plead for positive and substantial public encouragement, economic and moral, for the landowner who conserves the public values—economic or aesthetic—of which he is the custodian. The search for practicable vehicles to carry that encouragement is a research problem, and I think a soluble one. A solution apparently calls for a synthesis of biological, legal, and economic skills, or, if you will a social application of the physical sciences...."

"I might say, defensively, that such a vehicle would not necessarily imply regimentation of private land use. The private owner would still decide what to use his land for; the public would decide merely whether the net result is good or bad for its stake in his holdings.

"Those charged with the search for such a vehicle must first seek to intellectually encompass the whole situation. It may mean something far more profound than I have foreseen."

The Dust Bowl was but one highly visible (and breathable) reminder that this sort of ethic was not merely a nice idea, but a necessary development. Leopold held that the improvement of economic tools had "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. 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 body politic? I for one do not."

Through the latter half of the 1930s, Leopold would devote increasing amounts of his time to defining the characteristics of healthy land and tracing the implications of that definition for land use. I will refrain from discussing the ecological implications of modern agricultural systems; others have treated this subject more ably and completely than I can here. Suffice to say that, after the experiences of the 1930s, agriculture would begin to come under the scrutiny of this new science of ecology, and Leopold himself would begin to apply the precepts of ecology more stringently in his analyses. Those precepts had biological as well as social implications. On both grounds, for example, he decried in an unpublished manuscript the trend toward monotypes, warning that "the doctrine of private profit and public subsidy pushes constantly toward an

extreme degree of crop-specialization, toward the grouping of uses in large solid blocks. The idea of self-sufficient farm units is submerged. The interspersions of wild and tame crops approaches zero...[producing] a landscape just as monotonous as the inherent variability of soil will permit."

By this time, of course, Leopold had himself become the owner of a worn-out farm, and he and his family had begun the process of bringing it back to life. He did not consider himself a farmer, but there is an unmistakable sense of pride in husbandry that enters his writings from this point forward, a quality evident to anyone who has read *A Sand County Almanac*.

Perhaps the finest example of this, and one most salient to this discussion, is the article to which I referred earlier, "The Farmer as a Conservationist." It is one of Leopold's forgotten masterpieces—poignant and pointed, written in a delightful manner, and as pertinent today as it was 50 years ago.

The heart of Leopold's argument was that utilitarian motives had dominated the development of our agricultural system, to the general disadvantage of land, landowner, society, and even productivity itself. The neglect of the aesthetic qualities of land, while sounding abstract, had actually had very practical effects on the way people live on land. Again, Leopold speaks best for himself:

"If this were Germany, or Denmark, with many people and little land, it might be idle to dream about land use luxuries for every farm family that needs them. But we have excess plowland; our conviction of this is so unanimous that we spend a billion out of the public chest to retire the surplus from cultivation. In the face of such an excess, can any reasonable man claim that economics prevents us from getting a life, as well as a livelihood, from our acres?"

"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.

"One of the self-imposed yokes we are casting off is the false idea that farm life is dull? What is the meaning of John Stuart Curry, Grant Wood, Thomas Benton? They are showing us drama in the red barn, the

Doing yardwork at the Shack.



stark silo, the team heaving over the hill, the country store, black against sunset. All I am saying is that there is also drama in every bush, if you can see it. When enough men know this, we need fear no indifference to the welfare of bushes, or birds, or soil, or trees. We shall then have no need of the word conservation, for we shall have the thing itself" (4).

Leopold's ideas on conservation, culture, and democracy were never so interwoven as when he addressed the topic of agriculture in American life. The Jeffersonian notion of a stable agrarian democracy of yeoman farmers had been left in the wake of the industrial revolution, but it was a buoyant ideal, and it resurfaced in Leopold's words. There was an important difference: where Jefferson had drawn his vision from his hopes for a healthy and lasting democratic republic, Leopold had had the benefit of 150 years of history and scientific advance, and his vision—deepening even as he wrote—was focused less on the policy than on the biology of healthy land. Yet, even through the intervening century and a half, the heart of the ideal remained. Freedom and individuality were still the points at issue. "The landscape of any farm," Leopold wrote, "is the farmer's portrait of himself. Conservation implies self-expression in that landscape, rather than blind compliance with economic dogma" (5).

This notion of self-expression in the farm landscape was fundamental to Leopold's thinking. He wrote in personal notes at the time, in another context:

"I expect, and hope for, a wide range of individualism as the ultimate development of the wildlife idea. There are, and should be, farmers not at all interested in shooting, but keen on forestry, or wildflowers, or birds in general. There are, and should be, farmers keen about none of these, but hipped on coons and coon dogs. The more varied the media of individual expression, the more the collective total will add to [the] satisfaction of farm life."

That, in the end, was the focus of Leopold's work: the quality and satisfaction of farm life. To Leopold's thinking a farmscape stripped of all but its human economic components was not only at agronomic risk, but it was a waste of cultural potential. Conservation, conversely, sought to balance utility and beauty on the land; it was a challenge to use the earth without making it ugly.

A final quotation of Leopold's from a 1945 paper, "The Outlook for Farm Wildlife," speaks most directly to our farm situation today. Leopold concluded a review of trends in the farm wildlife situation by stating:

"In short, we face not only an unfavorable balance between loss and gain in habitat, but an accelerating disorganization of those unknown controls which stabilize the flora and fauna, and which, in conjunction with stable soil and a normal regimen of water, constitute land-health.

"Behind both of these trends in the physical status of the landscape lies an unresolved contest between two opposing philosophies of farm life. I suppose these have to be labelled for handy reference, although I distrust labels:

"1. *The farm is a food-factory*, and the criterion of its success is saleable 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 the accidental relic of pioneer days. The trend of the landscape is toward a monotype, in which only the least exacting wildlife species can 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 some day die of their own too-much, not because they are bad for wildlife, but because they are bad for farmers" (6).

On seeking harmony

How do we assess Leopold's words? In the half century since he wrote, conservation has evolved into environmentalism, while farming has moved toward agribusiness. Yet one need not read far into Leopold to appreciate the timeliness—or, perhaps more accurately, the timelessness—of his thoughts. They remain relevant so long as people live on land and so long as the human instinct for stewardship endures. But more to the point: Do they speak to the issues of the day?

We are told today that the changes in farm tenure taking place across the continent, including and especially the foreclosure problem, represent the inexorable workings of economic trends and that the family farm has itself become an expendable commodity. We are advised to abandon the

Jeffersonian view of the farmer as a sentimental holdover from a bygone era. We are asked to forget the truth, so eloquently expressed by Leopold in both word and deed, that the farm is more than a place to grow food, that farms also grow farmers, and families, and plants and animals, both wild and tame. We apply patchwork solutions to problems that have been a long time in the building and that can only be confronted by a view of history, ecology, and economics that is as wide-reaching as agriculture itself.

I think conservationists have much to offer as the nation debates these points and seeks new answers. Leopold himself was as sound a voice as one could find. He was not one to make sentimental references to "the heartland." He did not hold a romantic image of the farmer, but realized that farmers are as diverse and independently minded as any group of individuals. But he also realized that, fundamentally, a balanced society must be built on a stable system of agriculture and that this in turn must be built on an appropriate attitude toward the land that sustains us all.

His thoughts present us with a challenge. To agricultural scientists, historians, and economists, he challenges us to explore the all-too-neglected territory where separate disciplines meet.

To farmers, conservationists, and environmentalists, he challenges us to work together more than we have, to compare our aims, and to appreciate that whatever differences may exist between us pale before the common dilemma we all face as lovers of the land.

And finally, to all of us as citizens in a democracy, Leopold challenges us to consider what sort of society we wish to build: one that strives to squeeze the land for all it is worth, or one that seeks today and tomorrow the elusive harmony between humankind and land that Leopold called conservation.

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