The Private Lands Opportunity:

The Case for Conservation Incentives

The Center for Conservation Incentives

An initiative of Environmental Defense launched with major support from the Doris Duke Charitable Foundation

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ENVIRONMENTAL DEFENSE

finding the ways that work

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The Case for Conservation Incentives

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ENVIRONMENTAL DEFENSE
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Our Mission
Environmental Defense is dedicated to protecting the environmental rights of all people, including the right to clean air, clean water, healthy food and flourishing ecosystems. Guided by science, we work to create practical solutions that win lasting political, economic and social support because they are nonpartisan, cost-effective and fair.

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Foreword

Incentives work. Given the right incentives, private landowners can play a pivotal role in achieving many of the nation's conservation goals. Recovering rare species, restoring degraded habitats, and improving the quality of water in our rivers and streams are just a few of the goals that are clearly within our reach if we enlist the nation's private landowners as partners in the task. Those are the core beliefs that prompted the creation of a new Center for Conservation Incentives at Environmental Defense. Those are also the beliefs that prompted the Doris Duke Charitable Foundation to catalyze the creation of that Center with a generous five-year grant.

"Finding the ways that work" is more than just a motto for Environmental Defense. It is the objective that underlies all that we do. Finding the ways that work is essential for anyone who wants to make progress on environmental problems because, as the pioneering American conservationist Aldo Leopold wrote more than half a century ago, "the only progress that counts is that on the actual landscape of the back forty."[1] In the end, all the laws, regulations, lawsuits, congressional hearings, press releases, press conferences, and other things that preoccupy so many in the environmental community matter only to the extent that they influence what people actually do. And what landowners actually do is especially important because how they use their land will determine the future of our wildlife, our water, and other natural resources.

The mission of the Doris Duke Charitable Foundation is to improve the quality of people's lives by nurturing the arts, protecting and restoring the environment, seeking cures for diseases, and helping to protect children from abuse and neglect. In the environmental arena, it has a particular interest in conservation on private land and in voluntary conservation strategies that rely on incentives. The Center for Conservation Incentives reflects those interests.

The report that follows describes the importance of private land for meeting the nation's conservation goals, and the importance of incentives in enlisting the participation of landowners in pursuing those goals. It outlines a number of extraordinary opportunities now available to those who are willing to reach out to private landowners as partners in conservation. The Center for Conservation Incentives will pursue those opportunities through a mix of place-based conservation projects, analysis, policy development pertaining to conservation incentives, and partnerships with other organizations pursuing similar goals. This report is the first of many that the Center will produce or commission in order to stimulate thinking about new conservation strategies and action to implement the most promising of those.

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> *-Aldo Leopold*

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For more than a century, progress in conservation has been primarily measured by how much land has been brought into public ownership, and by how well the land that the public already owns has been managed. Our great national parks have preserved the most majestic scenery the nation offers, much of our cultural heritage, and extraordinary opportunities for outdoor recreation that we rightly cherish. Our national wildlife refuges provide a far-flung network of conservation lands for waterfowl and other wildlife. These and other public lands, including our national forests, federal grazing lands, and a myriad of sites owned by state and local governments, are among the nation's most treasured assets. And yet, few of the environmental goals the nation has set can be achieved without engaging as partners those many landowners who grow crops, manage forests, raise livestock, or otherwise use or enjoy the resources of privately-owned lands.

Engaging the nation's private landowners is the most important challenge facing conservation today. To meet that challenge, landowners need incentives that reward them for protecting wildlife, restoring habitats, safeguarding watersheds, and enhancing other environmental assets. With the right incentives, there is every reason to believe that private landowners will meet the challenge.

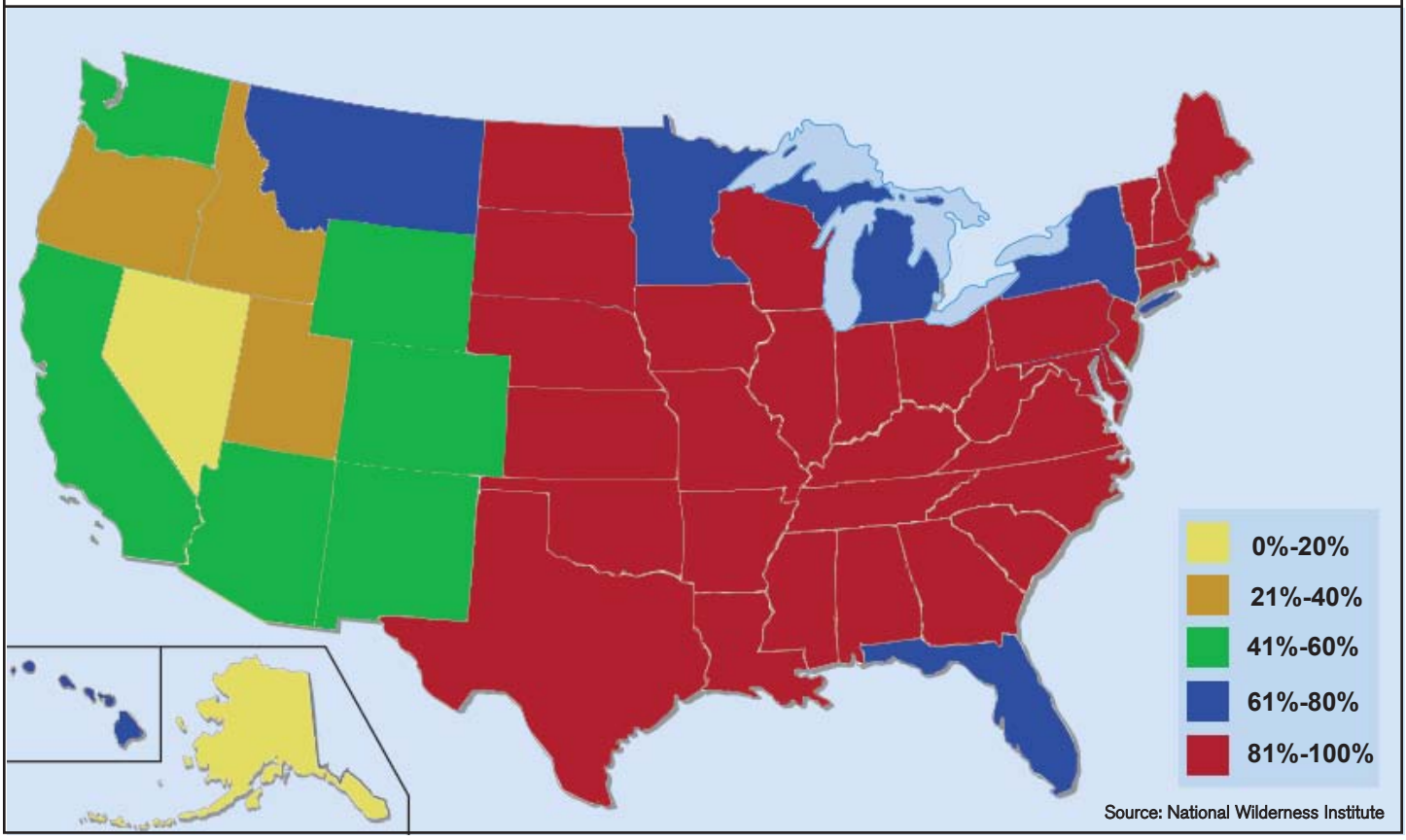
The Importance of Private Land

To appreciate the importance of private land for meeting our environmental goals, one must start with the fact that most of the nation's land is privately-owned. Indeed, private land constitutes 73 percent of the contiguous United States. That fact alone fails to convey private land's true significance, however, since public land is heavily concentrated in just a few western states. Elsewhere, the percentage of land in private ownership is much higher than the national average, and in some states, such as Texas and Illinois, more than 90 percent of all land is privately owned (figure 1). [1]

Even in the western states, where private land comprises a smaller share of the land base, its importance is disproportionate to its size as private lands typically have the best access to water and the most productive soils. Homesteaders selected these lands for settlement for those very reasons, leaving less hospitable arid environments and high elevation rock and ice in public ownership. Even outside the west, however, the public land base is not particularly well-suited to conserve America's biological diversity. Indeed, private lands tend to be more fertile and, thus, can support greater numbers of species. Also, public lands are disproportionately at higher elevations where many species do not occur.[2]

The importance of private land is not just a function of its relative abundance or of its productive soils and

Figure 1: Percentage of Non-Government Land

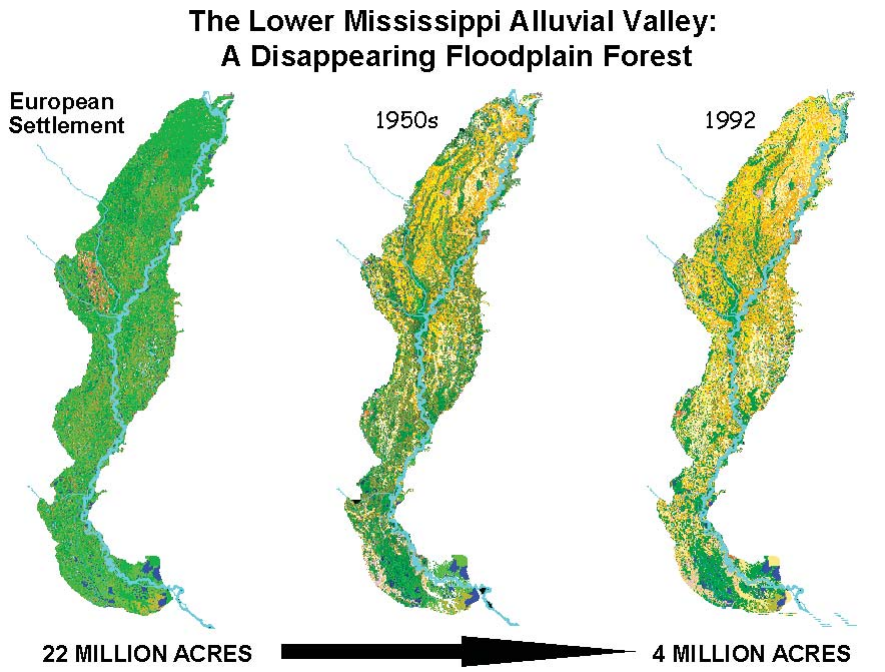


access to water. It also is vitally important in sustaining the nation's wildlife resources. Its importance for waterfowl, deer, and other game animals has long been recognized by hunters and state game agencies, but private land is also an important source of habitat for endangered wildlife. Indeed, about half of all threatened and endangered species do not occur on federally-owned lands.[3] Data compiled by the General Accounting Office indicate that about half of all threatened and endangered species have at least 80 percent of their habitat on non-federal land, the vast majority of which is privately-owned land.[4] Many such species occur only on privately-owned land, or have some of their healthiest populations there. Much the same holds true for the many other species known to be in peril but not yet officially designated as threatened or endangered. For example, many bird species that are declining sharply are grassland or interior forest species that depend overwhelmingly on private land.[5]

Beyond individual species at risk, private land will determine the survival and recovery of many of this country's formerly expansive and now imperiled ecosystems. Less than 10 percent of the tallgrass prairies that once occupied 143 million acres across the eastern plains states survives[6], as does less than 30 percent of intact shortgrass prairie in the western plains of Colorado, Wyoming, and New Mexico.[7] Species that rely on the range and shrub lands of southern California will disappear unless at least a few hundred thousand acres of grazing land can be preserved in the face of sprawling development. The bottomland hardwood forests memorialized by Twain and Faulkner that once covered 25 million acres on the lower Mississippi River have vanished from 80 percent of their former range (figure 2).[8]

Of the 74 to 92 million acres of the open longleaf pine forests that once stretched across nine southeastern states, less than 3 million acres remain, much of which is highly degraded and fragmented.[9] Remaining habitats of all these once great ecosystems lie primarily on private land, as do the vast majority of lands that could possibly be restored. The same is true even for relatively intact ecosystems, like the 26 million-acre northern forest of Maine, New Hampshire, Vermont, and New York: an area not only overwhelmingly in private ownership but also significantly threatened with sale, fragmentation, and development.

Figure 2: Bottomland Hardwood Loss in Mississippi Delta



There are still other reasons why privately-owned land is important. The solution to many of this country's pollution problems also turns on the stewardship of private land. Nearly 88 percent of the rain and snow that falls on the United States each year falls on private land before it flows into our reservoirs and out of our drinking water faucets, or into our rivers and estuaries, which serve as nursery areas for many commercially and recreationally important fish.[10] This land can either cleanse or pollute the water that runs off of it. Today, runoff from private land is the primary source of the country's water pollution.[11] Excess runoff of nitrogen contributes to biological dead zones in 43 of this country's most significant bays - from Rhode Island's Narraganset Bay to the Gulf of Mexico to the San Francisco Bay. Half of this country's rivers and streams are clouded by excess phosphorus, also primarily from land runoff. And overall, state water quality data indicate that one-third of river miles, 45 percent of lakes and 44 percent of bays violate water quality standards - with polluted runoff the largest contributor of pollutants.[12]

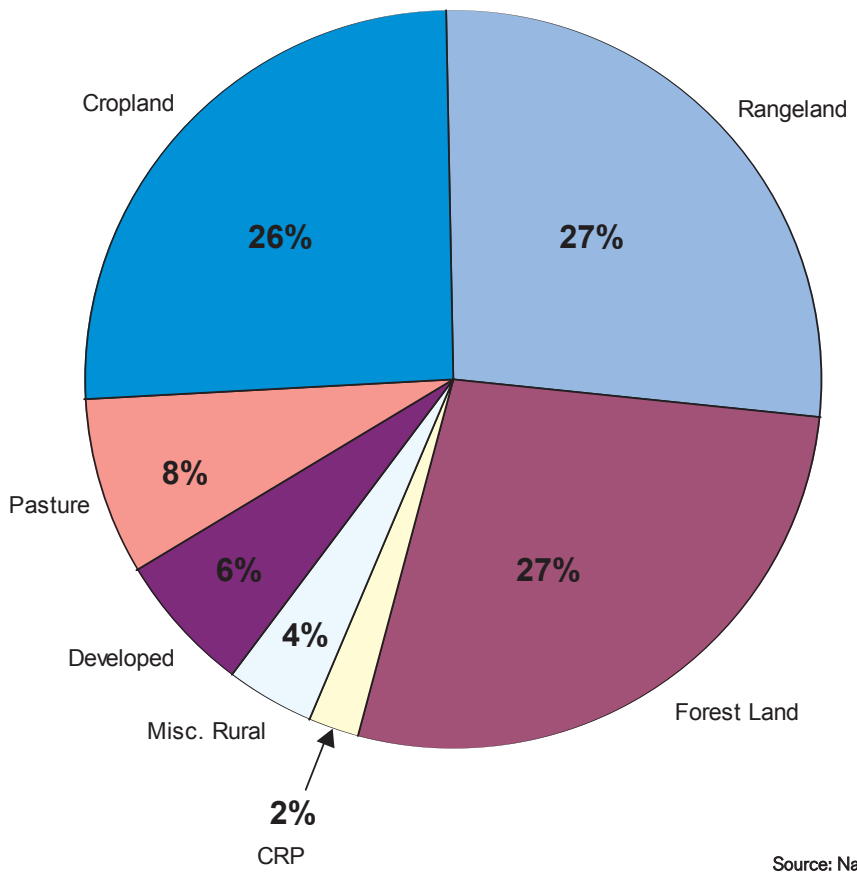
Yet private land is also home to three-quarters of this country's wetlands, the parts of the landscape particularly suited to filter runoff. Our rivers and coastal waters depend as much on riverside forests, grasslands, and wetlands for their health as they do on clean water flowing into them. These riparian areas serve to stabilize river and stream banks, provide habitat for birds and other wildlife, and cool the water for fish and other aquatic wildlife. Riparian areas too, for the most part, lie on private land; in many areas, particularly the west, riparian areas are exceptionally rich in biodiversity.

The challenge in conserving the resources found on private lands stems from the fact that most private land is working land. Excluding Alaska, 60 percent of U.S. private land is used to graze cattle or grow crops. Another 27 percent of private land is forest - nearly all harvested from time to time. Much of the remainder is in some developed use (figure 3).

While private lands include some of the country's great places, they often lack the grandeur of Yellowstone, Yosemite, or the Everglades - the publicly-owned parks and wildlife refuges that have a place in most American's hearts. It was the preservation of those areas and the extensive federal land holdings in the west that motivated the rise of the American conservation movement some 100 years ago. Yet private land is where most of today's environmental problems will either be solved or not.

The management of private land has always been important to the environment, but the ever increasing intensity of land use has made deliberate, private stewardship even more critical. While 50 years ago, nearly all farms in the country's corn belt contained significant wetlands, prairie, or forest, the pressures of the marketplace have led to their steady drainage and loss to the plow. Within the last several decades, the diverse, natural pine forests which covered much of the uplands of the southeast have steadily been lost - today, planted pines cover more acreage in the south than natural pine forests.[13] And in many parts of the country sprawling development swallows up remaining habitats at such a rapid pace that little habitat is likely to remain unless landowners make a deliberate commitment to preserve it. While markets have rewarded landowners who produce food and fiber, they have provided little incentive for landowners to protect animals, plants, wetlands, riparian areas, and other natural features. In the absence of some countervailing forces, the environment will clearly suffer.

Figure 3: Land Use on U.S. Private Lands, excluding Alaska



Source: Natural Resources Conservation Service

The Importance of Incentives

Near the end of his remarkable life more than half a century ago, the pioneering American conservationist, Aldo Leopold, wrote that "it cannot be right, in the ecological sense, for a farmer to drain the last marsh, graze the last woods, or slash the last grove in his community, because in doing so he evicts a fauna, a flora, and a landscape whose membership in the community is older than his own, and is equally entitled to respect." Leopold believed that "when a farmer owns a rarity he should feel some obligation as its custodian," but at the same time, he believed that "a community should feel some obligation to help him carry the economic cost of custodianship."[14] As is so often the case, Leopold's words were wise then and remain so today.

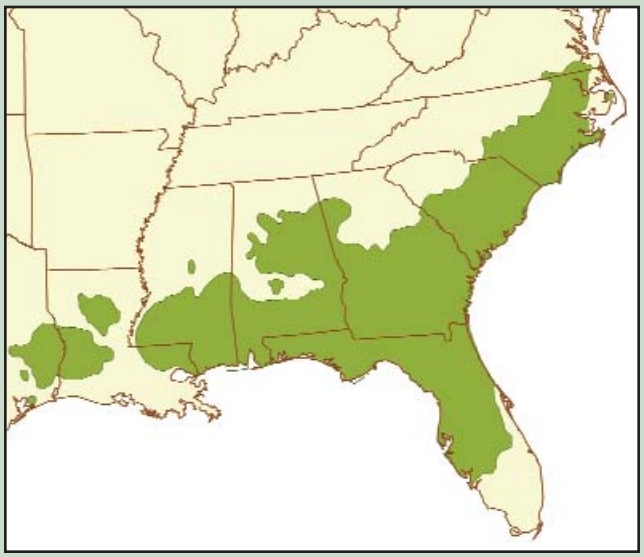
As Leopold made clear, land ownership carries responsibilities as well as rights. Among those responsibilities is that landowners abide by minimum standards of land stewardship. For example, it is reasonable to ask that landowners not destroy the last habitats on which an endangered species survives. And some lands, such as wetlands and floodplains, are inherently more sensitive than others. Because the destruction of wetlands moves pollutants and potential floodwaters on to the next landowner downstream, society has reasonably asked landowners to refrain from draining them without a good reason and some effort at mitigation. Yet,

Using Incentives to Restore Longleaf Pine

The longleaf pine ecosystem once covered some 74-92 million acres of the southern coastal plain from southern Virginia south to central Florida and west to eastern Texas. Longleaf is America's most biologically diverse temperate forest ecosystem and is home to over 20 federally-listed endangered species. Today, longleaf covers less than 3 million acres across its entire range - much of which is highly degraded. About 70 percent of the remaining longleaf pine forest is found on private land.

Susan Ladd Miller, USFWS

Financial incentives and technical assistance are vital to the future of the longleaf forest. Conservation and restoration of longleaf pine requires reforestation with longleaf seedlings, restoration of native ground cover, control of hardwoods and invasive species, use of prescribed fire, and selective timber harvest. Each of these activities can entail substantial costs and many require technical expertise that most landowners do not have.



Incentives are already helping conserve and restore longleaf. About 180,000 acres of longleaf have been planted on former agricultural lands through the Conservation Reserve Program. Moreover, through safe harbor agreements, landowners are managing over 300,000 acres for the benefit the endangered red-cockaded woodpecker. Still, far more needs to be done. Expansion of these and other programs can help bring back this great southern forest.

these expectations, expressed in regulations, can only accomplish part, and in many cases a small part, of our environmental goals. Considering the overwhelming importance of land management, it is surprising how little emphasis has been given historically to providing incentives for landowners to produce the public goods that we value from private land.

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> *-Aldo Leopold*

An expanded focus on incentives is needed if only because few habitats in the United States can now retain their value without human care. Modern society has stopped or displaced many of the natural forces that maintained habitats and ecosystems, and only the efforts of people can replace them. Once abundant landscapes like prairies and longleaf pine forests existed only because of regular fires, typically started by lightning strikes. As a result of man-made barriers to fire and fire suppression, the fires needed to sustain these ecosystems will no longer occur unless we set and manage them ourselves. Non-indigenous plants and diseases that have been introduced intentionally or accidentally have spread wildly and transformed American landscapes, killing off elms and hemlocks in the east and now threatening oaks and redwoods in the west, and covering millions of acres of prairies and wetlands with plants that provide little value to native wildlife. Scores of endangered species will not survive unless private landowners help control the invaders.

Expanding Economic Incentives for Conservation on Private Land

Replacing these lost functions requires considerable effort and expense. Even those who most actively embrace regulation must recognize that just prohibiting landowners from doing harmful things is not enough to achieve environmental goals. Those can often only be attained if landowners manage their lands in beneficial ways. Yet it is both unreasonable and impracticable to imagine that landowners will restore native vegetation, use prescribed fires, control invasive species, or undertake a host of other activities needed to conserve grasslands, forests, and other ecosystems without meaningful incentives. While some landowners are generously willing to put up some of the funds to achieve environmental goals, many cannot realistically do so on their own. Indeed, in some regions, restoring natural ecosystems on degraded lands can be almost as costly as the land itself.

Well-designed economic incentives are vital to help underwrite the costs of habitat restoration and management activities on private land. Incentives can also help landowners make up for the opportunity costs (i.e., forgone revenue) associated with taking lands out of production and placing them into conservation use. In some cases, habitat restoration activities can increase forage production on grasslands and timber production in forests but the cash outlays required to implement such activities are a deterrent to landowners. Here again, economic incentives can help landowners increase both the productive capacity of their lands and the quality of wildlife habitat. Less tangible, though equally important, economic incentives also engender landowner enthusiasm for conservation initiatives. When the public is willing to assist landowners in protecting environmental resources, landowners are subsequently willing to do more themselves.

Providing Technical Assistance Is Also Vital

Managing land to sustain natural habitats can be a complex, technically challenging proposition. Moreover, landowners, for the most part, already have jobs and family responsibilities that leave little time for researching, planning, and implementing conservation activities on their lands. If nothing else, landowners require experienced field advisers to give them up-to-date technical advice and to assist them in carrying out land management activities.

Ron Nichols, Natural Resources Conservation Service

An Alaska landowner and USDA District Conservationist discuss irrigation and controlling weeds as part of a sustainable agriculture system.

For many landowners, access to sound land management advice may be more valuable than economic incentives. For example, ranchers may need expertise on range management, restoration of native grasses, and control of cheat grass and other invasive species. Alternatively, forest landowners may benefit from the latest research on how to regenerate native tree species such as red oaks and Atlantic white cedar on sites where they are declining or absent. In the case of endangered species conservation, landowners often do not understand the habitat needs of such species, know whether their lands contain suitable habitats, or know how to go about restoring habitat for such species.

In many cases, economic incentives may be of little use without technical expertise to see that monies are spent so as to meet landowners' objectives while benefiting the environment. Land grant universities and their landowner extension programs have played an important role in counseling landowners on cropland, rangeland, and timberland management. Likewise, federal and state agencies such as the United States Department of Agriculture's Natural Resources Conservation Service also provide information. But, there remain large gaps in the types of information that are provided to landowners, particularly when it involves restoring rare habitats and species. Improving and expanding the information that landowners receive will dramatically advance conservation on private land.

Avoiding Perverse Incentives

In addition to offering landowners positive economic incentives and sound land management advice, governmental policies ought not create perverse incentives that discourage landowners from protecting habitat, or, worse, encourage actions to make lands inhospitable to rare wildlife. A case in point is the Endangered Species Act's prohibition against private landowners destroying the habitat of endangered species. While this prohibition protects areas on private land where endangered species already exist, it has also discouraged landowners from restoring and enhancing habitat in other areas, because the "reward" for doing so would be restrictions on the use of their land. For example, in the early 1990s, one landowner in North Carolina proclaimed that he would clearcut pine forest around existing endangered species habitat in order to ensure that his population of endangered species would not expand and thereby restrict timber harvest in other portions of his property.

In recognition of this dilemma, the Department of Interior has adopted a nationwide policy, called "safe harbor," which removes such disincentives for endangered species habitat restoration and enhancement. Landowners who enter into safe harbor agreements commit to undertake land management activities that benefit endangered species, including restoration of native vegetation, use of prescribed fire, and removal of invasive plants. In return, participants receive an ironclad assurance that they will not be saddled with additional regulations if populations of endangered species increase on their lands as a result of their stewardship activities.

Glen Mills, Texas Parks and Wildlife Department

The number of northern aplomado falcons in the U.S. has increased dramatically thanks in no small part to private landowners willing to re-introduce falcons on their lands under safe harbor agreements.

Though the program is just eight years old, safe harbor agreements are proving that merely removing disincentives to conservation can produce dramatic results. Currently, over 2 million acres of private land are enrolled in safe harbor agreements benefiting many different endangered species in a dozen states. For example, forest tracts supporting about a quarter of all endangered red-cockaded woodpeckers found on private land are now being managed for the benefit of the bird pursuant to safe harbor agreements. Even in states such as Texas, where opposition to the Endangered Species Act among private landowners has been intense, landowners are readily enrolling their lands in safe harbor agreements for such species as the northern aplomado falcon, Attwater's prairie-chicken, golden-cheeked warbler, and black-capped vireo.

Tax policies can also create perverse incentives for conservation on private land. During the first half of the last century, taxation of forest lands in the south encouraged many landowners to clearcut lands and then abandon them to avoid paying excessive property taxes. Property taxes still remain a problem in some states. Most states provide preferential tax treatment for lands used for agricultural or timber production. As a result, landowners may crop, graze, or timber lands in ways that can degrade habitat solely to maintain preferential tax treatment. The State of Texas has addressed this concern and its solution is spurring landowners to take special steps to protect wildlife. Landowners there who enter into an approved wildlife management agreement receive the same preferential tax treatment as agricultural landowners. As a result, landowners all over the state are managing large landholdings to benefit game and non-game wildlife.

Perverse incentives can also take the form of difficult and complex permitting requirements. For example, landowners who wish to restore habitat for the endangered Karner blue butterflies in the Great Lakes region through use of prescribed fire run the risk of accidentally destroying the eggs or larvae and thereby running afoul of the Endangered Species Act. Obtaining appropriate permits from the U.S. Fish and Wildlife Service to undertake habitat restoration activities that run the risk of harming individuals of a species (as is the case with many endangered species) can be a lengthy and onerous process, replete with red tape. Some landowners may conclude it simply is not worth the bother.

Removing perverse incentives is a necessary first step to effective conservation. Ensuring that private stewardship is rewarded and that it is made easy by both federal and state laws is also an important part of encouraging landowners to manage their lands in ways that conserve natural ecosystems.

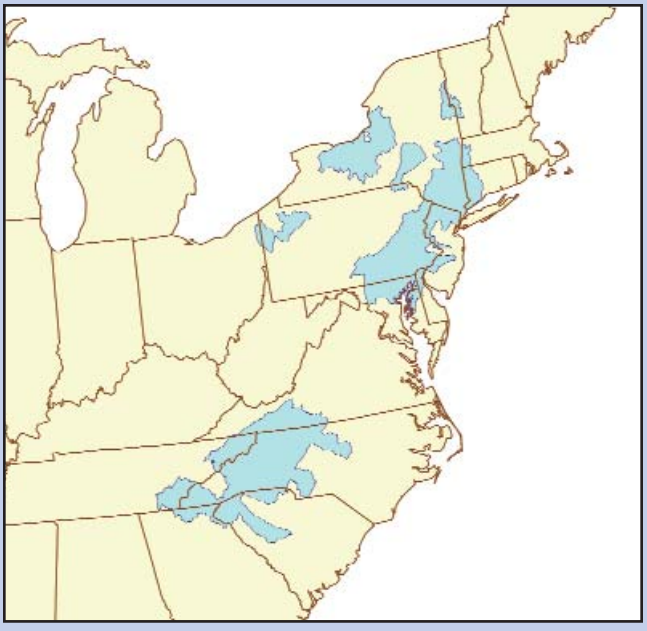
The Opportunity

While the environmental challenges loom large, the expansion and improvement of incentive policies and programs have great potential to achieve many environmental goals. Most importantly, many private landowners have demonstrated a strong conservation ethic and a resulting willingness to undertake conservation on their lands. Surveys of non-corporate, private forest landowners in the United States, for example, have demonstrated that a relatively small percentage of landowners have timber production as a primary objective. Many more rank wildlife habitat, recreation, and other non-financial benefits as primary forest management objectives.[15] Many farmers also have a strong conservation ethic. Indeed, demand for financial and technical assistance under USDA conservation programs has outstripped available resources.[16] Landowners have also shown considerable willingness to protect and restore habitat for rare species. The success of safe harbor agreements demonstrates what many had previously argued was an impossibility: that private landowners would embrace conservation of federally-listed endangered species.

Recovering the Endangered Bog Turtle Through Incentives

Gary Stolz, USFWS

In New England and the mid-Atlantic region, the abandonment of farming over the last 100 years has allowed many lands to return to dense forest. While an increase in forest cover benefits many species, others dependent on more open habitats are declining. One such species is the bog turtle, listed as threatened under the Endangered Species Act. America's smallest turtle, bog turtles inhabit shallow, open wetlands often found on working farms. In the last 30 years, bog turtles have vanished from more than 50 percent of wetlands they once occupied as farms disappear, trees overgrow wetlands, and development reduces water quality and fragments remaining habitat.



Since over 90 percent of wetlands occupied by bog turtles are on private lands, the species' recovery will depend upon landowner involvement. Active wetland management is essential to prevent forest encroachment and the spread of invasive plants such as multiflora rose and purple loosestrife. Interestingly, controlled grazing offers one of the best management techniques because cattle consume woody vegetation and open up shaded wetlands. Recovery also depends upon the protection of suitable habitat networks on agricultural land from urbanization.

Technical and financial assistance is needed to encourage landowner involvement and to fund management efforts. Further, because much of the best remaining bog turtle habitat is on farms increasingly under the threat of development, incentives are needed to preserve agricultural lands that maintain bog turtles and the habitats they depend upon.

The conservation ethic among landowners likely results from two factors. First, as the environmental consciousness of all Americans has risen over the last several decades, so too has that of private landowners. Second, there is a substantial segment of landowners who no longer need to make their primary income from farming, ranching, or forest management. While food and fiber production remain important, there is a growing number of landowners who own land for other reasons, including wildlife conservation.

The conservation ethic of private landowners is still a relatively untapped resource. Most importantly, conservation incentives, including economic incentives, technical assistance, and removal of disincentives, have proven especially important in encouraging landowner participation in a variety of stewardship activities. But, there is a great deal of work to be done if this opportunity to advance conservation on private land through incentives is to be harnessed.

Seizing the Opportunity

Advancing conservation on private land through incentives requires a significant new commitment from the federal government, policymakers, and the conservation community. In particular, there are four areas that deserve attention. First, USDA must significantly improve the implementation of its conservation programs by targeting them to lands with important environmental resources and by providing sound technical advice to landowners. These programs provide billions of dollars to landowners but must be dramatically improved. Second, the Department of Interior's conservation incentive programs, including financial incentives, safe harbor agreements, and similar tools, must be significantly expanded. Third, tax incentives that reward land conservation and restoration of rare ecosystems must be developed. Fourth, markets for the environmental services provided by conservation on private land should be expanded.

Making Better Use of the Farm Bill

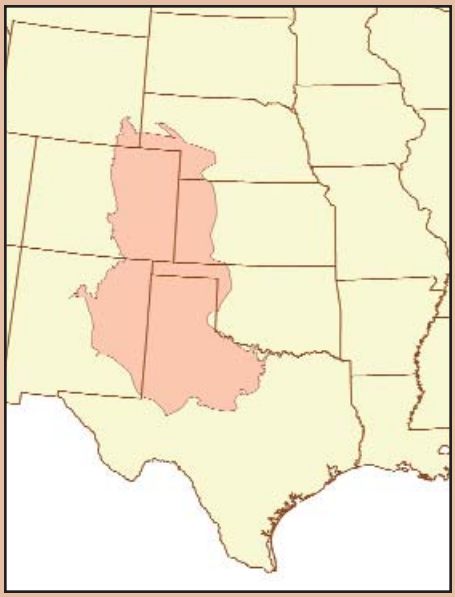
In 2002, Congress re-authorized the nation's agricultural programs (a.k.a. "the Farm Bill"). While Congress missed an opportunity for major expansion of conservation programs, enormous opportunities remain to advance conservation on private land through the Farm Bill. Roughly $17.5 billion is available through September 2007, with the new funding spread across programs that temporarily reestablish wildlife habitat on farmland, permanently restore wetlands, finance cost-share payments for wildlife habitat enhancement, and provide economic incentives for virtually any kind of conservation practice on cropland, rangeland or non-industrial private forest land.

While the funding is significant, there is no guarantee that these funds will be spent on the types of incentives that produce the most environmental bang for the buck. For example, the Conservation Reserve Program (CRP) has idled nearly 40 million acres of cropland through planting grasses and trees. But, a significant portion of CRP funds has provided for the planting of non-native vegetation or has supported activities that do not provide benefits for rare species and ecosystems.

Shortgrass Prairie: Where the Buffalo Roamed

Shortgrass prairie once stretched from New Mexico to Canada in an almost continuous swath across the arid plains east of the Rocky Mountains. Found in areas of poor soil, it is typified by ankle-high, warm season grasses and scattered succulents. Mammal abundance once rivaled the African Serengeti with roaming bison, pronghorn, and elk, and enormous prairie dog towns creating a mosaic of heavily grazed areas and recovering grasslands.

Less than 30 percent of intact, shortgrass prairie remains, and in what is left, the traditional effects of constantly shifting grazers (i.e., bison, pronghorn) have given way to fenced herds of domestic cattle with a more uniform effect on the landscape. Much of the avifauna that characterizes the shortgrass ecosystem has been experiencing alarming declines, partially due to increasing homogeneity of remaining natural habitats. Continued grazing is essential to preserve remaining prairies, but landscape-scale management is needed to reinvigorate remaining habitats and diversify range conditions in time and space. Maintaining the economic viability of private lands operations is essential to prevent conversion of prairie to other uses.



With over 70 percent of remaining habitats in private hands, a comprehensive system of incentives and technical advice will be needed to manage cattle in a way that enhances native biodiversity. In particular, assistance in restoring native grasses and instituting rotational grazing and development of economic incentives to protect and restore prairie dogs would significantly advance the restoration of shortgrass prairie.

For USDA incentive programs to succeed, USDA must do a better job of targeting conservation dollars to key areas and prioritizing the types of conservation activities that those dollars support. For example, USDA should:

- Make extensive use of new Farm Bill legislation that allows the Secretary to commit conservation funding from several programs to state and local efforts that address the country's leading environmental challenges on private lands.
- Ensure that funding under the Environmental Quality Incentives Program (EQIP) targets conservation of at-risk species and provides landowners with enhanced incentives for especially beneficial practices. Encourage states to develop EQIP ranking criteria that reward proposals from landowners who agree to protect and restore rare ecosystems.
- Promote rules for the Conservation Reserve Program (CRP) that allow states to target funds to restoration activities in areas containing rare ecosystems and wildlife.
- Develop CRP rules that promote restoration of native plants, that establish incentives for important habitat maintenance activities, and that limit destructive practices on CRP lands.
- Improve the Wildlife Habitat Incentives Program by promoting projects that focus on endangered species and that reconnect fragmented habitats.
- Provide ample funding for technical assistance to landowners for activities that benefit rare ecosystems.

Expanding and Improving Endangered Species Conservation Programs

Since 1995, the Department of Interior, which oversees the federal Endangered Species Act, has developed several programs to encourage the voluntary conservation and restoration of habitat for endangered species. Interior has developed national policies to encourage landowners to enter into safe harbor agreements and similar agreements for species that are candidates for listing under the Endangered Species Act (e.g., candidate conservation agreements with assurances). Interior has also had modest funding to assist landowners in entering into safe harbor, candidate conservation, and similar agreements. Most recently, the Bush administration has initiated a $10 million Private Stewardship Grants Program and a $40 million State Landowner Incentive Program, both of which are designed to provide incentives for private landowners to protect habitat for rare species.

While nearly 3 million acres are enrolled in these voluntary agreements, far more must be done to bring these programs to the scale necessary to conserve rare species on private land. In particular, the Interior Department must make a serious effort to reduce the cost, complexity, and delay that deter many landowners from entering into safe harbor and candidate conservation agreements that could significantly aid the conservation of imperiled species. With such an effort, it ought to be possible to triple the number of landowners participating in these programs over the next decade. Providing regulatory assurances to landowners participating in various Farm Bill conservation programs would foster greater use of those programs for purposes beneficial to rare species. To achieve these and related goals, the Department of Interior should:

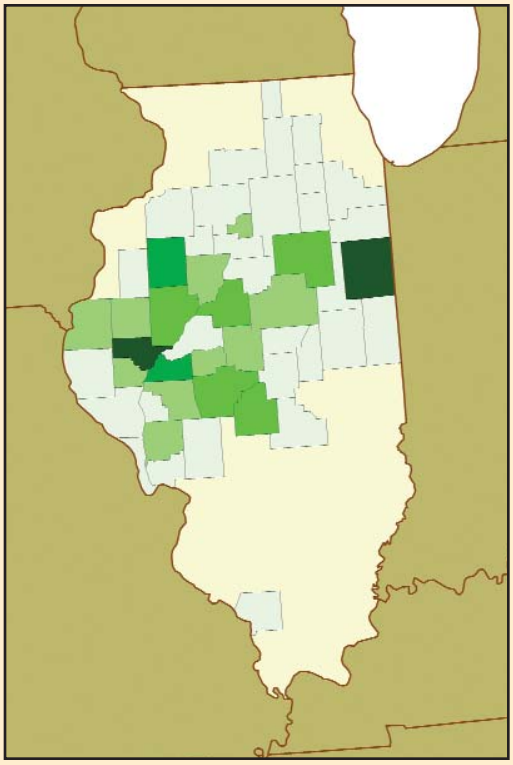
- Significantly increase efforts to expand safe harbor and candidate conservation agreements with assurances to new species and regions.
- Dramatically increase funding for the Private Stewardship Grants Program and State Landowner Incentive Program.
- Work with USDA to provide safe harbor assurances to participants in Farm Bill conservation programs who agree to manage lands for the benefit of rare and endangered species.
- Improve the safe harbor and candidate conservation agreements with assurances policies by making them more landowner friendly.
- Reduce red tape and speed the approval of voluntary conservation agreements like safe harbor and candidate conservation agreements.
- Remove disincentives for landowners who undertake activities intended to achieve long-term restoration of endangered species habitat but that may inadvertently harm individuals of that species in the short term.

Providing Tax Incentives

Tax policy can have a sizable impact on the protection and management of private land. Conservation groups have placed significant emphasis on creating preferential federal tax treatment for gifts of lands or easements to conservation organizations. These efforts are worthwhile. Less thought has been given, however, to the use of tax incentives to promote better management and stewardship of private land. For example, while landowners can receive a tax credit for costs associated with reforesting agricultural lands or cut-over forestlands, a landowner who spends money to restore habitat for rare, threatened, and endangered species receives no such credit, much less a deduction. In addition, although incentive payments under many USDA programs may be excluded from taxable income, payments under some similar Department of Interior conserva-

Protecting the Illinois River Through CREP

Running some 270 miles from Joliet in northeastern Illinois and emptying into the Mississippi River some 40 miles above St. Louis, the Illinois River is vital to both the economic and environmental health of the state. The river's watershed covers 44 percent of the state, or over 30,000 square miles and was once characterized by extensive wetlands, backwater lakes, and side channels that surrounded the river and its 12 main tributaries. Construction of dams and levees has destroyed many of those natural features. So, too, however, has sedimentation resulting from agricultural activities and urbanization.



In 1998, the State of Illinois and the U.S. Department of Agriculture launched a Conservation Reserve Enhancement Program (CREP) to provide $250 million in incentives to landowners to help restore and conserve the Illinois River. The goals of the plan include reducing sedimentation by 20 percent, lowering nutrient loading by 10 percent, and increasing waterfowl and native fish populations. Under the CREP, landowners in the river's watershed can enroll lands adjacent to rivers and streams and receive payments for planting trees and grasses, restoring wetlands, installing filter strips, or other conservation activities. Contract periods are from 10-15 years, though willing landowners can receive bonus payments from the state for longer contract periods, including permanent conservation easements. Technical assistance is also provided in developing conservation plans.

Landowner response has been overwhelming. Currently, over 106,000 acres are enrolled and the state has requested an increase on the cap on enrollment to 232,000 acres. Says one participating landowner, "CREP is not only good stewardship, but can be better financially than corn or soybeans."[17]

tion programs may not be excluded, a disparity of treatment for which there is no coherent rationale. Local and state tax laws also provide fertile ground for establishing conservation incentives. Replicating in states across the country Texas' preferential property tax treatment for landowners who manage lands for wildlife could be a boon to wildlife. Specific tax incentives that could benefit wildlife habitat include:

- Congress should pass legislation to provide landowners with a tax credit for expenses associated with activities undertaken pursuant to safe harbor agreements, candidate conservation agreements with assurances, and similar agreements that benefit rare, threatened, and endangered species.
- Congress should make payments under all Department of Interior conservation cost share programs fully excludable from taxable income.
- States should follow Texas' lead and make properties that are managed for the benefit of wildlife eligible for preferential property tax treatment.

Markets for Environmental Services

While government incentives are clearly of great importance, new markets for the environmental services provided by land conservation are being developed that could eventually provide sizable incentives to landowners for land stewardship. For example, there is a growing, albeit speculative, market for greenhouse gas emissions reductions provided by farmers and forest landowners who change their land management practices. By altering cropping practices, planting trees, or protecting forests, landowners can sequester carbon from the atmosphere in soils and vegetation and thereby produce a commodity that can be marketed to industrial emitters of greenhouse gases.

Markets are also emerging for landowners who conserve endangered species on their lands. For example, in Alabama, the Mobile Area Water and Sewer System is currently operating a conservation bank for the benefit of the federally-threatened gopher tortoise on lands it owns surrounding a local reservoir. Developers who seek to build on gopher tortoise habitat can purchase credits from the Water and Sewer System which will then permanently set aside a portion of the bank for the benefit of the tortoise. Such banks hold the potential for landowners to benefit economically from endangered species conservation.

Properly structured, markets for such environmental services could prove important in turning the public's demand for environmental protection into income-generating activities for landowners. The following recommendations could spur further development of markets for environmental services provided by private land conservation:

- The Department of Interior should adopt a national endangered species conservation banking policy that creates clear and consistent standards for the development and management of conservation banks.
- The Congress should help fund pilot carbon sequestration projects on private land. When Congress agrees to cap industrial greenhouse gas emissions, companies should be allowed to purchase greenhouse gas emissions reductions from landowners who increase carbon sequestration on their lands.

Conclusion

America's success in achieving many of its environmental goals depends upon the willingness of private landowners to protect, restore, and conserve the forests, grasslands, croplands, and wetlands that they own. Though land-use regulation has an important role to play, it is insufficient and incapable of accomplishing all that needs to be accomplished on private lands. Fortunately, there is a strong conservation ethic among landowners in the United States. With the right incentives, landowners have shown that they are willing to restore habitats for rare species, protect wetlands, and undertake countless other activities to improve the environment.

Much more must be done, however. Policymakers and government agencies must expand and make better use of existing incentive programs, provide landowners with technical advice on restoring and protecting ecosystems, and remove disincentives to conservation on private lands. By developing more effective conservation incentive programs, we can help landowners protect the natural resources that all Americans value.

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