

PUBLIC LANDS

FEDERAL ESTATE:

Is Bigger Better?

By Holly Lippke Fretwell



To the Reader

“Federal Estate: Is Bigger Better?” by Holly Lippke Fretwell is the third in the PERC series, *Public Lands*. The focus of this report is the growth of federal lands and the deteriorating quality of federal land management. Budgets for land management agencies have increased while the environmental health of federal lands has declined. The reason is political pressures and fiscal control emanating from Washington, D.C. Current federal land management policies are economically wasteful and environmentally destructive. If we are to protect valuable lands we must reform land management policies and encourage private conservation. President Clinton’s Land Legacy Initiative will add even more land to a deteriorating federal estate, exacerbating a problem that already threatens the conservation of America’s most valued lands.

The first *Public Lands* report, “The Price We Pay,” examines the fiscal accountability of our federal land management agencies.

Although the federal government manages a wealth of natural resources, it consistently loses money on timber, grazing, and recreation. The second report, “Forests: Do We Get What We Pay For?” shows that regardless of funding, our federal land agencies are poor land stewards. Federal land management could be improved by changing incentives and removing obstacles for land managers.

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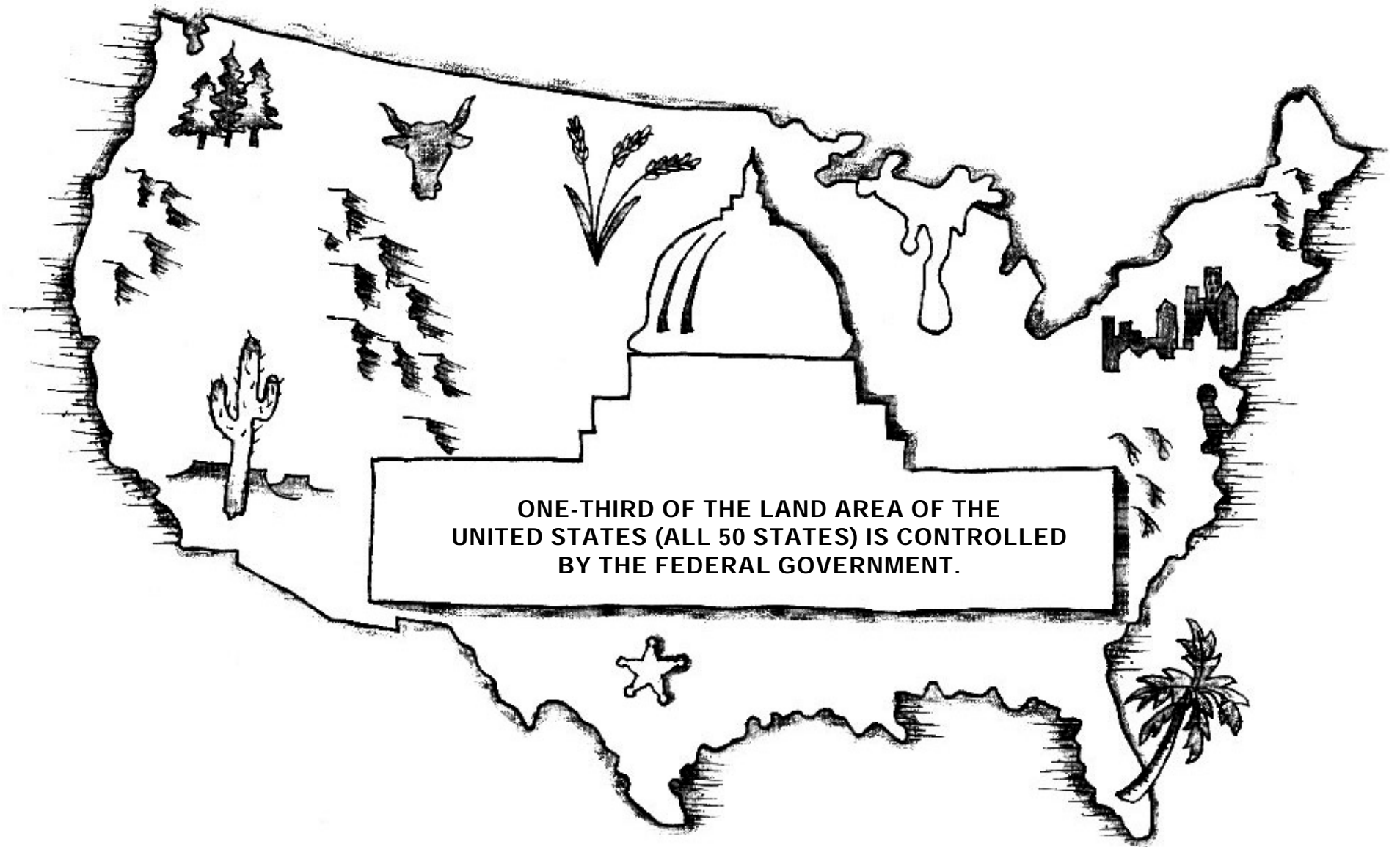
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**ONE-THIRD OF THE LAND AREA OF THE
UNITED STATES (ALL 50 STATES) IS CONTROLLED
BY THE FEDERAL GOVERNMENT.**

Introduction

Land conservation is at the top of the environmental agenda for the year 2000. A mounting tally of surveys and public opinion polls confirm that Americans support efforts to care for and protect our natural resources, retaining their value for open space, wilderness, and recreational uses. President Clinton has responded with his Land Legacy Initiative, a proposal to spend \$1 billion annually on land conservation.

But seldom acknowledged is the fact that the federal government has never stopped acquiring more and more land for conservation purposes. Since 1960, the major federal land agencies have added 33.6 million acres to their holdings, an area nearly the size of Florida.¹ Today, these agencies control more than 612 million acres or more than one-fourth of the land area of the United States.²

But bigger is not better. Adding to the federal estate does not automatically mean that land is conserved or that valuable resources are protected. Acquisition and conservation are not synonymous terms. Even as budgets for our land management agencies soar into the billions, poor federal land stewardship is widely documented. Our national parks have a \$6 billion maintenance backlog (Satchell 1999, 3), 39 million acres of national forests are at risk to catastrophic wildfire (GAO 1999, 29), and the majority of our federal grazing lands are in less than fair condition (GAO 1988). This report shows how alternative land management strategies would correct the problems posed by an ever-expanding federal estate.

Although the majority of Americans support land conservation, few know what it entails. Conservation is the protection and preservation of a natural area so that it may be used for any number of purposes, such as recreation, wildlife habitat, or even commodity production. Land conservation requires management and funds dedicated for the care of the land. Merely placing land into federal ownership without addressing its management in no way ensures its conservation.

The Congressional Budget Office has gone so far as to suggest a freeze on federal land acquisitions. A 1999 report asserts that “land management agencies should improve their stewardship of the lands they already own before taking on additional management responsibilities.” The report goes on to say that “environmental objectives such as habitat protection and access to recreation might be best met by improving management in currently held areas rather than providing minimal management over a larger domain” (Congressional Budget Office 1999, 68).

If land conservation is the objective, the federal government’s current land management policies will not provide us with the stewardship that we want. Throughout our history, private individuals and groups have offered sound resource conservation. Reforming our land management agencies and changing our institutions to encourage greater private stewardship could provide us with the quality of land conservation that Americans demand and deserve.

Propelling Growth

With little regard to the costs, many politicians and much of the conservation community support expanding federal acreage. “A major increase in federal funding for land acquisition has long been needed. . . . There is a tremendous backlog in land purchases,” says Sierra Club Executive Director Carl Pope (*San Diego Earth Times* 1999). Ron Tipton, a vice president with the National Parks Conservation Association, would like to see more growth in the National Park System and more money for management.³ Yet more money without other critical reforms will not result in resource protection.

The president’s Land Legacy Initiative, as set forth in the FY2000 budget proposal, specifies \$442 million for federal land acquisition and \$558 million in matching grants to states and communities for the protection of local green spaces. That comes to more than \$1 billion for what the administration calls “resource protection.” But none of these funds are available for federal land management. The president’s initiative simply adds more acreage to an already dysfunctional federal estate.

Similar bills have been introduced in the House and Senate. Republican Congressman Don Young is sponsoring the Conservation and Reinvestment Act (CARA, HR 701), which is matched with the Senate version (S. 25) sponsored by Senator Mary Landrieu. Other bills include the Resources 2000 Act sponsored by Senator Barbara Boxer (S. 446) and Representative George Miller (H.R. 798). Each of these proposals specifies funding from the Land and Water Con-

servation Fund (LWCF) for federal land acquisition.

The president’s Land Legacy Initiative and analogous bills are a contemporary version of an ongoing effort to expand the federal estate. Lands under federal control have grown continuously during the past forty years. Since 1960, the four federal land agencies—the Bureau of Land Management (BLM), U.S. Fish and Wildlife Service, U.S. Forest Service, and National Park Service (NPS)—have added 33.6 million acres to their domain (see table 1), an area nearly the size of Florida. This growth has averaged 840,000 acres each year for the past forty years, which is the equivalent of adding an area greater than the size of Rhode Island to the federal estate every year.

Federal lands have increased more than six million acres in the 1990s alone. The National Park Service added 3.4 million acres and 25 new units. Five national monuments have gained national park status and expanded their borders. The national refuge system under the Fish and Wildlife Service has added 24 new units, incorporating 2.7 million new acres.

The major federal land management agencies have continued to expand the land under their control until it now totals an area six times the size of California or approximately one-fourth of the country.

But that is not all the land under federal control. U.S. military installations claim an additional 18 million acres (Department of Defense 2000, 3). The Bureau of Reclamation controls 8.5 million acres.⁴ There are 11.7 million acres

Table 1
Federal Land Acreage
(millions of acres)

Agency	1960	1998	Change	Percent Change
Bureau of Land Management	352.2	243.6	(108.6)*	(31 %)
Fish & Wildlife Service	16.0	93.3	77.3	482 %
Forest Service	184.7	191.8	7.1	4 %
National Park Service	25.7	83.5	57.8	225 %
Total	578.6	612.2	33.6	6 %

* Ten million of these acres were submerged lands in Alaska that were removed from the BLM land base estimates. The remaining acres were transferred to other federal agencies under the Alaska National Interest Lands Conservation Act.

Sources: Data compiled from BLM (various years); Bureau of the Census (1975); Forest Service (various years); NPS acreage provided by Cindy Ree, Office of Communications, NPS, by fax, June 29, 1999, and Earlene Malloy, Land Resources Division, NPS, by fax, August 1, 1996; acreage for Fish and Wildlife Service provided by the Division of Realty, by fax, June 1, 1999; Alaska conveyance statistics provided by Ed Bovey, BLM Public Affairs Officer, Anchorage, by fax July 22, 1999.

under the control of the U.S. Army Corps of Engineers (2000). The Conservation Reserve Program, run by the Department of Agriculture (USDA) controls another 33 million acres, although ownership remains in private hands.⁵ Finally, the Wetlands Reserve Program, a joint project of the Fish and Wildlife Service and the USDA, manages 500,000 acres (Heimlich et al. 1998, 31, 42).⁶ When the acreage from these agencies is added to that already controlled by our land

management agencies, the total comes to more than 700 million acres or one-third of the nation under federal control. And even this is not a complete accounting.⁷

Although a variety of federal agencies and funding mechanisms have been involved in the expansion of the federal estate, since the 1960s federal land acquisition has been propelled by the LWCF. Established by Congress in 1965, the LWCF was created to ensure all citizens of the

United States access to quality outdoor recreation. Its legislated purpose is to provide federal assistance to the states in “planning, acquisition, and development of needed land and water areas and facilities” and to provide funds for federal land acquisition.⁸

Funds provided to the states can be used for land acquisition as well as a wide variety of other undertakings related to recreation such as trail maintenance, wildlife habitat enhancement, and even facility construction. LWCF matching funds for up to 50 percent of the cost of these projects are made available to state agencies and municipalities.

Quite different rules apply to the use of LWCF funds on federal lands. Funds are restricted to land and water acquisition. No money is available for the improvement, restoration, or management of any federal lands (Americans for Our Heritage and Recreation 2000, 9).

Bankrolled mostly by lease payments from offshore oil and gas drilling, the LWCF has already been responsible for significant expansion to the federal estate. A period of rapid growth of federal lands followed the fund’s creation. From 1965 to 1980, Congress appropriated approximately \$6.5 billion in LWCF funds for federal land acquisition and another \$6.9 billion for state programs.⁹

Of those funds allocated for federal spending, 64 percent were earmarked for acquisition of national park land. The result was a jump in the National Park Service’s average annual growth rate from .2 percent to 10 percent and the addition of six new units per year, doubling the pace of previous decades. It was during this time that the moniker “park-of-the-month program” was bestowed on the NPS.

Beginning in 1980, however, Congress put on the brakes. Funds authorized for the LWCF must be appropriated by Congress before they can be spent. Between 1965 and 1980, nearly 90 percent of the authorized funds were appropriated. Since 1980, however, Congress has appropriated 73 percent of the LWCF funds for purposes unrelated to conservation such as paying down the national debt.¹⁰ During the past twenty years, only \$4.5 billion has been available for federal acquisition and less than \$1 billion for state programs.

With the proposals now before Congress, it appears that LWCF will once again be providing the bulk of the funds needed for an accelerated land acquisition program. Yet none of these proposals have attempted to address growing management and maintenance problems.

Spiraling Costs

Ballooning Budgets

Annual costs for land management have far outpaced the rate at which the federal estate is expanding. Over the last four decades, federal land holdings increased 6 percent, while operating budgets have risen a whopping 262 percent above inflation, far exceeding both the growth in acreage and in visitation.¹¹

Increasing the size of the federal estate does not come cheap. Between 1962 and 1998, federal land acquisition cost more than \$10.5 billion. But land conservation is more than its acquisition. It requires management, which in the case of the federal government can be costly. Managing federal lands during that same 1962 to 1998 period cost \$176 billion, about \$6.6 billion in 1999 alone (Office Management and Budget 1999). Acre by acre, the growth in costs is easier to grasp; management that cost taxpayers \$3

per acre in 1962 more than tripled to an inflation adjusted \$10 in 1997 (see figure 1).

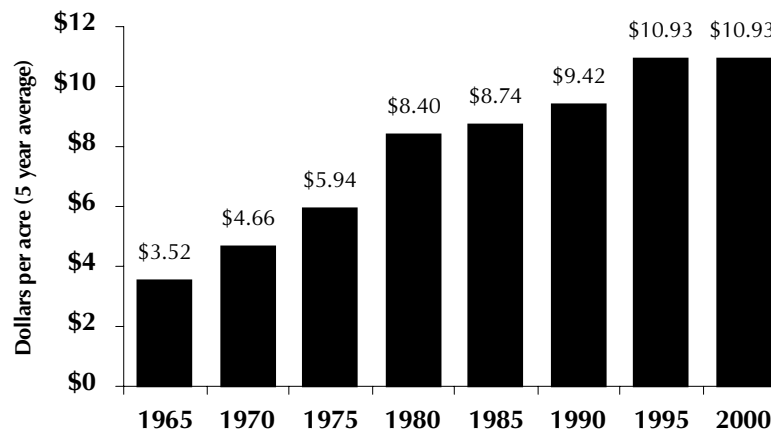
In the National Park Service, operating expenses have risen an average 2.6 percent per year above inflation since 1980, yet the size of the system grew less than 1 percent

per year in acreage and units. Therefore the agency continues to receive more and more money above inflation on a per unit basis. Visits have increased an average of only 2.3 percent per year.¹²

The estimated value of the assets held by the federal land agencies exceeds \$150 billion (O'Toole 1997, 5). Yet this enormous wealth of resources is subject to political mismanagement that deters any reasonable return on the assets.

Between 1994 and 1996 the BLM and Forest Service lost on average more than \$2 billion each year. That is, they generated only \$.50 for every \$1 spent and the National Park Service generated just \$.08

Figure 1
Federal Land Management Costs Are Rising



Sources: BLM (various years); Bureau of the Census (1975); Forest Service (various years); OMB (1999); data for NPS provided by Cindy Ree, Office of Communications, NPS, by fax, June 29, 1999, and Earlene Malloy, Land Resources Division, NPS, by fax, August 1, 1996; data for Fish and Wildlife Service provided by the Division of Realty, by fax, June 1, 1999; Alaska conveyance statistics provided by Ed Bovey, BLM Public Affairs Officer, Anchorage, by fax July 22, 1999.

for every \$1 spent.¹³ The three agencies combined for a total loss of \$3 billion, producing a balance sheet that in the private sector would have sent shareholders fleeing. Unfortunately, taxpayers do not have the same options.

While operating budgets for day to day upkeep and services have grown faster than acreage, provisions for infrastructure, and major maintenance have not followed a similar pattern. In some instances, these capital budgets that provide for long term facility maintenance have actually shrunk. Between 1980 and 1995, spending on construction and major maintenance in the National Park Service declined at an annual rate of 1.5 percent when adjusted for inflation (Leal and Fretwell 1997, 2). As a direct result, the National Park Service has a \$5.6 billion deficit for construction and maintenance and a \$2 billion deficit for resource protection (Satchell 1999, 3). The Forest Service has a \$5 billion maintenance backlog (*Federal Parks & Recreation* 1999, 1).

Throwing more money into the federal trough is not getting us what we want. Eroding forest roads, deteriorating water quality, disappearing wildlife habitat, and the loss of priceless cultural artifacts are just the most obvious indicators that current policies are not providing quality management.

Stewardship Second

Though billions of dollars are spent each year to manage our federal lands, the public is not getting the benefits of multiple-use, fiscal responsibility, or good resource stewardship. Even our most valued national treasures are not well cared for. In Yellowstone National Park, sewage leaks into

nearby native trout streams. At Gettysburg National Military Park, rain from a leaky roof soaks Civil War relics. At Chaco Cultural National Historical Park, nine ancient Anasazi stone structures are collapsing (Satchell 1999, 2).

Surprisingly, few of our national parks have detailed and comprehensive information on the resources they are supposed to be protecting. James Duffus, director of national resource management issues in the U.S. General Accounting Office, has testified that the National Park Service lacks basic information on the condition of its natural and cultural resources. Identification of the resources is the most elemental first step to achieving any scientific understanding or developing procedures for protecting park resources (Sellars 1997, 269). In the meantime, wildlife and cultural resources suffer.

A number of ecologists have also questioned the ability of the National Park Service to fulfill its mission of resource protection. Biologist Charles Kay of Utah State University has documented the destruction of Yellowstone park resources by an overpopulation of elk and bison. The result is starvation of thousands of elk, an overgrazed range, the destruction of plant communities, the elimination of critical habitat, and a serious decline in biodiversity (Kay 1997). Ecologist Karl Hess Jr. (1993, 33) reports similar ecological threats from ungulate overpopulation in Rocky Mountain National Park.

Our national forests, too, are scarred by damaged ecological systems. At least 39 million acres of federal forest land are at extreme risk to catastrophic wildfire (GAO 1999, 29). Nearly a century of fire suppression has literally changed the structure of many forest lands. Once open savannas of ponderosa pine forests are today loaded with

debris. Our forests are 82 percent denser than they were in 1928, and these are not healthy forests by anyone's definition (Fretwell 1999a).

The national refuge system also shows signs of neglect. After twenty-nine years working in the system, Gene Hocutt, retired refuge manager, says buildings are in poor condition, dikes are not well maintained, and activities that help maintain wildlife such as planting grass and nesting cover for birds is not adequate (*Discovery News Brief*, December 31, 1999).

Political Management

Poor land stewardship is first and foremost the fault of the politicians in Washington who are controlling the purse strings for our public lands. It is unlikely that they would make the same decisions if it were their own private property. Few senators would see fit to allow their roofs to leak or sewage to run across the front yard. Entrusting the care of our federal lands to politicians has resulted in damages that are both widespread and well-documented.

The problem lies with the incentives. Because federal land managers depend on Congress for their budgets, they are removed from the costs and benefits of their actions. Rather than applying their professional skills to the resources in their charge, managers spend their time responding to political pressure, conflicting policy goals, and court decisions, while also trying to blaze a trail through the layers of bureaucratic regulations.

The very process by which federal land managers must wrangle their budgets from Congress encourages such political maneuvering and excessive spending (Fretwell

1998, 3–4). For example, Glacier National Park's popular Going-to-the-Sun Highway is a marvel to engineers because it has not yet succumbed to the force of gravity. Melting snow is washing away the foundation leaving voids and two-inch cracks in the pavement (*Wall Street Journal*, November 12, 1999). Though park managers requested funds for road repair and visitor center restoration, they were instead appropriated \$6 million earmarked to rebuild a backcountry chalet system used by fewer than 1 percent of park visitors. A single chalet outhouse has already cost \$1 million. The restoration of the chalets was a pet project of Montana's congressional delegation.¹⁴

Until recently, another perverse incentive for public land managers has been the requirement that user fees from federal lands be returned to the general treasury.¹⁵ Park managers were forced to bear the cost of fee collection, but received none of the benefits. This backward approach generated a mere 7 percent of the National Park Service operating budget in 1995.

Authorized by Congress in 1996, the Fee Demonstration Program is an attempt to get the incentives right. It allows participating managers to retain most revenues raised.¹⁶ By 1998, with only 100 of 381 units in the program, National Park Service receipts had doubled (USDA and USDI 1999, 16). Now that user fees have become a significant part of participating parks' budgets, managers have a clear incentive to improve park upkeep and visitor services. A recent GAO report (1998) lists a host of park improvements as a result of the program.

Although the Fee Demonstration Program encourages managers to raise revenues and spend them on the land and resources, it fails to provide an incentive to control costs

with the portion of the budget that is still congressionally appropriated. When operations are funded mostly by Congress, managers can ignore the economic realities of balancing costs and benefits. For example, in 1996 Yellowstone park managers closed the Norris campground and two museums even though camping receipts exceeded the cost of operations.¹⁷ Because revenues were returned to the general treasury, the managers did not benefit from the profitable operation, but they did bear the cost of running the services. To cut their costs, closure made sense, but it was a loss to U.S. taxpayers and park visitors.

The closure was more than just a cost savings; it was

also a political ploy. Shutting down the popular campground brought an onslaught of public complaints that predictably attracted the attention of Congress. This tactic has been called the Washington Monument strategy because park officials claiming lack of funds once threatened to reduce visitor hours at the most popular site on the capitol Mall. Naturally, the monument's budget increased the next year as did Yellowstone's, which received an additional \$1.8 million.¹⁸

The management of our public lands is political. It is not based on the needs of the resource or the wishes of the public. It is costing us a fortune, but doing little to protect our national resources.

Brokering Land Acquisitions

Private land trusts are actively working to increase federal land holdings. In many cases, these trusts act like real estate agents for the federal government. From negotiating land sales, to holding options on land until federal money is available, to outright purchase and transfer of lands, these nonprofit groups are helping the federal government acquire more land. When that land passes to the federal government, so do the accompanying management costs and responsibilities. Meanwhile, the land trust that put together the deal remains unencumbered by future obligations.

America's three largest land trusts, the Nature Conservancy, the Conservation Fund, and the Trust for Public Land, transferred over one million acres of land to the federal government during the thirty-year period between 1964 and 1994 (GAO 1996, 42). The Nature Conservancy alone has transferred nearly one million acres of land to the federal government since its start in 1951.¹⁹ This represents less than 10 percent of the 11 million acres that the group reports to have conserved in North America. Although designated as conserved by the land trust, the protection of these lands could be questioned considering the federal government's track record for land stewardship.

As a group, U.S. land trusts have transferred about 20 percent of the land they report protected to a public agency.²⁰ Currently, private-to-public land transfers are a relatively small part of the growing federal estate, but without question land trusts do promote increased federal landownership.

The availability of funds for federal land acquisition encourages private groups with their own agendas to identify land that could be added to the federal estate. The more money that is available, the greater the incentive for land trusts to act as federal land agents. Brokering land deals for the federal government is a low-cost way for private trusts to achieve their conservation goals.

The cost of using land trusts as agents is an area that deserves further exploration. In some cases, federal land agencies have paid land trusts too much. In 1992 and again in 1999, the Inspector General reported that the government's interests were not adequately protected in dealing with nonprofit organizations for land acquisition (USDI 1992, 5; 1999, 3).

Though asserting no net profit when transferring land to the federal government, land trusts do sometimes make a profit in addition to a service fee, which is comparable to the commission paid to a real estate agent. Between fiscal years 1995 and 1997, the government reviewed twenty-one transactions between the National Park Service and nonprofit organizations. For the land conveyed, the National Park Service paid \$3 million more than the nonprofits had paid (USDI 1999, 17). But not all private-public transfers generate a cash return. Land trusts also donate land to the federal government or sell it below cost.

When land trusts do transfer land to the federal government, they add that acreage to their tally of conserved lands while avoiding all the expenses associated with managing

the land. The government, already contending with millions of acres of land in poor condition, assumes even more liability. Thus, trusts that transfer lands to federal agencies that have demonstrated poor stewardship in fact fail to fulfill their mission of land conservation. Land trusts would come closer to achieving their goals if they were to forego their role as buying agents for the federal government and become responsible stewards.

Only 11 percent of lands reported protected by private conservation efforts are owned in fee simple terms by the trust. Trusts often prefer not to own lands because of associated management costs. The Rocky Mountain Elk Foundation (2000), for example, rarely retains ownership, but donates or resells acquired habitat to a state or federal

agency that will be responsible for its management. In fact, states and private trusts decline land donations when the costs exceed the land conservation benefits.

The federal government, on the other hand, is obtaining additional acreage with no additional funds for management and no determination of its conservation value. The nonprofits promoting private-to-public transfers never face the real costs of their conservation efforts. The management responsibility is passed to the federal government and the management costs are passed on to the taxpayers. Meanwhile these new accumulations are destined for the same mismanagement and poor stewardship that has been well-documented on other federal lands.

Better Tools

Federal Remedy

It is clear that merely dipping into the federal treasury does not ensure land conservation for the future. Under the current system of command-and-control, politics plays a major role in federal land management. Some pragmatic changes in our federal land agencies, however, could help us get the incentives right.

Recreational Land

Lands historically used for recreation should pay their own way and not rely on congressional appropriations. There is no doubt that park managers can better care for the land than federal overseers in Congress who fail to allocate funds for necessary maintenance like sewer repair, thereby threatening the basic park ecology. The Fee Demonstration Program is a step in the right direction. As land managers generate revenues and decide how the money will be spent, they are allowed to be more responsive to visitors, more expedient with maintenance, and more protective of natural resources (Fretwell 1999b). But we must ensure the long term permanence of fees on all lands with recreational amenities. As it stands now, the Fee Demonstration Program is set to expire in 2001.

Although these user fees have become a valued source of revenues for some land managers, as long as federal managers must kowtow to Congress for budgets, politics

and special interests will continue to play a major role in management decisions. There are, however, some federal lands that could easily become totally self-supporting.

The crown jewels of our national park system could certainly pay their own way and cut their ties to Washington. At Yellowstone National Park where \$20 still covers a seven-day visit for a carload of people, just a \$7 per person daily charge would cover the park's entire operating budget. The same could be done at Yosemite for a \$5 per person daily entry fee and at the Grand Canyon for a mere \$4 per person.²¹ As has been pointed out many times before, the cost would be less than an evening at the movies and is a stupendous bargain compared to the likes of Disneyland.

Commodity Lands

Not all federal lands are equally deserving of preservation. In a world of limited resources, it makes sense to sell lands with lesser conservation values to ensure adequate protection for those worthy of conservation.

Lands rich in commodities but not endowed with critical wildlife habitat could be sold off for the sake of protecting a more sensitive or ecologically valuable area. Already, many uses of these lands, particularly productive uses, are restricted because environmental activists and industry representatives have locked horns creating political gridlock.

For example, many timber sales have been blocked by the regulatory process and others have not been put up for

auction in order to avoid political repercussions. As the Forest Service attempts to appease both environmentalists and the timber industry, harvests in the national forests have fallen by 75 percent since the 1980s. Such gridlock is economically destructive and not necessarily ecologically beneficial. These lands are not being managed for forest health, and national resources are not being conserved. As harvest declines, many national forests have become so dense that they are no longer hospitable to wildlife and are at greater risk to catastrophic fire and disease (Fretwell 1999a). Although our national forests were created to provide timber and protect watersheds, the current management supplies neither.

In cases where lands are rich in both commodities and ecological assets, conservation easements could be attached to the land titles to ensure protection of environmental assets. The Montana Land Reliance, along with many others, has shown how this model allows lands to be productive in private hands, but also ecologically protected by the people who live on the land and care for it—not by politicians in Washington.

The sale or lease of rights of use can accomplish both conservation and productivity goals, given the right incentives. For example, the Montana Department of Natural Resources and Conservation recently used a market-based approach to determine the best use for state land. Unlike federal lands, the department is required by law to secure at least full market value for all uses of state lands. They must be managed to produce revenues for the public schools and other trust beneficiaries.²²

In the spring of 1999, a grazing lease on the Snowcrest property in southwest Montana came up for renewal. A standard grazing lease on this land would have generated

\$267,600 over a twenty-year period. Instead, the department solicited bids for a variety of land uses. The 12,000-acre property was divided into five units allowing different uses including grazing, outfitting, development of cabin sites, and commercial timber harvest. Lessees could bid on any of the uses or the right to restrict any of the uses. For example, on one unit the right to harvest timber was retained by the department but the lessee could have purchased this right restricting any commercial harvest over the twenty-year lease. The winning bids for the five units will generate \$1.25 million more than the standard grazing lease would have generated over a twenty-year period.²³ In the federal budget that amount of money could be a rounding error, but to Montana land managers and their stakeholders, it is a significant sum.

Markets, unlike political planning, accurately reflect how society values the land for different uses and allows for adaptations to meet those desires.²⁴ Markets also ensure efficient commodity production. That is, only those lands economically viable for timber harvest will be cut. Lands valued more for wildlife habitat or recreation will provide for those uses. These uses are not necessarily mutually exclusive.

Habitat Set-Asides

There are some lands under federal management that are not likely to ever pay their own way, but have ecological or cultural value. The land might be critical wildlife habitat, watershed for a large municipality or the site of some historical event. These should be placed under a trust or endowment board as suggested by Anderson and Fretwell

(1999). A portion of the revenues derived from user fees at more popular sites or the sale of other lands could be used as endowment funds to manage these valuable areas.

New Acquisitions

Current federal land management permits new land acquisitions without regard to operating and maintenance costs. Before adding more land to the estate, a detailed accounting of annual operating and maintenance costs should be prepared and, like private land conservators, the federal government should require that funding for proper management be part of the deal.

Land Exchanges

Current federal landownership is often fragmented as a result of nineteenth century government policies designed to encourage western expansion (Nelson 1995, 5–35). Consolidation would reduce fragmentation and inholdings, while also reducing management costs. The land exchange policy that is now used to consolidate land is both inefficient and archaic. It allows managers to trade a tract of federal land for private land of equal value. But it is difficult to determine the value of the land without setting a price and appraisals have been questioned. The complexity of this formal procedure is costly.

A more rational approach would be to permit the outright sale of fragmented blocks and use the proceeds to purchase existing inholdings. Such a process would eliminate the tedious nature of land exchanges and provide for a standard measure of value. A trust fund for land sale depos-

its and withdrawals would allow managers to buy and sell land when it is available (Fitzgerald 2000).

Private Solutions

As an alternative to federal land conservation, private conservation by individuals and groups is a viable option with a long history in the United States. The growing demand to protect land resources has created a new impetus for private conservation through ownership and other legal mechanisms. Whether the land is managed for profit or to fulfill a mission, these private conservators have the right incentives. They face the opportunity costs of alternative uses of the resources. The result is often better land management than that provided by our federal land managers.

Fee Simple

Private landownership is the oldest and simplest form of land conservation. It will continue to exist as long as property rights are well-defined and owners can profit from their investment in conservation or achieve their conservation goals.

Consider Hawk Mountain purchased in 1935 to provide safe migration for hawks in an era when hunting nearly ensured their demise. Located in the Appalachian Mountains of eastern Pennsylvania, hundreds of thousands of hawks migrate past Hawk Mountain each autumn. Early in the twentieth century, hawks were considered vermin because they preyed on other birds. Their legal killing reached hundreds, even thousands, on a single fall day on the mountain's top. Rosalie Edge put an end to the carnage

when she purchased the mountain top and created a sanctuary. Hawk Mountain is now an internationally renowned conservation, education, and research organization (Anderson and Leal 1997, 44-46).

Private purchasers who buy land in the marketplace must also carefully examine potential management costs. Limited finances force them to scrutinize land purchases for the most valuable land and also consider alternative uses for their funds in order to achieve their conservation goals.

The Nature Conservancy only purchases land it considers critical for wildlife habitat or watershed protection.²⁵ Through a scientific inventory conducted on a national scale, the conservancy has prioritized land by its importance for preservation and study. Only land areas that shelter critically threatened species are targeted for purchase.

An essential part of the conservancy's decision-making process concerning land acquisitions involves land management costs. Guaranteeing that adequate funds are available for resource protection is part and parcel of every deal. The Nature Conservancy requires an endowment equal to 25 percent of the land's value before it is purchased or accepted for donation. Likewise, the Audubon Society requires all lands added to its system bring with them funds sufficient to cover management expenses (Smith 1997).

Land Trusts

Increasingly, private conservation is being achieved through land trusts. These private, nonprofit organizations, like the Nature Conservancy, work to protect land for a host of reasons including natural and productive values, as well as scenic, recreational and historic values. Numbering fewer

than forty before 1950, land trusts grew to more than 1,200 by 1998. Today, through ownership, conservation easements, and various land agreements, land trusts manage more than 18 million acres of land throughout the United States (Land Trust Alliance 1998, xi, 197-99).

The high cost of land and its day to day management have encouraged land trusts to experiment with new approaches. Particularly noteworthy are several innovations by the Nature Conservancy, the nation's largest land trust. By developing economic activities that generate revenues, but are also compatible with its mission to protect plants and animals in their natural communities, the conservancy has reduced the cost of conservation.

On the Rocky Mountain Front in Montana, for example, the Nature Conservancy's Pine Butte Guest Ranch supports itself as well as other conservation lands. Abutting the eastern flank of the Bob Marshall Wilderness, the front is where the plains end and the mountains begin. Grizzly bears, wolverines, and big horn sheep roam the land, while bald and golden eagles, and prairie and peregrine falcons find sanctuary in the rock outcroppings. Since 1930, the ranch has been open to paying customers.²⁶ For \$1,250 a week, guests at Pine Butte study natural history, ride horseback, hike, swim, and enjoy a spectacular setting. Adjacent conservancy land is leased for livestock grazing and hay production. The ranch generates sufficient revenues to cover its own operations and to help support other conservation lands on the front such as the conservancy's Pine Butte Swamp Preserve, which borders the ranch. This 18,000-acre wetland and wildlife corridor protects migration paths from the mountains to the plains.

The success of linking conservation with the land's economic productivity inspired the Nature Conservancy to

test a different form of community-based conservation in the forests of southwest Virginia. The Clinch Valley is 75 percent forested and home to animals and aquatic life that depend on the river system's clean water. The conservancy's goal to protect the health of the forest and watershed by reconnecting the costs and benefits of the land's resources led to the creation of the forest bank.

The mission of the Clinch Valley Forest Bank is to work in partnership with private landowners to protect the ecological health and natural diversity of working forests, while ensuring their long-term economic productivity. Private landowners make deposits in the bank in the form of the legal rights to grow, manage, and harvest trees on the land in perpetuity. The landowner retains ownership, but the bank assumes all management costs as well as the risk of financial loss from forest depredation. The forest bank also pays the landowner an annual dividend based on the value of his deposit, like the widely used certificate of deposit from conventional banks. To fund these payments, the forest bank will harvest and sell timber on a sustainable basis. The harvest will provide a steady stream of wood for local mills and businesses. The landowners retain ownership and earn income without risk, and the wildlife habitat and water quality of the Clinch Valley are protected.²⁷

The forest bank has secured more than 500 acres under preliminary deposit. A second pilot site is being designed for southern Indiana.

Conservation Easements

Another tool being widely used to protect land is the conservation easement. Easements eliminate the up-front

costs associated with land purchase and management. Typically, a conservation easement grants development rights to a public entity or private charitable trust in return for tax benefits. For an easement to qualify as a charitable donation under U.S. tax law, it must include land of historic significance, special natural habitat attributes, scenic views, or be suitable for public outdoor recreation or education.²⁸ And it must be contracted into perpetuity.

Because the easement restricts the land's use, it reduces the value of the land, thus entitling the property owner to tax benefits.²⁹ Therefore, taxpayers help pay for conservation easements through a decline in government purchasing power.

■ ***Tax benefits.*** This financial incentive for conservation easements poses the potential problem that easements will be conveyed for their tax benefits rather than their conservation value. Under current U.S. tax law, a conservation easement entitles the landowner to an income tax deduction equal to the value of the easement. It also reduces the value of the land for estate tax purposes.³⁰ For a land-rich, dollar-poor family an easement could be the only method to guarantee the bequest of the entire estate. Estate taxes on a ranch worth \$2 million can easily exceed \$500,000 (Small 2000, 1). This imposition of estate taxes often forces large parcels of land into smaller parcels to generate funds to pay the debt. The provision of a conservation easement can greatly reduce that tax burden.

A more direct conservation incentive would be to remove the burdensome inheritance tax. Eliminating

the tax would ensure heirs the opportunity to retain family property in its entirety, rather than force its division or sale to pay tax debt. It would also allow landowners and heirs to choose the use of their land rather than being forced into a conservation easement that limits the use of their land.

■ ***Perpetual easements.*** Though superior to federal ownership, conservation easements remove specific land uses from the market forever. This distorts local real estate markets and fetters communities as needs and values evolve over time.

The township of Old Mission Peninsula in northern Michigan illustrates this potential downside to conservation easements. In an effort to subdue development and retain open space, the township approved a property tax in 1996 to fund the purchase of development rights.

As the township reduced the amount of land available on the peninsula for development, the remaining lots with development rights shot up in value. While the costs of development rights increased one-third, the price for unrestricted land doubled.³¹ Driving the prices up made construction and development more profitable than selling the development rights to the township. In fact, it gave farmers an even greater incentive to sell their land to developers (Davis 1999).

The permanence of easements eliminates the flexibility of land use, regardless of conservation value or community benefits. Trusts are prohibited from selling an easement on one piece of land to obtain

rights on other land with greater conservation values. Instead, new funds must be raised to acquire and manage these additional lands. As the criteria change for what lands should be conserved, more and more land will be set aside into restricted use.

Future generations for whom we are trying to preserve this land are being cut out of the decision-making process to determine its best use. It is likely that conservation goals a hundred years from now will differ from those of today, but bound by easements made in perpetuity, the land's use must remain as our generation has defined it.³²

This approach, which presumes that our generation knows what is best for future generations, will limit the future use of millions of acres of land, making them accessible to only an exclusive group of owners and managers. It also ignores advances in science and technology that may provide for better conservation. Future improvements in forestry or stream restoration techniques may be prohibited by today's conservation easements.³³ Reserving large tracts of land and limiting their use in perpetuity resembles a return to the centuries old system of feudalism where ordinary people have little chance to own land that is under the control of an elite few or far-away government lords (Meiners and Yandle 2000).

■ ***Restructuring easements.*** Although conservation easements have proven to be an important tool for land conservation, some changes in their structure could make them more efficient over the long term. If easement rights were tradeable, land conservators

could obtain the lands with the greatest conservation values at the lowest cost. Land conservators could decide whether to retain an easement or trade it

based on the conservation value of the land. More lands would be left unrestricted, thus not further inflating land values.

Conclusion

Merely adding more land to the federal estate does not guarantee conservation. President Clinton wants to spend \$1 billion annually to purchase more land, yet no mention has been made of any funds for management.

Conservation is not accomplished by casting the net of federal ownership ever wider. If the goal is to protect watersheds, improve forest health, enhance wildlife habitat, increase recreational opportunities, and the list goes on, our federal land agencies must be reformed. Conservation comes at a high cost and playing politics in Washington to bolster agency budgets is not the solution. Federal land management policies should be changed to provide incentives for land conservation, not just funds for acquisition.

It is clear that the high costs of conservation are precisely the reason that many private groups shy away from fee simple landownership. In cases where taxpayers are not footing the bill, opportunity costs are clear. To ensure the land's long term protection, many conservation groups have sought new approaches that support the land's productive use. Private groups and individuals should be encouraged to play a larger role in land conservation.

Changes that would improve land conservation without adding more land to the federal estate include:

- Lands for recreational use should pay their own way by charging fees and using the revenues to cover costs.
- Land use rights on commodity producing lands should be sold for the highest valued use. The winning bid could be for commercial timber harvest, selective harvest to enhance wildlife habitat, wilderness, recreation or some combination of uses. In some cases, the commodity lands themselves could be sold.
- Income from the sale of land and land use rights should be put into endowment funds to buy or manage lands with higher conservation values, such as those with critical wildlife habitat, scenic value or historic significance.
- Barriers should be lowered to encourage private conservation and good stewardship.

At present our federal land agencies are poor land stewards. Their budgets reach into the billions, yet damage to roads, sewers, buildings, forests and rangelands remain and continue to worsen. Given the right incentives, we can protect areas like Yellowstone and Yosemite and preserve the million-acre Bob Marshall Wilderness in Montana. But forests such as Clinch Valley are better left in private hands.

Notes

1. In Alaska the Bureau of Land Management's primary focus is land conveyance. The Native Allotment Act of 1906, the Alaska Statehood Act of 1958, the Alaska Native Claims Settlement Act of 1971, and the Alaska National Interest Lands Conservation Act of 1980 require BLM to survey all of Alaskan acreage prior to transfer. Therefore, all federal acreage figures in this report exclude land that is legislated for redistribution from the BLM to the state of Alaska under the Alaska Statehood Act of 1958 (P.L. 85-508) and to native Alaskans as part of the Alaska Native Claims Settlement Act of 1971 (43 U.S.C. 1601). Data compiled from BLM (various years); Bureau of the Census (1975); Forest Service (various years); NPS acreage provided by Cindy Ree, Office of Communications, NPS, by fax, June 29, 1999, and Earlene Malloy, Land Resources Division, NPS, by fax, August 1, 1996; acreage for Fish and Wildlife Service provided by the Division of Realty, by fax, June 1, 1999; Alaska conveyance statistics provided by Ed Bovey, BLM Public Affairs Officer, Anchorage, by fax July 22, 1999.
2. Data compiled from BLM (1999); Forest Service (1999); NPS acreage provided by Cindy Ree, Office of Communications, NPS, by fax, June 29, 1999; acreage for Fish and Wildlife Service provided by the Division of Realty, by fax, June 1, 1999; Alaska conveyance statistics provided by Ed Bovey, BLM Public Affairs Officer, Anchorage, by fax July 22, 1999.
3. Personal conversation, Ron Tipton, Vice President for Park Resource Protection Programs, National Parks and Conservation Association, September 13, 1999, Washington, DC.
4. Telephone conversation with Stan Seigal, Bureau of Reclamation, Realty Office, Washington, DC, March 1, 2000.
5. Created under the Food Security Act of 1985, Title XII, the Conservation Reserve Program provides financial payment to farmers and ranchers to enroll in contracts of 10 to 15 years to retire land from agricultural production. As of January 1997, 32.96 million acres were under contract.
6. Initiated under the 1990 Food, Agriculture, Conservation, and Trade Act and revised in 1996, the Wetlands Reserve Program purchases permanent easements, thirty-year easements, and cost-share agreements to restore wetlands mostly converted to cropland.
7. Federal lands not in this tally include the Agricultural Research Service, Soil Conservation Service, lands managed under the Department of Commerce, the Department of Energy, the Department of Health, Education, and Welfare, the Bureau of Indian Affairs, the Department of Justice, the Department of State, the Tennessee Valley Authority, the Department of Transportation, the Treasury Department, and the United States Postal Service.

8. 16 U.S.C. 4601-4, Land and Water Conservation Fund 1965.
9. Figures are in 1998 dollars adjusted for inflation.
10. Data provided by David Whiteman, Congressional Research Service, by fax, March 3, 1997; Zinn (1998).
11. These figures include the Forest Service, the Fish and Wildlife Service, the Bureau of Land Management, and the National Park Service.
12. Data provided by Tom Wade, NPS Socio-Economic Studies, Denver, CO, by fax, July 8, 1996, and June 25, 1998, Denver, CO.
13. Fretwell (1998, 1); NPS data provided by David Harrington, NPS Budget Division, Operations Formulation Branch, Washington, DC, by fax, February 22, 1998.
14. See also Leal and Fretwell (1997) and Fretwell (1999b).
15. Special use fees and 15 percent of fee collections remain within the park in which they are collected, as does a portion of revenues collected from units participating in the Fee Demonstration Program of 1996. For a more complete discussion, see Leal and Fretwell (1997) and Fretwell (1999b).
16. The program allows each of the federal land agencies to select up to 100 sites at which higher fees or new fees can be charged. At least 80 percent of the fee revenues must be maintained at the site of collection, with the remainder spent at agency discretion.
17. Telephone conversation, Don Striker, Comptroller, Yellowstone National Park, April 20, 1997.
18. Telephone conversation, Don Striker, Comptroller, Yellowstone National Park, October 1, 1999.
19. Telephone conversation, Jon Schwedler, Member Relations Assistant, Nature Conservancy, Arlington, VA, September, 28, 1999.
20. As defined by the Land Trust Alliance, protected lands include those transferred to public agencies as well as those with no management restrictions other than limited development.
21. These estimates assume an inelastic demand curve, which has been shown for the majority of parks participating in the Fee Demonstration Program. Often, fees have doubled with little change in visitation numbers.
22. As stated in the Enabling Act of Montana, February 22, 1889.
23. Written communication from Mark Ahner, Area Manager, Central Land Office, Montana Department of Natural Resources and Conservation, Helena, March 22, 1999.
24. See also Anderson, Smith, and Simmons (1999).
25. The exception here is lands purchased for government transfer.
26. The Nature Conservancy bought the ranch in 1978 and has managed it since 1987.
27. Telephone communication, Kent Gilges, Forest Bank Director, Center for Compatible Economic Development, Nature Conservancy, Rochester, NY, January 24, 2000.
28. As provided by the IRS tax code. The ramifications of tax benefits are further discussed in Bick and Haney (1999).
29. An easement may also increase the value of land if the protection of surrounding land is valued more than development.

30. Section 170(h) of the American Farm and Ranch Protection Act of 1990.
31. Telephone conversation, Gordon Hayward, Township Planner, Old Mission Peninsula, Michigan, February 9, 2000.
32. In fact, common law restricted the long term control of real property. The Rule Against Perpetuities limits the disposition of property for the length of existing lives, from the time a trust is created, plus 21 years. Statutory changes now allow perpetual trusts that meet charitable guidelines (see Meiners and Yandle 2000).
33. Under circumstances where the management of a conservation easement has become illegal, impossible, or impractical to perform, the Uniform Conservation Easement Act (1982) notes that the doctrine of changed conditions and cy pres may be used to reconstruct the easement. But it notes that the application of these doctrines to easements is problematic in many states (National Conference of Commissioners on Uniform State Laws 1981).

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