

# CONSERVATIVE CONSERVATION

Conservation will  
ultimately boil down to  
rewarding the private landowner  
who conserves the public interest.

—Aldo Leopold

## INTRODUCTION

In a meeting with environmental advisers just before announcing his campaign for president, then-Governor George W. Bush confidently asserted, “When I leave office, the air and water will be cleaner, and the land will be better cared for. Your job is to tell me how to make that happen.” Those advisers quickly responded with a long list of policies consistent with President Bush’s conservative philosophy.

Such policies fall under the banner of free market environmentalism. This way of thinking about environmental policy recognizes that markets—voluntary choices—can encourage cooperation and provide positive incentives for good stewardship. In two words, the mantra of free market environmentalism is that *incentives matter*. In our view, these incentives are more effective

when they come in the form of the market carrot rather than the regulatory stick.

Since the 1970s, natural resource and environmental policy has focused on regulations, with mixed results. To be sure, environmental quality has improved, partly as a result of regulatory constraints on emissions, especially at the state and local levels (Goklany 1999). But improvements have come at a high cost, and because they reflect a poor understanding of incentives, they have sometimes brought perverse results (Anderson 2000).

For example, the fiasco of the 1977 amendments to the Clean Air Act is now legendary (Ackerman and Hassler 1981) because it resulted in “clean coal, dirty air.” Eastern high-sulfur coal mining interests teamed up with environmentalists to require expensive technology to “scrub” power plant emissions to eliminate sulfur dioxide. Yet power plants could have delivered cleaner air at lower cost by burning low-sulfur western coal. Political forces overcame reasonable policies.

Similarly, the Endangered Species Act has preserved only a few species, cost billions of dollars, and encouraged efforts to avoid regulations. A systematic study of timber harvesting in North Carolina provides evidence of such preemptive action to avoid regulation (Lueck and Michael 1999). The study showed that trees close to colonies of red-cockaded woodpeckers are logged long before they mature, while trees farther away are harvested much less frequently. Red-cockaded woodpeckers are listed under the Endangered Species Act, and landowners appear to be making sure that the trees do not become potential woodpecker habitat. Thus the act provides the wrong incentives.

In contrast to such regulations, free market environmentalism harnesses positive incentives. The market depends on voluntary decisions and imposes responsibility for those decisions. Thus it promotes cooperation instead of acrimony, fiscal responsibility instead of bureaucratic

waste, and resource stewardship instead of environmental politics.

Many market transactions protect the environment. A few years ago, a sage Montana rancher incorporated wildlife management into his cattle operation, saying “If it pays, it stays.” Because wild animals could provide income from hunting fees, he began to manage his land so that they would thrive. Market transactions between willing sellers and willing buyers proved to be a route to greater environmental quality.

The Oregon Water Trust, a private not-for-profit organization in Oregon, keeps water in streams to allow salmon and steelhead trout to spawn. It accomplishes this by compensating ranchers for crop production they lose when they decide not to irrigate their fields. Regulatory acrimony is replaced with friendly negotiations and life-saving water flows.

Conservation International is using market tools to save forests abroad. Its Tropical Wilderness Protection Fund competes with loggers for the rights to large forested areas with pristine habitat. By providing an alternative to logging, this fund gives governments a financial incentive to preserve lands. According to the organization, this policy enables conservationists to “move faster than ever” to protect endangered habitat (Conservation International 1999, 16–17). This contrasts sharply with the United States, where laws and regulations are used to put large areas off limits to commodity production (see Fretwell 2000). Wouldn't it be great to provide a positive incentive for preservation here at home?

The Bush administration has an excellent opportunity to change the face of environmental policy through free market environmentalism. Two agencies where modest reforms can bring revolutionary results are the Department of Interior and the U.S. Forest Service, which is part of the Department of Agriculture. To achieve these results requires

leaders who understand what this approach can achieve and specific proposals that incorporate the positive incentives of free market environmentalism.

To move a reform agenda forward, this booklet proposes five policy changes. They address endangered species, national monuments, grazing rights, recreation fees, and water management. Each proposal suggests how public support can be coupled with private management initiatives. The proposed changes can be implemented with only modest reforms, and they have successful precedents.

Each proposed change is described briefly here. Each is backed by considerable research, for which references are provided. We hope these modest reforms set the stage for even greater use of market processes.

—Terry L. Anderson

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**POLICY PROPOSAL****■ ENDANGERED SPECIES ■**

WE PROPOSE THAT CONSERVATION RENTAL CONTRACTS BE THE PRIMARY TOOL FOR APPLYING THE ENDANGERED SPECIES ACT. THEY WOULD FOSTER LANDOWNERS' COOPERATION AND INNOVATION IN RESCUING ENDANGERED SPECIES.

**T**he Endangered Species Act (ESA) poses a paradox. On the one hand, it was designed to be enormously powerful, elevating “species protection to one of the U.S. government’s highest priorities” (Barker 1993, 19). On the other, it has gained a reputation as an intrusive instrument among private landowners.

The law allows government agents to deny landowners the use of their property, even though they have not violated anyone else’s right, and unlike other government programs landowners are not compensated for their loss. Because such land restrictions are freely available to the government, officials use them even when lower-cost methods or lower-cost land elsewhere might be available (Stroup 1995, 4–8). Few listed species have recovered since the law was enacted nearly thirty years ago.

The Endangered Species Act falls short of expectation because its penalties discourage landowners from protecting endangered species (Anderson and Leal 2001, 72–74). The great conservationist Aldo Leopold decades ago concluded that landowners must be given an economic stake in conservation. Yet the current approach makes listed species a liability—potentially a huge liability—for most landowners.

We propose conservation rental contracts (CRCs) as the primary mechanism for applying the ESA. These are

contracts between landowners and the federal government. They could take two forms. A landowner could agree to produce an increase in the number of endangered species on his or her property, essentially agreeing to a production contract. Alternatively, the landowner could give up some development or activity such as logging or building for a specified period, perhaps also agreeing to perform specific conservation measures such as prescribed burns or creating wildlife food plots.

The idea is to reward landowners for specific achievements—either an increase in the numbers of a particular species or improvements in habitat that can be identified and monitored. The landowner would receive rental payments at specified periods based on an assessment of species numbers or on completion of the activities outlined in the contract. A lease period might be ten years. Each contract would be tailored to fit the specific needs of the species population at risk, the landowner, and the land. The contract would be with the Department of the Interior through the Fish and Wildlife Service (Bourland and Stroup 1996).<sup>1</sup>

### WHY RENTAL CONTRACTS?

To understand the reason for such contracts, it is necessary to recognize how the Endangered Species Act operates. The law makes it illegal to “take” a listed species. The law defines a “take” as meaning “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” In other words, if a landowner’s actions are interpreted as a “take,” land uses may be strictly regulated. The Fish and Wildlife Service can prohibit any modification of habitat that might, in the judgment of government biologists, eventually lead to the death of some animals in the species. This authority has been upheld by the courts.

Fearing regulations, some landowners take preemptive land management actions to keep endangered species off their property. In addition, they have an incentive to help their neighbors learn how to do the same, so that listed animals will not be interested in their lands and government biologists will stay away. Conservation rental contracts would end this incentive, which reduces good habitat for listed species. The contracts would compensate landowners directly if they choose to favor species preservation over other uses. The compensation provides a carrot not a stick and, unlike current policy, it encourages land management practices that enhance habitat and the recovery of listed species.

These contracts would accomplish their goals at a far lower cost than purchasing land. Comparing rental contracting versus land acquisition for protection of red-cockaded woodpeckers, Bourland and Stroup (1996, 20) estimated that for the same amount of money, the contracts would protect three times the amount of land that could be protected through purchase. This comparison excluded administrative and overhead costs of government ownership, which would raise the differential further.

Currently, the Fish and Wildlife Service has little incentive to be cost-effective, since its chief tool for protection is simply requiring private landowners to preserve land. With a budget for rental contracts, the agency could shop for least-cost providers of habitat and seek out and reward lower-cost techniques to enhance habitat and conserve species. Offers of technical guidance to landowners who want to enhance the carrying capacity and production of the species on their land would be welcomed by landowners. They would no longer be in danger of large economic losses from uncompensated regulatory burdens, and more success in protecting the species would enhance their profits rather than reduce them.

## PRECEDENTS

Similar conservation contracts are already used by state wildlife agencies, private conservation groups, and even the federal government.

- A number of western states have ranching-for-wildlife programs that feature contracts between landowners and state wildlife agencies, which are responsible for managing lands for hunting. Under these programs, private landowners pledge to make specific improvements in wildlife habitat. They are compensated by regulatory flexibility such as longer hunting seasons and marketable hunting permits, which they translate into higher revenues from paying hunters (Leal and Grewell 1999).
- The Delta Waterfowl Foundation, a non-profit organization, executes similar production contracts with farmers in the midwestern United States and Canada. It compensates farmers that have duck nesting areas on their property on the basis of how many ducks the land produces over a given period (Anderson and Leal 2001, 173–74).
- The federal government's Conservation Reserve program compensates farmers and ranchers who take out of cultivation (for a period of ten years) land that is erodible and marginal for crop production (Bourland and Stroup 1996, 18–21).

## FUNDING

We recommend that an endangered species trust fund be established with a one-time endowment of \$100 million from the Land and Water Conservation Fund. This

would be a more productive way of investing monies from this fund than acquiring more federal land with its poor track record in resource and fiscal management (Fretwell 1998; Fretwell 1999; Anderson and Leal 2001, 47–58).

Annual additions to the endangered species trust fund should come from a portion, say 30 percent, of the annual revenue generated from mineral and oil and gas leases on federal lands. Hence, the amount of additional funding available for endangered species would be directly related to the degree of new energy development allowed on these lands.

### CONCLUSION

Endangered species protection has not fared well since the Endangered Species Act was passed with high hopes in 1973. As the nation attempts to reconcile the environmental agenda with a renewed affirmation of private property rights and more fiscally responsible government, conservation rental contracts get at the heart of the matter through a simple contractual arrangement.

—Richard L. Stroup and Donald R. Leal

### NOTE

1. In the case of endangered marine species, the National Marine Fisheries Service, an agency of the Commerce Department, is the regulator, not the Fish and Wildlife Service.

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## POLICY PROPOSAL

### ■ FEDERAL LAND TRUSTS ■

WE PROPOSE A FEDERAL LAND TRUST FOR EACH RECENTLY DESIGNATED NATIONAL MONUMENT THAT HAS PROVEN VALUE FOR BOTH COMMODITY USE AND ENVIRONMENTAL PRESERVATION.

Federal land management has always been controversial. But controversy reached new heights with the designation of a host of national monuments by the Clinton administration using the Antiquities Act of 1906. These included the 1.9 million-acre Grand Staircase-Escalante region in Utah, the 1 million-acre Grand Canyon-Parashant area in Arizona, the Upper Missouri River Breaks in Montana, and others.

Some in the environmental movement hailed President Clinton's "monument strategy" as a positive step toward

long-lasting protection. In reality, it left the door wide open for the same managerial uncertainty that makes our national parks both fiscally and environmentally troubled. Degraded resources and huge maintenance backlogs characterize such crown jewels as Yellowstone, Yosemite, and Glacier (Leal and Fretwell 1997; Fretwell 1999b). In 1995, a group of prominent wildlife biologists reported that “animal abundance and diversity are declining in many parks” (Wagner et al. 1995, 62).

What is needed is a method of management that combines fiscal accountability and environmental stewardship. Fortunately, there is an alternative with a precedent in federal land management. PERC proposes that the new monuments that have both commodity and amenity values be managed as federal land trusts.

### FEDERAL TRUSTS

Under this approach, each monument would be governed by a board of trustees appointed by the president. The board would have a fiduciary—that is, legally accountable—responsibility to maintain the unique environmental, cultural, and recreational values of the monument. To ensure that the protection of amenities be given higher priority than commodity production, the board would be composed of individuals whose backgrounds reflect commitment to environmental protection or local cultural identification. The expenses of preserving these values would come from revenues earned from commodities and recreation. Day-to-day management would be conducted by a group selected by the board through a competitive process and serving for a limited time.

A trust would generate funds for conservation while also allowing continuation of traditional uses of the land, such as energy development and grazing. It would give managers incentives to choose the most appropriate use

for each land segment while taking into account the overall objectives established for the site.

### PRECEDENTS

Land trusts are common in both the private and state sectors, and they encompass both preservation and commodity production, as illustrated by the National Audubon Society, an environmental trust, which manages the Rainey Wildlife Sanctuary in Louisiana (Baden and Stroup 1981; Snyder and Shaw 1995).

The Rainey Preserve, a refuge for snow geese, wading birds, ducks, and other wildlife, had natural gas wells operating on its property from the early 1950s until 1999, when the site ran out of economically retrievable quantities of natural gas. These wells have earned Audubon about \$25 million in royalties. By requiring special exploration and extraction techniques, Audubon ensured protection of wildlife habitat while producing natural gas and earning significant revenues. Writing in *Audubon* magazine, John G. Mitchell (1981, 16) noted that sanctuary manager David Reed described it as “a situation where it is likely there would be no adverse impact on the biotic community.”

Other examples of private land trusts created to protect environmental values abound. A recent estimate indicates that over 1,200 locally based trusts exist in the United States, managing 5 million acres. An additional 10 million acres are protected by large trusts such as the Nature Conservancy (Anderson and Leal 2001, 69).

While many trusts are private, state school trust lands are an example of government land trusts. When most western territories became states, they were granted land to benefit the public schools and other public entities. These lands are managed with a clear mandate to generate revenues, in most cases for public schools. School officials, teachers, and parents are the prime beneficia-

ries and therefore watchdogs of management. This means that state managers have a strong incentive to keep costs down while maximizing revenues from recreation, timber, grazing, and mineral development.

A number of studies comparing federal and state trust lands side by side indicate that state trusts make money while federal lands often lose money. In addition, independent audits reveal that state trust managers are better stewards of the natural resources (Leal 1995; Fretwell 1998, 1999a).

### THE PRESIDIO

The Presidio in San Francisco provides a rare example of a trust at the federal level. The Presidio was the oldest continually operated military post in the nation, located on a promontory overlooking San Francisco's Golden Gate Bridge. When it was decommissioned as an Army post, it was transferred to the National Park Service and became part of the Golden Gate National Recreational Area. An annual budget estimated to be as much as \$38 million a year would have made the Presidio the costliest park in the park system. Several members of Congress complained that if the Presidio became a typical park, it would forever require subsidies to finance upkeep.

Instead, Congress established a trust in 1996. Eventually, the Presidio will be self-sufficient, funded from its endowment of man-made and natural resources, which it will preserve and enhance. Congress requires it to become financially self-sufficient by 2013, and a recent report indicates that it is well on its way to meeting this goal (*San Jose Mercury-News*, September 6, 2000).

### CONCLUSION

The opportunity to combine commodity production and environmental protection comes at a time when Congress is

searching for new ways to finance federal land. The evidence is overwhelming that many national parks fall far short of their purported goal of resource protection. Creating a trust to manage Grand Staircase-Escalante National Monument and Montana's Upper Missouri River Breaks, among others, would benefit the taxpayers while giving local communities and environmentalists a stake in sensitive resource use.

—Donald R. Leal

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**POLICY PROPOSAL****■ GRAZING PERMITS ■**

WE PROPOSE THAT THE BUREAU OF LAND MANAGEMENT AND THE FOREST SERVICE ESTABLISH PERMANENT, NEGOTIABLE DOMESTIC LIVESTOCK GRAZING PERMITS.

**F**or over a century, conflicting interests have battled over the use and management of the millions of acres of grazing land controlled by the Bureau of Land Management and the United States Forest Service. The Taylor Grazing Act of 1934 established the framework for today's public lands grazing policy but conflicts followed its passage and, in fact, increased over time.

**THE NATURE OF THE PROBLEM**

The problem is that no one actually owns these grazing lands, and political strife is continual. Nominally, the lands belong to the taxpayer, but the rancher who holds the permits has the most control over the land. The rancher does not have a secure right, however, and in recent years the security of the permit has been increasingly called into question (Egan and Watts 1998).

Nor do the federal officials who control the amount of livestock and set other management rules have ownership of the land; thus, they reap no long-term benefits from good management or any direct liability for long-term harm. Interest groups also have some control, including those who want public access for hunting and other recreation and those who want wildlife to replace livestock. Yet these groups do not have ownership, either. The only way decisions are made is through political pressure.

Today's grazing practices affect the biological health and long-term productivity of the land resource. Reform must begin by recognizing that resources are better managed if the decision makers bear all the costs and receive all the benefits of their actions. This means that permit holders should bear the costs of future declines in productivity due to imprudent current decisions, and they should also receive the benefits of good stewardship. This accountability can be achieved only by permanent ownership. To be a good manager over the long term, the rancher must have secure rights (Watts and LaFrance 1994, 65–66).

Ranchers are not the only possible stewards of these lands, however. Recreational users of public land and preservationists or conservationists are also likely to be good stewards if they bear the costs and reap the benefits of their actions. Environmental groups such as the National Audubon Society and its affiliates and the Nature Conservancy have managed their land for multiple use while protecting and enhancing environmental values; they have even used domestic livestock grazing as part of their management practices (Anderson and Leal 2001, 69, 83–85).

Current federal policy requires the permit holder to graze domestic livestock at the permitted level (although temporary non-use may be allowed). This prevents most nonranchers from holding grazing permits.

### ESTABLISHING PERMANENT RIGHTS

While there are various ways that the initial property rights could be allocated on public lands, we propose that the government sell the rights to the current permit holder. The price for these rights would be what economists call the capitalized value of the current grazing fee. That is, the permit holder would pay the discounted current value of the stream of future grazing fees that the holder would otherwise pay the government over time.

By selling the rights at this price, the government is financially as well off as it would be if it received the grazing fees in the future. The current permit holder is not disadvantaged financially, either, and receives the benefit of a secure property right. In fact, since public land grazing fees are relatively low, ranchers are likely to obtain a secure right at an advantageous price (Gardner 1962), making this transfer an attractive option. The current permit holder would be free to sell to other users, who would be free to graze or not graze domestic livestock.

These permits would be considered a property right, revocable only in narrowly defined situations. (Technically, the owner would have a permanent use right.) The federal government would clearly define the ecological requirements for maintaining this right, such as the conditions for access, fire and weed control, livestock predators, water rights, and other nongrazing aspects. Penalties for not following the permit conditions would be established.

Proceeds from the sale of the grazing permits could be used to purchase and maintain areas of high value for recreation or preservation. Existing newly formed environmental or recreational groups might value these nondomestic grazing uses highly. They could use the funds to purchase grazing permits and maintain those lands most prized for these alternative uses.

Thus, both those interested in domestic livestock and those interested in nonlivestock use are winners. Under this proposal, a rancher who sells a permit does so voluntarily, and the nondomestic livestock grazer can choose the lands most valued for preservation and wildlife on which to halt livestock grazing.

## CONCLUSION

Today's debate is generated by the diverse and conflicting desires of various groups whose only viable way of

affecting use and management of public lands is political pressure. Selling these permits at their capitalized value would lessen political strife, reduce arbitrary bureaucratic policy interpretation and implementation, protect the financial interest of current users, and provide a nonpolitical mechanism for all interests to participate in public land-use decisions.

It is true that establishing permanent, negotiable rights to grazing will meet political resistance, but it will not come primarily from ranchers or environmental groups. Rather, government officials who currently manage and control public land grazing may oppose this reform, which could reduce both the size of government land agencies and government bureaucratic power and prerogative. However, because of the benefits for the American people generally and for the protection and enhancement of the quality of millions of acres of land, this opposition is worth overcoming.

—Myles J. Watts and Jeffrey T. LaFrance

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**POLICY PROPOSAL****■ RECREATION FEES ■**

WE PROPOSE THAT THE FEDERAL “FEE DEMONSTRATION PROGRAM” BE MADE PERMANENT AND EXPANDED TO ALL FEDERAL LANDS THAT ARE USED FOR RECREATION.

The fee demonstration program, which began in 1996, is one of the bolder actions taken by Congress to address the condition of federal lands. It has enabled federal land managers to respond to visitor desires and more effectively protect the resources under their management.

The fee demonstration program (sometimes called “fee demo”) allows officials at 100 units within each of four federal agencies to raise user and visitor fees and to retain 80 percent of the revenue for local management. Managers have discretion to use the fees as they see fit. The agencies are the Bureau of Land Management, the Fish and Wildlife Service, the Forest Service, and the National Park Service. This program, now authorized to operate through 2001, should be made permanent and expanded.

**WHY “FEE DEMO”?**

An enormous amount of federal land is used for recreation. The National Park Service, which controls 83 million acres, is the agency most people identify with outdoor recreation. The Forest Service and the Bureau of Land Management actually have much more land—a total of 455 million acres—which is used for hiking, camping, hunting, and fishing. The national parks receive 290 million visits a year; the other two agencies receive about one billion visits each year (Fretwell 1999).

Visitors are not always happy with what they find. Reports of deterioration are frequent and growing. For example, Glacier National Park's popular Going-to-the-Sun Road is frequently closed due to safety concerns. Prehistoric dwellings in Mesa Verde National Park are disintegrating from buildup of oils and airborne particles. Yellowstone's outmoded sewer systems spews raw sewage into native trout streams (Fretwell 1999, 3).

The cause of deterioration is not lack of funds. It is perverse incentives created by the current system of financing. Federal budgets depend on Congress. This leads managers to stop genuine management and, instead, fall into the familiar government trap of avoiding long-term maintenance. Small, day-to-day expenditures for maintenance are necessary for the long run, but they have no political payoff. They can't compete with grand new buildings or the addition of staff.

The people who suffer most from this state of things are the tourists. Although many Americans love their trips to Yellowstone and Yosemite, parks that host truly awe-inspiring natural wonders, these visitors don't hesitate to complain about overcrowding and potholed roads. Environmental advocacy groups have rated 75 percent of our national parks at "C" or below (Fretwell 1999, 6). The General Accounting Office (1995, 1) noted in 1995 that most park managers don't even know the condition of the lands they supervise, and a group of wildlife scientists contend that biological diversity is declining in many parks because ecological research is neglected (Wagner et al. 1995). As long as Congress holds the purse strings, this situation will prevail. Congress will be the power behind the agency, and true management of the parks will be nonexistent.

Because visitors are not paying the bill, public land managers tend to ignore their wishes. For example, in 1996 Yellowstone park managers closed the popular Norris campground and two museums in order to save \$70,000 in

operating expenses. The previous year, however, the campground alone brought revenues of \$116,000. The managers ignored the revenues because they went to the national treasury, not to the park for use in Yellowstone. This management decision cost visitors the use of the facilities and taxpayers \$46,000.<sup>1</sup>

### POSITIVE STEPS

The fee demonstration program has begun to change these priorities. It gives managers an incentive to serve visitors and gives the managers funds to use for the expenses they believe their parks need the most.

For example, Yellowstone National Park now keeps 80 percent of user fees, including those from the reopened Norris campground. This means that managers have revenues for running and maintaining the campground without having to go to Congress for them. The new revenues are also used for road repair and rehabilitation, creek reclamation, campground repair, trail reconstruction, wildlife research, and other activities that previously went unfunded.

The fee demonstration program is a first step in bringing accountability to federal land management. Making the program permanent and expanding it to all federal recreational lands would take the nation farther along the path toward responsible environmental stewardship.

### CONCLUSION

A permanent program would allow agencies to make long-term plans for recreation development and invest in start-up costs that must be amortized over several years. With a permanent program in place, managers would begin to design fee structures that reduce congestion and would develop attractive pricing options, including those for visitors hiking through land managed by different agen-

cies. Expanding the program to include all federal recreation areas would motivate managers to give resource stewardship priority over politics and to keep prices low while still increasing revenues.

—Holly Lippke Fretwell

#### NOTE

1. Don Striker, comptroller, Yellowstone National Park, Wyoming, telephone interview, April 20, 1997.

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**POLICY PROPOSAL****■ WATER MANAGEMENT ■**

WE PROPOSE THAT FEDERAL WATER POLICY SHIFT FROM SUBSIDIZING GOVERNMENT WATER PROJECTS TO ENCOURAGING WATER MARKETS THAT SPUR WATER-USE EFFICIENCY, INCREASE INSTREAM FLOWS, AND IMPROVE WATER QUALITY.

**W**ater shortages are a recurring problem from the Southeast to the Pacific Northwest. Whether they result from droughts, overpumping of aquifers (as in the case of the Edwards Aquifer in Texas), expanding urban demands (as in California), or Endangered Species Act regulations mandating stream flow protection (for the Columbia River salmon), the problem is always that demand and supply are not in balance. The fundamental reason is that the market is not allowed to function well.

The solution has usually been to turn to the federal government to increase supplies at subsidized prices. Continued federal subsidies, however, won't solve water problems. In fact, they have created many. Pouring more federal money into water projects expands the supply of water, but it increases demand and invariably causes environmental problems. It is time to wean water users from the continuous flow of federal funds and to develop effective water markets.

Thus, we have three recommendations. We propose eliminating all federal subsidies for future water projects, even if the subsidies are tied to environmental restoration. We propose transferring federal water projects to private ownership, even if the federal government does not receive full payback for its past expenditures. And we propose that restrictions on transfers of federal water be relaxed so that

demand for water from outside traditional project boundaries, be they urban or environmental, can be met through market exchanges.

### ENDING FUTURE SUBSIDIES

Many people claim that the era of big government water projects is over. Yet projects such as CALFED, the Central Utah Project, and other water supply projects are testament to the fact that massive water projects are alive and well. A major difference between the new and the old water pork barrel is that new projects often tie project funds to environmental restoration.

CALFED is a prime example of this new spending era. This consortium of state and federal agencies and nongovernmental organizations intends to improve water quality and quantity in the San Francisco Bay-Delta area—but it comes with a \$10 billion price tag. More than half that money is budgeted for building or expanding reservoirs or paying for water-saving infrastructure, with the remainder spent on environmental protection. The federal government will cover more than 40 percent of the projected costs, an amount that could increase if state or local funding cannot be secured.

CALFED's approach, like so many other federal water projects, is seriously misguided. It focuses on supply rather than on bringing demand and supply into balance. The program includes some water marketing opportunities, but markets have a minor role.

Additional spending on federal water projects is not fiscally prudent for two reasons. First, only a fraction of that cost will ever be repaid by those benefiting from the water. Second, subsidized projects often cause environmental damages that require additional federal expenditures. For example, the federal government spends nearly \$1 billion annually for Columbia basin salmon restoration, addressing a problem caused by federal dams. Ending water

project subsidies would eliminate both the initial outlays and the money spent later to correct environmental harm.

### PRIVATIZING FEDERAL WATER PROJECTS

The Bureau of Reclamation, which entered the water storage and delivery business in 1902, operates under policies that are now out of date (Wahl 1989). The agency holds title to nearly 200 projects, providing irrigation water to over 10 million acres throughout the seventeen western states. These projects provide low- or no-interest loans to water users for building dams and delivery systems. While the act requires repayment within 10 years, most repayment schedules have been extended to 50 years. Approximately \$600 million is spent annually to maintain and operate federal water projects.

Once repaid, current law allows projects to be transferred to the water users, relieving taxpayers of any further expenses of managing and operating these facilities. Some loans are nearing the end of their repayment obligation, making them eligible for transfer. However, Congress must approve such transfers, even if the loan is fully repaid.

Getting congressional approval has not been easy. The Clinton administration attempted to encourage transfers in 1995 with a program led by the Bureau of Reclamation for negotiating title transfers. This was an effort to shrink the federal government and to shift the responsibilities of ownership to those who can more efficiently operate and maintain the projects. The program attempted to help water users develop transfer proposals that would allow Congress to approve them quickly.

The negotiation process has been slow and ineffective, however. Since 1995, only a dozen federal projects have been transferred to water users, most of them through direct legislation rather than the bureau's transfer process. Water users who pursued transfers through the bureau have

complained that it is slow, cumbersome, and highly bureaucratic.

The Bush administration should streamline the negotiation process to facilitate more transfers of federal water projects to private water users. For projects that are farther from repayment, the federal government should consider selling the outstanding loans in the commercial bond markets, possibly at substantial discounts. The federal government would be relieved of subsidizing loans, and water projects would become financially accountable to private bond holders.

### TRANSFERRING WATER

In 1988, the Bureau of Reclamation declared itself a “water market facilitator.” The agency even went so far as to devise rules for buying and selling federally supplied water. But these rules have been of little help in improving water allocation among competing uses. “Market activity in federal water has not increased significantly,” point out Terry Anderson and Pamela Snyder (1995, 92), authors of *Water Markets: Priming the Invisible Pump*.

Buying and selling federal water is highly regulated. Although transfers to other agricultural users within a conservation (or irrigation) district area are common, transfers to nondistrict uses must undergo a lengthy and bureaucratic approval process at the local, state, and federal level.

Transfers are also difficult because the ownership of water within the districts is unclear. State water rights were issued when the federal water projects were built. In some cases the Bureau of Reclamation kept the water rights and made contracts with irrigation districts, which deliver the water to its final users. In others, rights were issued in the name of the districts or individual landowners within the district.

The different types of arrangements create uncertainty

about who has the authority to regulate transfers. Most conservation districts assert that they have that authority even if the water rights are held by the Bureau of Reclamation or individual district members. States contend that water rights for federal projects were issued by the state and therefore subject to state water law. The Bureau of Reclamation argues that federal review must be undertaken before water is transferred to uses outside federal water projects.

With values of water rising for other uses, controls and regulations are forcing those who want water for nonagricultural uses to seek expensive water supplies. The morass of federal, state, and local laws as well as the lack of clear property rights to federal water have rendered water markets useless. For example, a landowner within a federally supplied irrigation district who wants to sell water for environmental uses must obtain approval from the irrigation district, the Department of Interior, and the state.

Easing restrictions on transfers to municipal uses and to instream flows would encourage efficient use of water (Landry 1998). To accomplish this, the bureau should convey water rights to district members when ownership of projects is transferred. This would end the uncertainty about who has the authority to transfer water. Farmers would have an incentive to conserve water and sell it to higher-valued uses, including environmental protection. For example, Zach Willey from Environmental Defense helped facilitate a transfer from Skyline Farms in Oregon that increased instream flows in the Columbia River system between 25,000 and 50,000 acre-feet (Anderson and Leal 1997, 93–94). More trades like this will occur if artificial barriers are removed and markets are allowed to work.

## CONCLUSION

Water markets create the right incentives for water suppliers and demanders. They give existing users incentive

to conserve and supply water to alternative uses. Massive water storage and delivery problems are not the way to meet growing municipal and environmental demands; water markets are. It is time to end water subsidies, to clarify water rights with respect to both quantity and quality, and to remove impediments to willing buyer-willing seller exchanges.

—Terry L. Anderson and Clay J. Landry

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