

GAO

Report to the Chairman, Subcommittee
on Agriculture, Rural Development, Food
and Drug Administration, and Related
Agencies, Committee on Appropriations,
House of Representatives

March 1992

CONSERVATION RESERVE PROGRAM

Cost-Effectiveness Is Uncertain



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United States
General Accounting Office
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Resources, Community, and
Economic Development Division

B-252621

March 26, 1993

The Honorable Richard J. Durbin
Chairman, Subcommittee on Agriculture,
Rural Development, Food and Drug
Administration, and Related Agencies
Committee on Appropriations
House of Representatives

Dear Mr. Chairman:

The Conservation Reserve Program (CRP), authorized by the Food Security Act of 1985, is costly. Under this program, the U.S. Department of Agriculture (USDA) will spend about \$19.2 billion between fiscal years 1987 and 2003 to temporarily remove 36.5 million acres of cropland from production. We previously reported that although CRP was achieving substantial reductions in soil erosion, it could be less costly and more effective.¹ We also found that in managing the program, USDA was focusing primarily on meeting the mandated acreage enrollment requirement and only secondarily on fulfilling CRP's environmental objectives.

In your January 21, 1993, letter and in subsequent discussions with your office, we were asked to determine whether the performance of CRP provides a balance between the cost of the land enrolled and the environmental benefits received. We were also asked, to the extent practicable, to profile other USDA conservation initiatives—such as the conservation compliance provisions and the Agricultural Conservation Program, the Small Watershed Program, and the Great Plains Conservation Program—that are designed to reduce the environmental impact of agriculture.

Results in Brief

We cannot definitively determine whether there is a balance between the costs and environmental benefits of CRP for two principal reasons. First, the dollar value of the program's environmental benefits cannot be precisely assessed. Second, USDA has not quantified the effect on the environment of removing the enrolled acres from production. However, CRP is an expensive way to reduce the environmental problems linked to agricultural production. Under 10-year contracts, USDA will pay more than \$19 billion to remove 36.5 million acres from production. Through these

¹Farm Programs: Conservation Reserve Program Could Be Less Costly and More Effective (GAO/RCED-90-13, Nov. 15, 1989). This report examined the first 7 of CRP's 12 sign-ups (28 million acres).

contracts, USDA has achieved some environmental benefits by temporarily removing land from the pressures of cultivation. However, according to USDA officials, it is important for CRP to meet its target enrollments to satisfy the program's other objectives, including curbing the production of surplus commodity crops and supporting farmers' incomes. As a result, USDA allowed land with fewer environmental benefits into the program. Furthermore, CRP postpones rather than resolves environmental problems associated with agriculture. Additional costs may be incurred to maintain the program's objectives when the contracts begin to expire in 1996.

Other USDA conservation initiatives use strategies that cover more acres of cropland, cost less, and provide more enduring benefits. Although we have not evaluated the effectiveness of all of the initiatives or the value of their environmental benefits, they have several structural advantages over CRP. First, without taking land out of production, they require or help farmers to reduce erosion and minimize other environmental impacts on about 170 million acres of cropland. Second, in fiscal year 1993, these initiatives will cost an estimated \$630 million, about 40 percent of the current annual cost of CRP. Third, they provide technical and/or financial assistance to make changes to the land and farming practices that are designed to result in sustainable environmental benefits. For example, the conservation compliance provisions require farmers with highly erodible cropland to adhere to conservation plans in order to continue receiving their federal farm program payments and benefits, worth billions of dollars.

Background

Cropland accounts for more than half of the estimated 5.4 billion tons of soil that are eroded each year on nonfederal land. This erosion reduces the land's productivity and increases the need for chemical fertilizers. Furthermore, eroded soil, accompanied by runoff containing fertilizers and pesticides, contributes to water quality problems in the nation's streams, lakes, and other water bodies.

Concerned about these problems, the Congress included several conservation initiatives, including CRP, in the Food Security Act of 1985. Participation in CRP is voluntary and is designed to address erosion and environmental concerns, curb the production of surplus commodities, and support farmers' incomes. Earlier national farm legislation had established a conservation reserve program under which land was retired to achieve multiple objectives. Specifically, the Agriculture Act of 1956 had established a soil bank that combined acreage reductions with conservation objectives. Between 1957 and 1972, up to 29 million acres

were idled in an effort to help farmers reduce surplus commodity production and shift less productive cropland into conservation uses. No conservation criteria were used to determine eligibility for the program, and farmers decided which land they wanted to enroll.

The Food, Agriculture, Conservation, and Trade Act of 1990 continued CRP by authorizing total enrollments of 39 million to 44 million acres by 1996 and encouraged participation in areas where agriculture harms water quality. In particular, the Congress gave priority to enrollments in the Chesapeake Bay, Long Island Sound, and Great Lakes regions and in other areas as designated by the Secretary of Agriculture.

CRP is authorized in all 50 states, Puerto Rico, and the Virgin Islands. USDA carries out the program through its state and local committees. In response to a USDA sign-up solicitation, farmers decide what eligible cropland to offer (bid) for enrollment. Farmers whose bids are accepted enter into a contract (generally for 10 years) with USDA to remove the land from production and establish a cover crop that protects soil and other natural resources and to take a proportionate reduction in their commodity programs' base acreage. In return, farmers receive annual rental payments and a portion of the cost to establish a cover crop to reduce erosion.

CRP Is Expensive and Has Uncertain Benefits

For a total expenditure of about \$19 billion between 1987 and 2003, USDA has purchased some environmental protection through CRP. However, the precise dollar value of CRP's environmental benefits cannot be determined, and USDA has not determined exactly how removing the land contributes to environmental protection. We do know that much of this protection is temporary. After the 10-year contract expires, the land may be returned to production, and additional actions and expenditures may be required to maintain the desired environmental benefits. In addition, USDA's implementation strategies have reduced the effectiveness and increased the costs of the program. Because USDA continues to place a high priority on meeting acreage targets, it has broadened its basic eligibility criteria to include land with fewer environmental benefits.

Program Costs Have Been High

As of March 1, 1993, USDA had enrolled 36.5 million acres of the minimum targeted 39 million acres in CRP (94 percent).² The Department expects that

²Of the 36.5 million acres, 1.1 million acres had been tentatively enrolled, but their contracts had not been filed with the Department.

budget outlays will be \$19.2 billion through fiscal year 2003, or \$17.3 billion in 1992 dollars (see table 1).³

Table 1: USDA's Costs for Existing CRP Contracts

Dollars in billions

Fiscal years	Rental payments	Initial cost-share payments	Total payments
1987-1992	\$6.93	\$0.91	\$7.84
1993-2003 (est.)	11.34	0.05	11.39
Total	\$18.27	\$0.96	\$19.23

Source: GAO analysis of USDA budget data.

To meet the minimum authorized 39-million acre target, USDA must enroll another 2.5 million acres in fiscal years 1994 and 1995. We estimate that the cost of this enrollment will add about another \$1.8 billion to the program's budget outlays and bring the program's total to about \$21 billion, or \$18 billion in 1992 dollars.

USDA's enrollment practices have increased the costs of CRP's rental payments. In 1989, we reported that USDA had entered into 10-year contracts that resulted in rental payments to some CRP participants that were 200 percent to 300 percent higher than local USDA officials' estimates of the prevailing local rental rate.⁴ Since then, USDA has adjusted its bid acceptance system to increase competition among bidders (see app. I).

Concerned about the high rates being paid in many parts of the country, the Congress, beginning with USDA's appropriations act for fiscal year 1988,⁵ and annually thereafter, has included a proviso concerning CRP rental payments. The proviso states that "none of the funds in this Act may be used to enter into new contracts that are in excess of the prevailing local rental rates for an acre of comparable land." USDA has interpreted this

³CRP's costs are offset to some extent when farmers enroll acres in the program that would otherwise be used for growing crops covered by USDA's annual price and income support programs. Enrolling acreage in CRP instead of in annual commodity programs reduces crop production, crop surpluses, and the costs of USDA's commodity programs. Estimating the extent of CRP's effects on commodity crop production and, in turn, CRP's offsetting costs, depends on a variety of assumptions. Because of the range and complexity of these assumptions, a simple estimate is unlikely to be accurate. In 1990, USDA's Economic Research Service estimated that the net government costs of a 45-million-acre CRP were \$2.0 billion to \$6.6 billion over the life of the program.

⁴In our 1989 report, we used local rental rate data provided by USDA. We did not know the extent to which these data reflected rates on 10-year leases rather than on shorter-term leases.

⁵Rural Development, Agriculture, and Related Agencies Appropriations Act, 1988 (P.L. 100-202, 101 Stat. 1329-322, 1329-347 (1987)).

proviso as allowing for consideration of the "nature of the contract" used—i.e., CRP's rental rates must take into account the participant's risk of entering into a 10-year contract (prevailing local rental rates are generally for 1 year), the cost of idling farm resources, and the cost of planting and maintaining an approved cover crop. While these factors may be necessary to encourage enrollment to curb excess production, meet income support objectives, and enroll land with environmental benefits, our analysis of recent enrollments indicates that these adjustments continue to increase CRP's costs but not by as much as we previously reported.

Value of Environmental Benefits Is Uncertain

Although CRP's direct budget costs are known, a precise determination of the dollar value of the program's environmental benefits is not feasible. Some benefits have undoubtedly been achieved. However, because of the high priority that USDA has placed on meeting predetermined acreage goals, these benefits are not as great as they might have been if the cost-effective achievement of environmental benefits had been the primary objective.

USDA's Economic Research Service (ERS) has assessed the economic impact of CRP, including the value of the program's environmental benefits, but the ERS analysis has limitations for the purposes of this report.⁶ ERS officials estimated that the present value of CRP's environmental benefits ranged between \$6 billion and \$13.6 billion; they estimated the present value of rental payments alone at \$19.5 billion. Their estimate projected benefits on the basis of a 45-million-acre enrollment and reflected 25.5 million of the 36.5 million acres currently enrolled in CRP.

Following the issuance of our report and the enactment of the 1990 farm legislation, USDA broadened its eligibility criteria to include land whose enrollment would provide water quality benefits. USDA ranks eligible bids on the basis of a formula that calculates the ratio of an environmental benefits index to the value of the bid. While USDA officials believe the index is the most practical measure that could be devised to evaluate the relative conservation and environmental benefits of the land submitted for enrollment, they acknowledge that they cannot quantify the dollar value of the environmental benefits to be gained from removing a particular parcel of land from production. Furthermore, USDA cannot use the index to

⁶The Conservation Reserve Program: An Economic Assessment, Economic Research Service, Agricultural Economic Report No. 626, Feb. 1990.

determine the extent to which removing the new land will actually affect environmental quality.

Although their dollar value is unquantified, some environmental benefits have been achieved by retiring land from the pressures of production and by planting cover vegetation that reduces erosion. USDA estimates that trees will have been planted on about 2.5 million acres and that the enrollment of 36.5 million acres in CRP will reduce soil erosion on cropland by 696 million tons a year. The program has already decreased sedimentation in reservoirs and streams, protected natural resources, and helped preserve the land's long-term productivity. The quantity of damaging chemicals washed into streams and lakes has also decreased. Likewise, fish and wildlife habitat has improved with the increased planting of trees and grasses and the reduced use of chemicals. Other benefits have also been achieved through CRP: The production of surplus commodities receiving federal price and income support payments has declined, and farmers have received additional income support.

Despite these benefits, we found in our 1989 report on CRP that USDA could have done more to address the program's environmental objectives. USDA focused primarily on meeting mandated acreage enrollments rather than on enrolling the most highly erodible cropland and the land that contributed most to polluting surface water and groundwater. Although USDA had enrolled 28 million acres by 1989, we found that CRP protected only about 30 percent of the 9.1 million acres of the most highly erodible cropland. USDA officials told us that they are not necessarily able to enroll the most environmentally sensitive lands in the program. This is because the program is voluntary and the Department evaluates only the lands for which bids are submitted.

Acreage targets remain important to the program. Because CRP is designed also to reduce the production of surplus commodities and to support farmers' incomes, USDA maintains that meeting acreage targets remains an important objective. For example, to meet a 1.1-million-acre enrollment target in 1991, USDA accepted every bid that did not exceed what the Department would pay. USDA received so few eligible bids that it did not have to restrict enrollments to the cropland with the greatest environmental benefits and accepted all of the bids. As a result, land was enrolled that might have been rejected in enrollments for which relative rankings were needed. Although this emphasis on meeting acreage targets has reduced excess production and provided income support to farmers, it has also reduced the cost-effectiveness of CRP's environmental benefits.

CRP Postpones Environmental Solutions

The environmental problems that CRP is designed to address will resume if the land is returned to production because few permanent conservation improvements have been made to the land. Although some long-term physical changes, such as the installation of field windbreaks and snow fences, have been made to 0.5 percent of the CRP acreage and about 2.5 million acres will have been planted to trees, higher immediate costs have generally discouraged further permanent improvements. Instead, most of the program's resources have been spent for short-term measures—paying farmers to temporarily retire cropland and sharing farmers' expenses to plant relatively inexpensive cover crops, such as grass.

Nobody knows how much CRP land will be returned to crop production; however, contracts will begin to expire in 1996, and by the end of 1999, nearly 34 million acres will again be eligible for production. At this point, if production resumes, 75 percent of the land in CRP must have a USDA-approved conservation plan to participate in farm programs. Additional federal assistance may be necessary to solve other environmental impacts that may recur with production.

Other USDA Conservation Initiatives Offer Alternative Approaches That Cost Less

Other USDA conservation initiatives—such as the conservation compliance provisions and the Agricultural Conservation Program, the Small Watershed Program, and the Great Plains Conservation Program—use strategies that cover more acres of cropland, cost less than CRP, and achieve similar but more sustainable environmental benefits. These alternatives require participants (or provide financial assistance to participants) to make changes to the land or farming practices to reduce soil erosion, improve water quality, and achieve other environmental benefits. The conservation compliance provisions and the other programs affect about 170 million acres and will cost the federal government an estimated \$630 million in fiscal year 1993. Although this cost is high, the average cost per acre for these initiatives is far lower than for CRP. Furthermore, although we have not recently evaluated USDA's implementation of these initiatives and their impact on environmental quality, we believe that their design has advantages over CRP's temporary, largely untargeted approach. These initiatives address demonstrated erosion or water quality problems on actively farmed lands, and participants are eligible for other federal farm payment programs.

CRP's environmental counterpart, also authorized under the Food Security Act of 1985, is the conservation compliance provisions. Unlike CRP, which

encourages farmers to remove highly erodible land from production, the conservation compliance provisions require farmers, as of September 1991, to practice conservation on 135 million acres of highly erodible land that remain in production. In return, farmers who develop and comply with such plans retain eligibility for USDA farm programs that provide billions of dollars in benefits. USDA estimates that it will spend \$245 million under the conservation compliance provisions in fiscal year 1993 to provide technical assistance to help farmers plan and implement conservation measures and to reduce soil erosion. Although we have recommended improvements to USDA's implementation of these provisions, the provisions themselves are generally acknowledged to have generated soil conservation benefits.⁷

Other USDA conservation programs include the Agricultural Conservation Program, the Small Watershed Program, and the Great Plains Conservation Program. These programs provide technical assistance as well as cost-share payments to participants to install conservation measures intended to permanently reduce soil erosion and achieve other environmental objectives on land that remains in production. The Agricultural Conservation Program and the Small Watershed Program target areas identified by a consortium of federal, state, and local conservation agencies, and others. USDA estimates that in fiscal year 1993, these programs will cost \$385 million and affect over 36 million acres of cropland.

Conclusions

CRP is an expensive way to reduce the environmental problems linked to agricultural production. The program will require budget outlays of about \$19 billion to take 36.5 million acres out of production; however, not much is known about the dollar value of the environmental benefits purchased or about the extent to which removing the land from production will alleviate environmental problems associated with agriculture. Furthermore, CRP postpones rather than resolves these problems, and additional costs may be incurred to maintain the program's objectives when the contracts expire. Other USDA conservation initiatives use less costly strategies to achieve lasting environmental objectives; however, unlike CRP, these other programs are not intended to curb excess production, and they only indirectly support farmers' incomes.

⁷In 1990, we issued a report raising concerns about USDA's implementation of the conservation planning and other early compliance requirements under the Food Security Act of 1985 (Farm Programs: Conservation Compliance Provisions Could Be Made More Effective, GAO/RCED-90-206, Sept. 24, 1990). We are reviewing USDA's current management of the conservation compliance provisions.

Agency Comments

We provided USDA with a statement of facts on the findings of this report. We met with the Acting Deputy Administrator for State and County Operations, Agricultural Stabilization and Conservation Service (ASCS), and with other officials responsible for administering CRP. These officials generally agreed with the facts and offered clarifying comments and suggested changes, which we have incorporated as appropriate. However, at the request of your office, we did not obtain written agency comments on a draft of this report.

Scope and Methodology

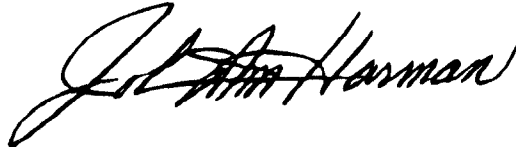
We conducted our review from February 1993 through March 1993 in accordance with generally accepted government auditing standards at USDA headquarters in Washington, D.C., and at the USDA Office of Inspector General in Kansas City.

To understand changes made to CRP since 1989, as well as the costs and benefits of the program, we reviewed relevant literature. We also spoke with ASCS program officials and Economic Research Service economists in USDA headquarters. We visited a USDA county office in Missouri to discuss the program with the county's ASCS executive director and the Soil Conservation Service's district conservationist. We used USDA budget materials to obtain information on other USDA conservation initiatives, and we used acreage and rental data provided by USDA to estimate the cost of enrolling additional acres in CRP.

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 15 days after the date of this letter. At that time, we will send copies to the appropriate Senate and House committees; interested Members of Congress; the Secretary of Agriculture; the Administrator, Agricultural Stabilization and Conservation Service; the Director, Office of Management and Budget; and other interested parties. We will also make copies available to others upon request.

Please contact me at (202) 512-5138 if you or your staff have any questions. Major contributors to this report are listed in appendix II.

Sincerely yours,

A handwritten signature in black ink, appearing to read "John W. Harman". The signature is written in a cursive style with a large initial "J" and "H".

John W. Harman
Director, Food and Agriculture Issues

Conservation Reserve Program (CRP) Enrollment Process

Since we issued our 1989 report on CRP and the 1990 farm legislation was enacted, the U.S. Department of Agriculture (USDA) changed its bidding system to enhance competition and enroll those lands whose retirement from production would most improve soil resources and water quality. These changes have so far affected the enrollment of 2.5 million acres in 1991 and 1992.

USDA follows a three-step process for accepting non-easement bid offers:

1. At the local level, county Agricultural Stabilization and Conservation committees review each bid and determine for the national USDA office whether the bid meets basic eligibility criteria and is consistent with prevailing local rental rates.

2. For all remaining bids, the bid rental rate is compared with a bid cap that is determined by USDA's national office. This bid cap is calculated for each bid and is based on the following:

- the relative productivity of the predominant soil on the bid, as determined by the Soil Conservation Service,
- the prevailing local rental rate,
- the participant's cost to establish and maintain permanent cover, and
- the rate of inflation and the cost of idling farm resources (such as equipment).

All bids exceeding the bid cap are rejected.

3. Each remaining bid is further evaluated by an environmental benefits index calculation. All bids are ranked according to their environmental benefits per federal dollar cost to enroll them. Bids are accepted in rank order until the predetermined acreage enrollment goal is achieved. The total cost for each bid is its rental rate plus the estimated government cost-share to establish a cover crop. The environmental benefits calculation and ranking for each bid are based on estimated improvements in the following seven areas:

- surface water quality,
- ground water quality,
- soil productivity,
- conservation compliance assistance,
- tree planting,

**Appendix I
Conservation Reserve Program (CRP)
Enrollment Process**

- assistance to designated state water quality impairment areas, and
- conservation priority areas.

Various data are considered for each bid in each of these seven areas. Some data provide specific soils-related information for each tract. However, many data are derived from the tract's proximity to population areas, watersheds, and conservation priority areas.

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