



United States
Department of
Agriculture

Economic
Research
Service

Agricultural
Economic
Report
Number 626

The Conservation Reserve Program

An Economic Assessment

C. Edwin Young
C. Tim Osborn



It's Easy To Order Another Copy!

Just dial 1-800-999-6779. Toll free.

Ask for *The Conservation Reserve Program: An Economic Assessment* (AER-626).

The cost is \$8.00 per copy. For non-U.S. addresses, add 25 percent (includes Canada). Charge your purchase to your VISA or MasterCard, or we can bill you. Or send a check or purchase order (made payable to ERS-NASS) to:

ERS-NASS
P.O. Box 1608
Rockville, MD 20849-1608.

We'll fill your order by first-class mail.

The Conservation Reserve Program: An Economic Assessment. By C. Edwin Young and C. Tim Osborn. Resources and Technology Division, Economic Research Service, U.S. Department of Agriculture. Agricultural Economic Report No. 626.

Abstract

The Conservation Reserve Program (CRP) will boost net farm income and improve environmental quality over the life of the program (1986-99). These gains will come at the cost of somewhat higher food prices and Government administrative expenses, and potential downturns in farm input industries and other local economic activity tied to farming where enrollment is heavy. The authors estimated the net economic benefits of the program to range between \$3.4 billion and \$11.0 billion in present value, based on the effects covered in this report. Any estimate of the net Government expense of the CRP is highly dependent upon projected commodity market conditions and assumed levels of the acreage reduction program in the absence of the CRP. Prior to the 1988 drought, the authors estimated a small net Government expense. A more recent estimate made after the 1988 drought and with higher assumed acreage reduction levels in the absence of the CRP resulted in a significantly higher net Government expense.

Keywords: Conservation, soil erosion, water quality, Food Security Act of 1985, Conservation Reserve Program

Acknowledgments

This report resulted from a coordinated study by the Economic Research Service (ERS). Each section of the report was coauthored with ERS specialists. Coauthors include: Michael Dicks, Robert Moulton, William Boggess, David Ervin, Thomas Hebert, Robbin Shoemaker, Harold Taylor, John Sutton, Daniel Colacicco, Marc Ribaldo, Kenneth Algozin, Wen Huang, Linda Langer, Steve Piper, Glenn Schaible, and Bengt Hyberg. Many other individuals contributed to the study by conducting background analyses and reviewing drafts of the report. Appreciation is extended to Carolyn Liggon, Wendy Washington, and Diane Marshall for word processing.

Contents

Summary	iii
Introduction	1
Background on the CRP	1
CRP Participation	1
Potential Enrollment	2
Actual Enrollment	2
Enrollment Projections	2
Gross Economic Effects of the CRP	5
Baseline Assumptions	6
Agricultural Gains	8
Export Losses	12
Consumer Food Costs	13
Natural Resource Benefits	13
Erosion Control Benefits	13
Water-Quality Benefits	15
Wildlife Habitat Improvements	16
Ground Water Savings	18
USDA Costs	18
CRP Program Costs	19
CCC Commodity Program Savings	20
Program Evaluation	22
Evaluation Framework	22
National Income	22
Government Spending	22
Regional and Sectoral Economic Effects	24
Changing the Emphasis of the CRP	25
Forestry Emphasis in the CRP	25
Environmental Emphasis in the CRP	26
Expansion to 65 Million Acres	26
References	27
Appendix: Background and Operation of the CRP	29
Previous Land Retirement Programs	29
CRP Legislative History	29
CRP Rules	29
CRP Relationship to Other Programs	31
Factors Affecting CRP Enrollment	31

Summary

The Conservation Reserve Program (CRP) will boost net farm income and improve environmental quality substantially over the life of the program (1986-99). These gains will come at the cost of somewhat higher food prices and Government administrative expenses, and potential downturns in farm input industries and other local economic activity tied to farming where enrollment is heavy. Net economic benefits of the program range between \$3.4 billion and \$11.0 billion in present value, according to estimates derived in this report.

The report also looks behind the bottom-line estimate to determine how well the CRP does in reaching each of its multiple goals, which are to reduce soil erosion, protect the Nation's long-term capability to produce food and fiber, reduce sedimentation, improve water quality, create better habitat for fish and wildlife, curb production of surplus commodities, and provide income support to farmers.

The CRP's progress toward its explicit goals must be measured against other effects that the program has on the overall economy. Taking 45 million acres of cropland out of production for 10 years increases commodity prices and reduces environmental problems linked with soil erosion. The price hikes and production cuts cause ripple effects in the farm sector, agricultural industries, and other segments of the economy tied to agriculture.

Farm income (present value) will rise by \$9.2-\$20.3 billion between 1986 and 1999 from higher commodity prices and lower production costs. Landowners who plant trees as the cover crop on approximately 3.5 million CRP acres will gain \$4.1-\$5.4 billion in wealth. Landowners also gain as CRP rental payments are transferred to them from the Government.

Environmental benefits, quantified at about \$6.0-\$13.6 billion, will be felt mostly in off-farm areas now being affected by agricultural soil erosion. The value of improvements in surface water quality from the CRP ranges from \$1.9 to \$5.3 billion. Wildlife habitat benefits range from \$3.0 to \$4.7 billion. Wind erosion abatement benefits range from \$0.4 to \$1.1 billion. Even though protecting soil productivity for the future is a primary factor in determining whether a field is eligible for enrollment in the CRP, soil productivity benefits account for only \$0.8-\$2.4 billion of the CRP's environmental gains.

A 45-million-acre CRP will cost the Federal Government \$21.5-\$22.8 billion in rents, bonuses, cost sharing, and technical assistance. Most of these costs are offset by savings in price and income support payments to farmers. Government payments to farmers fall by \$16.2-\$19.5 billion because some commodity base is retired and market prices rise, resulting in indirect cost savings.

Less agricultural production will mean fewer purchases of inputs and less money spent on storing and processing agricultural commodities. Fertilizer use will decline by as much as 12 percent. Exports also will decline as production falls.

Consumer food costs will climb by \$12.7-\$25.2 billion over the life of the CRP, peaking around 1995. Food cost increases will be less than 1 percent in any given year.

The range of estimated economic effects would change if projected crop price levels would have been attained through other land retirement programs in the absence of the CRP. The range also would change by including other effects not measured in this analysis such as decreased social losses from production of excess crop supplies and diminished quantity of agricultural products exported. CRP environmental quality benefits are sensitive to regional enrollment patterns and would vary if enrollment criteria and procedures were changed from the conditions assumed in this report. Finally, if this analysis had been conducted after the effects of the 1988 drought were known, some estimated economic effects would change significantly. In particular, estimated CCC cost savings would be reduced due to higher post-drought commodity prices. Thus, our estimates of the net economic benefit and net Government expense of the CRP should be interpreted as approximations of the true effects of the program.