Monitoring the Economic Impacts of the Conservation Reserve.

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By John A. Miranowski

The Conservation Reserve Program is proving to be a highly successful approach to reducing soil erosion, as well as achieving other objectives, in a relatively short span of time. Following the fifth signup period in July 1987, more than 200,000 contracts covering almost 23 million acres had been accepted. On enrolled CRP acres, average annual soil loss has been reduced more than 21 tons per acre—approaching 500 million tons for the nation. To say the least, such an overwhelming response will have significant impacts on both maintaining agricultural productivity and reducing environmental damage.

Not only is the CRP achieving a substantial reduction in soil erosion, but is also an important shift in direction for conservation activities. The CRP came about in the 1985 Food Security Act as part of an effort to achieve greater consistency between commodity and conservation programs. Thus, in addition to bringing about substantial soil conservation in a short period of time, the CRP will also achieve significant supply control impacts by retiring 40 million to 45 million acres. Additionally, viewed in the larger package of conservation provisions in the act, the CRP acres will be subject to conservation compliance when CRP contracts expire, and many of these acres may not return to crop production, benefitting both long-run supply control and conservation.

Economic monitoring

The Economic Research Service has provided objective economic information at each stage in the CRP process. This information has focused on the economic tradeoffs and impacts of alternative strategies for program design, implementation, and monitoring. Initially, an ERS policy options paper, coupled with analyses of swampbuster, sodbuster, and defining highly erodible land, served as input to the legislative process. ERS focused on the choices for implementing the CRP, including (a) which land should be eligible, (b) how large should bid pools be, and (c) which bid selection criteria should be chosen. In response to the last question, four criteria were considered: minimizing government CRP payments, maximizing erosion reduction, minimizing government commodity program payments, and minimizing net cost per ton of erosion. Thus, the tradeoffs between soil erosion control, supply control, and government outlays were presented. Other tradeoffs are possible, and many were analyzed. Given the relatively high level of bid acceptance, alternative selection criteria may not have had a major impact on program performance, but the analyses provided useful insights into alternative implementation strategies.

As the program enters the last half of the enrollment process, our focus is shifting to monitoring and documenting economic impacts and accomplishments of the program.

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First, why is program enrollment concentrated in a relatively small portion of the United States? For example, 75 percent of all counties are participating in the CRP, but more than 80 percent of the accepted acreage is contained in only 25 percent of all counties. Our preliminary assessment indicates that two factors explain much of the concentration: concentration of eligible acreage in certain areas and differences in annual CRP payments relative to average cash rents. To illustrate, 44 percent of the available acreage occurs in the Northern Plains, Southern Plains, and Mountain Regions, while these regions have 60 percent of the current CRP acres. These three regions also have the highest ratio of annual CRP rental rate to average cash rent.

Second, what impact is the CRP having on local markets for agricultural land? Reports of the CRP stabilizing or increasing local land values have surfaced in the Midwest and Great Plains. Where the value of the 10-year CRP contract exceeds the average value of cropland, a new price floor is likely to be established for CRP-eligible cropland, even though this land is frequently below average in quality. Such a situation has evolved in the Mountain and Northern Plains Regions, where the present value of CRP contracts exceeds average cropland values by as much as $100 per acre in local areas.

Third, what are the local and regional impacts of the CRP? Again, because of the recent implementation of the CRP, we are only beginning to assemble evidence. Our preliminary estimates indicate that, in general, CRP impacts on total employment, income, and output at the state and national levels have been marginal, even in high-participation regions, and will continue to be small throughout the life of the program. However, employment, income, and output may significantly decline in some economic sectors while increasing in others. Counties and pools with high participation rates may incur more significant adjustments as well. The economic adjustments will most directly bring about impacts on the agribusiness sector and other local businesses. Household spending may even increase in areas where net returns from CRP participation exceed net returns from crop production. Also, the local impact will depend upon how rapidly CRP acreage is enrolled in the local area, with the transition costs of a shorter, more abrupt adjustment period higher for local, agriculturally related businesses.

Other monitoring issues

Even though soil conservation is the principal objective of the CRP, a number of other resource and environmental objectives were mentioned in the legislation and discussed during implementation. Such other objectives include avoidance of groundwater contamination, reduced groundwater mining, and improved surface water quality. Obviously, the CRP will reduce water and air pollution from soil erosion, reduce chemical use on CRP acres, and reduce groundwater mining on irrigated acres placed in the CRP. Yet, targeting the CRP to highly erodible acres will not necessarily target the more serious surface water and groundwater quality problems.

A review of available data on the concentration of CRP eligible land, concentration of CRP enrollment, major areas of groundwater mining, surface water quality areas benefiting from reduced agricultural loading, and populated areas with potential groundwater contamination indicates the degree of correspondence. Overlaying CRP participation or eligibility with other environmental issues illustrates a high correlation with groundwater mining, partially explaining the recent decline in irrigated acreage. The link is weaker with surface water and groundwater quality concerns.

Although empirical evidence is not available to relate air quality (wind erosion) and CRP participation, there is every reason to expect a close relationship. But we lack economic information on the tradeoffs involved from including the environmental objectives in the eligibility criteria, altering distribution of CRP acreage by modifying the bid/rent ratios, or proposing an expanded CRP to address environmental issues.

A final issue to note is that the choice of objectives in implementing the CRP is not unrelated to the current GATT negotiations and the president's trade liberalization proposal. Although for quite different purposes, the Europeans are also monitoring the CRP. The current negotiators are considering "producer subsidy equivalents" in their discussions. Environmental programs, such as the European Economic Community's proposed extensification program, are not included in the discussions, but production control/income support programs are included. It is likely that the CRP will be considered by the EEC as a subsidy to agriculture and subject to negotiation.

A new experiment

Monitoring the CRP and assessing the economic tradeoffs in implementation not only provide some unique challenges, but an exciting opportunity to apply economic concepts to a new experiment in conservation policy. The CRP has achieved a substantial reduction in soil erosion and may provide an opportunity to experiment with other objectives.