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WANTED: A Leaner and Meaner CRP

by Steven J. Taff
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Well-intended government programs sometimes try to do so much that they end up doing too little. That could be the fate of the Conservation Reserve Program (CRP), a laudable conservation effort that is so encumbered with secondary objectives that it costs more and accomplishes less than it should.

The CRP evolved out of the 1985 Food Security Act (the Farm Bill), which itself had three major objectives: soil erosion reduction, surplus commodity reduction, and federal budget reduction. All three were to be addressed in part through two land retirement instruments or programs—acreage cutbacks and a conservation reserve. To accomplish this feat, each program was in turn given its own erosion control, supply reduction, and budget reduction features. Therein lies the problem.

The CRP can be and should be redesigned to make it work better and cheaper along the lines of three changes spelled out below. But first, a little about the programs.

The Conservation Reserve Program

Under the CRP, participating landowners agree not to produce on highly erodible cropland for ten years in exchange for an annual rental payment. During periodic sign-up rounds, landowners submit bids to the USDA indicating the acreage they would retire and the amount per acre they would be willing to accept annually in compensation. The USDA then selects the lowest bids in the multi-county pool in which the farm is located. Retired lands are managed to reduce erosion to tolerance levels—usually by planting a cover of perennial grasses.

But the CRP was designed to do more than reduce erosion. Supply reduction is supposed to work through what we call the “base bite.” Each acre entered into the reserve proportionately reduces a farm’s aggregate acreage base over the ten years of the contract. This base reduction, in turn, reduces the amount

of land that the farmer is permitted to plant to program crops and so reduces the deficiency payments farmers receive on those crops. Production and government outlays are both scaled back.

Unfortunately, even if the CRP reaches its ultimate goal of 45 million acres, it will only modestly affect commodity supplies. For example, if past sign-ups are extrapolated, the full CRP will reduce annual corn production through the base bite by only 435 million bushels. This compares with current annual corn surpluses of 2.3 billion bushels.

A product of the Gramm-Rudman-Hollings era, the CRP also features budget reduction in its array of objectives. The base bite effectively rents a portion of the landowner’s acreage base for the ten years of the contract, thereby reducing the commodity payments for which the landowner is eligible. This, of course, creates a major disincentive to CRP participation, especially in the Corn Belt where each acre of CRP entry can cost a farmer \$150-200 in foregone net cash returns. Periodic bonus payments, like those offered for corn in the February 1987 CRP bidding round, are simply recognition of the need to entice CRP entry by additionally compensating farmers for the substantial opportunity cost created by the base bite.

CRP program costs were to be minimized by the bidding process itself. Since the opportunity cost of CRP parcels presumably varies from landowner to landowner, the government could get the cheapest conservation benefits by taking the lowest bids. So went the idea. As things turned out, however, the only genuine bidding occurred among first round participants who did not know that the USDA had decided to put an upper limit on accepted bids in order to prevent outlandish payments.

These caps have remained essentially unchanged in subsequent rounds. As this knowledge became widespread, the distribution of bids received converged to the cap level in each pool. Why bid lower when you know the government will pay the cap? The cap rate has in effect become the going price for cropping rights on fragile land, and low-end bids have disappeared. Any cost-saving potential of a bidding process has been lost.

The Acreage Reduction Programs

The other major land retirement feature of the Farm Bill is the annual “set-aside” program, whereby eligibility for price supports and deficiency payments is conditioned upon reductions in acreage planted to program crops. These acreage reduction programs, or ARPs, have been the traditional approach to supply control. Set-aside requirements rise and fall in direct proportion to perceived over-

supply of various crops. However, despite a significant amount of mandated cropland idling over the past several years (some 250 million acres not planted since 1982) excess stocks, especially corn, remain at all-time highs.

Partly to blame is the often-observed phenomenon of “slippage,” wherein the potential supply effects of acreage set-asides are dampened by farmers idling their least productive lands. Slippage affects the CRP as well. Low-productivity CRP-eligible acres are sometimes held out of the CRP so that they can be counted toward the ARP. Such crowding out lowers the

Crop Bases

A farm’s official crop acreage base is an accounting entity used by USDA to determine the magnitude of the deficiency payments for each program crop. The base is *not* a geographical designation. Hence, a particular acre should not be thought of as a “base acre” or a “non-base acre.”

CRP Eligibility

CRP eligibility is restricted to “highly erodible” croplands. This is not a static set of land parcels or soil types. The original definition was soils in capability classes VI-VIII or those in classes II-V that were eroding at more than three times the soil-loss tolerance rate (“3-T” or greater). There are an estimated 60-70 million acres of such land nationwide. For 1987, the definition was changed to croplands that have an “erosion index” of 8 or more and are eroding over tolerance rates.

This measure results in a slightly larger nationwide CRP pool. But it also removed from eligibility some lands that had been eligible under the old definition. To date, *both* eligibility criteria are used concurrently.

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pool of eligible acres for the Reserve.

The ARP has modest erosion reduction requirements as well. All idled land is supposed to be covered at least by annual grasses. But these requirements are often unheeded. In addition, wildlife interests argue that required maintenance practices (such as mowing) sometimes endanger, rather than enhance, wildlife habitat.

Over the years, of course, the principal effect of the ARP has been budget reduction, not supply reduction or conservation. The set-aside retirements proportionally reduce government outlays since they lower the official acreage on which commodity program benefits are paid and they reduce government-subsidized storage costs. This is not the best way to lower the budget, either.

What To Do

An axiom in economic policy analysis holds that for each policy objective, there should be at least one instrument or program. The axiom is violated in the case at hand: the CRP and ARP are single instruments each with a host of objectives. And, neither instrument is effectively dealing with its objectives.

This is not to say that multi-objective programs are undesirable. Rather, it argues that for the three policy goals under consideration here (erosion control, supply control, and budget reduction) there ought to be at least three programs. Failing that, principal objectives should be clearly specified and carefully addressed, lest *none* of the objectives be met.

Our solution is straightforward: make each of the two programs more effective by focusing each upon a single objective, erosion reduction in the case of the CRP and supply reduction in the case of the ARP. Three steps toward that end:

- Get rid of the base bite,
- Get rid of the bid cap,
- Target the CRP to truly marginal croplands.

Let's look into each in a little more detail.

Get rid of the base bite. The bite drives the cost of CRP participation too high. Because of it, the USDA has to pay more for each acre that is entered and some eligible land is not even considered for entry in the first place. Get rid of the bite, and the opportunity cost of enrollment will be the value marginal product of the retired land itself, not the opportunity cost of foregone governments payments on the farm as a whole. More land will be entered, and CRP rental payments could be lower.

Admittedly, the base bite may be effective in reducing government price-support payments. Whether the net effect of this reduction balanced against annual CRP payments is positive, even with conservation benefits factored in, is an empirical question. But, does it make sense for a government to distribute rights to payments under one program, only to turn around and rent back those rights under the CRP?

Get rid of the bid cap. A genuine bidding procedure, not the sham bidding that now takes place, makes a great deal of economic sense. With no base bite and no bid cap, farmers would bid their true willingness-to-receive, not some (potentially)

high preset cap. Let market forces decide the price for cropping rights on marginal lands. It's bound to be cheaper.

Restrict program eligibility. Eligibility for both the CRP and the ARP needs to be tightened, and each program needs to be thought of in the context of a continuum of land retirement programs with different durations.

An efficient targeting scheme would consider two basic characteristics of any parcel of cropland: its inherent agricultural productivity and its inherent potential, if cropped, to cause environmental damage through erosion. Land parcels could then be ranked on the basis of these two characteristics, using land quality indices developed for this purpose and arrayed according to their position in each ranking, as illustrated in Figure 1. A parcel located in the upper left of the figure, for example, is highly productive but cropping it can lead to environmental damage. Cropping land in the lower right doesn't cause much damage, but the land doesn't produce much either.

Land retirement programs should be targeted on the basis of inherent land characteristics like these, not on the basis of who owns the land or what the land is currently used for. Using Figure 1, we would focus particular retirement programs on parcels with particular productivity/damage combinations. To better reduce production through set asides, for example, we would require that no low-productivity lands be entered into the ARP. At the same time, the CRP should be limited to accepting only truly marginal land from the lower-left corner of the diagram.

The popular notion is that the CRP retires environmentally fragile and unproductive lands that shouldn't have been cropped in the first place."

In reality, a significant portion of enrolled CRP land has been generally productive soils on which erosion can be controlled with proper management. Our proposal would restrict CRP eligibility to those lands that need not and should not be used in production.

The two programs should be redesigned so that the more productive and less damage-prone a land parcel is, the shorter is its period of retirement. While CRP lands should continue to be retired for ten years (or longer), ARP idling should run for three to five years on lands with high damage potential and only one year on lands with lower potentials. A suggested pattern of retirement programs is shown in Figure 2. As

one moves up and to the right in the diagram, the duration of the relevant program would diminish.

Such a pattern would allow retirements aimed at production adjustments to ebb and flow in response to supply conditions, relaxing in times of relative shortfall and increasing in times of surplus. Those soils in the upper right of the diagram, those that do not erode seriously and are highly productive, are precisely those on which productivity should be encouraged. It is on these lands that the long-run comparative advantage of the United States as an exporter and a low-cost producer is greatest.

Figure 1

Identify soils for program enrollment by inherent productivity and damage potential

		Damage Potential	
		high	low
Productivity Potential	high	ARP	Encourage production
	low	CRP	No Programs

Figure 2

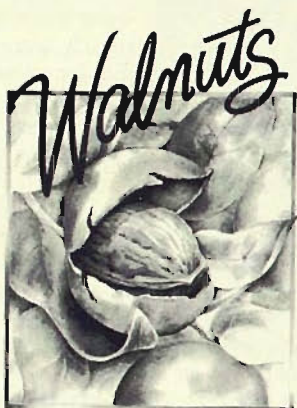
Make the duration of land retirement programs responsive to land characteristics

		Damage Potential	
		high	low
Productivity Potential	high	3-5 years	1 year
	low	10 years	No Programs

The Result: More Cost-Effective Programs

The scheme outlined here would clearly make each program more cost effective. Because ARP Lands would be more productive, idling them will have a greater supply control impact and reduce slippage. And because low productivity/high damage lands yield less and cost more to farm, CRP bids on them will be lower once true bidding is resumed and the base bite is removed. Targeting the CRP to these lands will maximize soil conservation for a given amount of government expenditure.

One might argue that the lowest productivity lands would come out of production anyway, as economic incentives for continued production decline. However, because there is no market for environmental damage, these lands may be even more vulnerable to abuse when they are no longer cropped. Low productivity lands with highest damage potential must be specifically safeguarded by long-term CRP enrollment.



C A L I F O R N I A

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This call for targeting government programs to meet particular policy objectives is not particularly new. Policy watchers have been saying the same thing for years. We claim that enough is known about soil, crop, and economic sciences that we can do more than just call for changes. And, it's already being done: Minnesota, for one, uses the productivity/damage concept to target its own state-level land retirement program. The February 1988 CRP bidding round might be the last under current rules. We have a chance to make it better next time around. Unless the CRP is changed along the lines proposed, deemphasizing its supply control and budget reduction expectations, its conservation achievements could be lost in the shuffle.

For More Information

A good summary of various soil erosion control targeting mechanisms is *Soil Conservation: Assessing the National Resources Inventory*, edited by Charles Benbrook and available from the National Academy of Sciences, Washington, D.C.

For a series of discussions on how to apply what we know about soils and economic systems to the problem of soil erosion, see *Making Soil and Water Conservation Work: Scientific and Policy Perspectives* edited by D. W. Halbach and others. You can obtain copies from the Soil Conservation Society of America (Ankeny, Iowa) for \$10 each.

Not everyone thinks crop productivity indexes are the way to go. A 1986 article by P. J. Gersmehl and D. A. Brown, "Regional Differences in the Validity of the Concept of Innate Soil Productivity," in the *Annals of the Association of American Geographers* argues that such indexes measure "true" productivity only in certain parts of the country. 

Acreage Reduction Mechanisms

The Farm Bill provides three instruments to control supply—set asides, acreage limitations, and required diversions. All three, often used interchangeably in the literature, require that the farmer not plant some cropland in exchange for government subsidies. A "set-aside program" requires that the farmer not plant a particular proportion of "planted acres." An "acreage limitation program" requires that the farmer not plant a particular proportion of the "crop acreage base." "Required diversions" are additional to the other two and may be tied either to base or to planted acres. The distinctions are important to the extent that program crop bases, the average of several years of planting, differ from actual planted acres, which is a one-year record only. In this paper, all three supply-reduction mechanisms are subsumed under the rubric "Acreage Reduction Program."