A National Survey of Farmer Attitudes About the Conservation Reserve Program

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December 1986

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Acknowledgements

The authors wish to express their gratitude to the following persons for their important if not indispensable contributions to this report:

--- Ralph Grossi, President, American Farmland Trust (AFT), for his financial support that made the project possible and his encouragement during its implementation;

--- Robert J. Gray, Senior Associate, AFT, and Norman A. Berg, Senior Advisor to AFT, for their guidance through all stages of the project;

--- Gary Nordstom and Jeffrey Goebel, Resources Inventory Division of the Soil Conservation Service (SCS), U.S. Department of Agriculture, for their assistance in identifying counties nationwide with large acreages of cropland eligible for the Conservation Reserve Program;

--- Gordell Brown and Jack Webb, Conservation and Environmental Protection Division of the Agricultural Stabilization and Conservation Service (ASCS), USDA, the SCS District Conservationists and the ASCS County Executive Directors in 59 counties nationwide for their assistance in drawing our interview samples;

--- Richard Farnsworth, John van Es, and Robert Walker of the University of Illinois-Urbana; Hal Hiemstra and Nancy Bushwick of the National Association of the National Wildlife Institute; James Spitz, Office of the Secretary, U.S. Department of Agriculture; and Wayne Chapman, Extension Service, USDA, for reviewing drafts of the survey instrument;

--- Matthew Franck, Marilyn Howard, Jae-Young Park, and Rosemary Esseks for their varied contributions as research assistants; and

--- Joanna Bark and Pat Schiesser for their word processing work.

Executive Summary

The new Conservation Reserve Program (CRP) invites owners or qualified operators of highly erodible cropland to convert it from annual crops to vegetative cover for a ten-year period in exchange for fixed annual rents paid by the U.S. Department of Agriculture (USDA). While the program currently guarantees that the owner or operator receive rent on the land, the program's public benefits also should include reductions in 1) soil erosion, 2) water pollution caused by erosion of cropland, and 3) production of annual crops, including those that have tended to be in surplus supply, such as corn, soybeans, and wheat.

The Survey's Purpose and its Samples

A telephone survey of representative samples of program participants and nonparticipants was commissioned by The American Farmland Trust (AFT), one of the leaders in the conservation coalition that successfully lobbied for the Conservation Reserve Program, and completed by the Public Opinion Research Lab of Northern Illinois University. The survey's main purpose was to monitor implementation of the CRP. Conducted from mid-July to early August 1986, the interviews yielded a total of 1,173 respondents from 59 counties in 23 states. Counties were selected randomly from nationwide pools of counties with relatively large quantities of CRP-eligible land. The respondents included 684 persons who had offered land for the CRP in either the March or May 1986 signups and 489 nonparticipants who, according to local Soil Conservation Service (SCS) personnel, owned land that was likely to be eligible for the program.

Cropland Owners' Reasons for Not Participating

In response to an open-ended question on why they had not offered (or "bid") land for the CRP, the most frequently cited reason by nonbidders (41 percent of that sample) is that their land was not eroding badly enough to be eligible. Given that this sample was drawn from the areas of their counties believed to be mostly eligible for the program, we can conclude that many or most of those nonbidders are mistaken. An informational campaign is needed to correct their misperceptions. Because SCS has the best information on soil loss, as well as the local-level offices to communicate that information to landowners and operators, it appears best suited to undertake this task.

The second most common reason given for not bidding (reported by 25 percent of the nonparticipants) was the belief that USDA would not pay adequate rents. The Department had set maximum acceptable bid levels for each cluster of counties that comprise USDA's "bidding pools" for the CRP subsequent to the submission of bids. Nonbidding farmers learned of these ceilings through the media and personal contacts. Among those in our sample who found these levels inadequate, many reported that they would be too low to meet the costs of mortgages, taxes and expenses required for the establishment of vegetative cover. Another sizable subgroup argued that their land was too productive to accept the rents offered by USDA; the owners could do better by planting annual crops.

The third most frequently cited explanation for not bidding is the length of the contract period; 13 percent of the nonbidders found the ten-year time period to be excessive.

Bidders' Reasons for Participating

In response to open-ended questions about their reasons for bidding, more than half of the bidders reported one or more conservation motives (e.g., to save the soil, to give the land a rest). Thirty-five percent explained that the bidded land had not been earning enough in crop production; thirty percent of the sample cited other financial motives, including the attraction of a guaranteed income over ten years.

Besides identifying reasons directly through these open-ended questions, the report supplies likely explanations of bidding through the indirect means of comparing the traits of bidders and nonbidders. From this analysis, four characteristics emerge as significantly associated with bidding. (1) the owner's willingness to accept that his/her land has erosion problems; (2) the owner's age (those close to retirement were less likely to bid, presumably because the ten-year CRP contracts were seen as obstacles to selling the land); (3) whether the owner is also an operator (owner-operators were more likely to bid than nonoperators, probably because the former were closer to the land and better appreciated its suitability for the CRP; and (4) whether an owner has recently--in the past five years--received technical assistance from USDA's Soil Conservation Service (recipients were more likely to bid than nonrecipients, perhaps because the USDA connection kept the former more aware of the CRP. They may also have been more comfortable about entering into a contractual arrangement with USDA.

Bidders' Attitudes towards the CRP

Both bidders whose bids were accepted by USDA and those with rejected bids tended to express positive attitudes towards the program. Seventy-three percent of the former group and 56 percent of the latter responded positively to the question, "Would you recommend to other owners of farmland or ranchland eligible for this program that they bid land for the program?" When the respondents with accepted bids were asked to evaluate the technical and cost-sharing assistance provided by USDA, very few--only 11 percent--classified themselves as "dissatisfied." Seventy-nine percent were "very satisfied" or at least "somewhat satisfied."

Proposed Changes in the Program to Elicit More Bids

All respondents were asked to react to five reforms proposed for the CRP. Both groups considered elimination of the prohibition on grazing or haying on CRP land to be the single most attractive reform. Two-thirds of the bidders and 62 percent of the nonbidders said that such a change would increase their willingness to bid in a future signup. Second in its apparent appeal to both groups was a reform in USDA's pricing policies--a proposal that called for the Department to "announce fixed dollar amounts per acre that it would accept in each region of the country. There would be a different rent amount according to each class of eligible land's productivity, and the figure for each class would be the average cash rent that

class had earned the previous three years." Fifty-nine percent of the bidders and 57 percent of the nonbidders reported that this set of changes would make them more willing to bid in the future. The only other reform attracting the majority interest of the two groups was the proposal permitting CRP land to be applied toward set-aside requirements of government commodity programs. Fifty-seven percent of the bidders and 52 percent of the nonbidders responded positively to this proposal.

The Helpfulness of Information Sources on the CRP

The survey's respondents were asked to assess the helpfulness of six sources of information on the CRP. The bidders' sample considered the three most important to be USDA's Agricultural Stabilization and Conservation Service (ASCS), the SCS, and "farm magazines." Nonbidders ranked the top three as ASCS, farm magazines, and SCS.

Policy Recommendations

Among the policy recommendations indicated by the survey's findings are: 1) greater outreach efforts by SCS, especially the many landowners who apparently mistakenly believe that their land is ineligible; 2) maximum rents per bidding pool that differentiate according to the productivity of eligible land; and 3) elimination or softening of the prohibition on grazing or haying on CRP land.

A National Survey of Farmer Attitudes About the Conservation Reserve Program

1. Background and Purposes of the Survey

The 1985 Farm Bill authorized an innovative program for reducing soil erosion and for taking excess land out of annual crop production. The bill's Title XII (Public Law 99-198) provides for a Conservation Reserve Program (CRP), under which owners or eligible operators[1] of "highly erodible cropland"[2] offer to keep such land in vegetative cover for ten years in exchange for annual rents paid by the U.S. Department of Agriculture (USDA) and for the Department's financial and technical assistance in establishing the cover. The authorizing legislation aimed to enroll into the CRP "a total of not less than 40, nor more than 45, million acres" by the 1990 crop year.[3] As of September 1, 1986, after three signups for the program, USDA had entered into a total of 69,135 contracts with owners or operators who committed a total of 8.9 million acres to the program.[4]

Since to be eligible for the program all land had to have been cropped during at least two of the years from 1981 to 1985, the potential existed for retiring large acreages from the production of chronically oversupplied crops such as wheat and corn. Moreover, if 40 to 45 million acres of the country's most erodible cropland went into good vegetative cover for ten years, very substantial savings of topsoil and reductions in agriculturally-derived water pollution could be achieved. Another expected benefit was the creation, through the permanent cover, of hospitable environments for wildlife.[5]

The educational efforts, legislative hearings, and bill drafting that led to the CRP's inclusion in the 1985 Farm Bill were supported by a coalition of conservation groups including the Sierra Club, the National Aubudon Society, the National Association of Conservation Districts, and the Soil Conservation Society of America.[6] One of this coalition's recognized leaders was the American Farmland Trust (AFT).[7] Concerned that serious obstacles to the program's success might emerge as it was implemented, AFT commissioned a telephone survey of representative samples of program participants and nonparticipants after the first two signups (in March and May 1986) and just before the third (in August).

Therefore, between July 11 and August 4, 1986, staff of Northern Illinois University's Center for Governmental Studies and its survey research facility (the Public Opinion Laboratory) telephone-interviewed 1,136 cropland owners and 37 managers who represented owners. Averaging 21 minutes in length, the interviews focused on (1) why the owners had or had not applied to participate in the program, (2) whether certain proposed changes in the program would make them any more likely to reapply or apply for the first time, (3) if they were satisfied with the treatment received from the USDA agencies which handled their applications, and (4) how helpful USDA and other agencies had been as sources of information about the program.

The overall purpose of this AFT survey was to assist USDA and other interested parties, especially in Congress, to understand how the Conservation Reserve Program's principal clientele--owners of highly erodible cropland--viewed the

CRP during the first summer of its operation. More specifically, the survey sought to learn, from a representative sample of owners who had not applied to participate (i.e., had not bid any of their cropland to be accepted into the Reserve as of the second 1986 signup in May), what about the program had kept them from bidding. From a second representative sample of participants (i.e., those who had bid in the March and/or May signup), we wanted to learn what features of the program had attracted them to bid. The interviewed bidders also were asked to evaluate the treatment they had received from the USDA agencies involved in the program's implementation and whether, after experiencing that treatment, they would recommend the CRP to other owners of eligible land.

Both samples were asked whether they would be more likely to bid or rebid if selected changes were made in the program. Suggested reforms included reducing the contract period from ten to seven years, permitting owners to use CRP land for meeting the set-aside requirements of federal commodity programs, and allowing operators to hay or graze CRP land. Another set of questions posed to both sample groups surveyed is how owners learned about the program. This line of questioning sought to discover if the USDA agencies charged with educating the clientele about the CRP had fulfilled that mission.

2. The Samples

The sample of nonparticipants was drawn in three stages. First, the Resources Inventory Division of the Soil Conservation Service identified 120 counties nationwide that, according to the 1982 National Resources Inventory, had at least 100,000 acres eligible for the CRP and another 435 counties that had from 20,000 to 99,999 acres of CRP-eligible land. For this second group of counties there was the additional requirement that those acres comprise at least 20 percent of a county's total cropland. Each of these two sets of counties accounted for about a third of all the eligible land in the country; from each group we drew random samples of 30 counties (see Appendix I for a listing of the counties by state). One of the group from counties with at least 100,000 eligible acres had to be dropped for technical reasons (see Appendix II).

Second, the SCS District Conservationist (DC) in each of the 60 counties identified the townships or other geographic subdivisions of the county that collectively had a majority of the eligible acres (that is, where over half the county's cropland eroding at greater than 3T was located). Since we wanted to maximize the probability that owners of CRP-eligible land would be interviewed, we asked the District Conservationist to estimate what proportion of the total cropland in each of those townships or other geographic units was eligible. If the estimate was less than 33 percent, we did not use that unit. As it turned out, 48 percent of the interviewed nonbidders owned land in areas that were estimated to be 75 percent or more eligible; 32 percent of those cases came from areas in the 50-to-74-percent category; and only 19 percent were in the 33-to-49-percent class.

Third, the county's ASCS office was asked to count or estimate the total number of separate farm operations that, according to their current records, were located in each of the townships or other geographic units identified by the District Conservationist. We added up all the farm operations reported to us by the 60 ASCS offices then allocated interview cases to each township or other unit according to its share of that total. Each ASCS office was then asked to draw the designated number of cases per geographic unit, following random procedures that we supplied to it (see Appendix II).

The cases consisted of the owners of cropland planted to annual crops in 1984 and/or 1985, as indicated on "Farm Record Cards" that were drawn at random from ASCS office files. Each separate farm operation registered with the office had a card indicating whether any registered land had been planted to an annual crop in 1984 and 1985. Although the CRP program permitted land to be eligible if planted in any of two crop years from 1981 to 1985, the Farm Record Cards with which the ASCS offices worked began with 1984. During the interview, the land owners were asked whether any of their land had been in annual crops "in at least two of the five crop years from 1981 through 1985." If the answer was "no," the interview ended. Previously eliminated from this sample (and replaced with substitutes) were any owners who had bid land in the March and/or May signup.

The sample of bidders was derived much more simply. The ASCS offices in the same 60 counties were asked to submit full lists of all bidders in the March and May 1986 signups. After adjusting the lists for the owners who bid both times, we totaled the bidders, divided that sum into the number of bidders per county, arrived at a percentage share per county of the total, and then assigned to each county the share of total sample cases proportionate to its share of total bidders.

Thus, we ended up with two separate but comparable samples. The bidders and nonbidders both owned cropland in the same sets of counties that was probably eligible for the program. Land bid for the program had to fall into one of two categories: (1) clearly eligible for the program according to information available to the office or (2) possibly eligible (i.e., the available soil survey data did not indicate erosion rates clearly below the program's threshold and, if the bid were provisionally accepted, SCS staff would take additional steps, such as walking the fields in question, to determine eligibility). The local SCS office determined the category into which each fell.

The cropland owners and managers who were contacted for interviews tended to be cooperative. The refusal rates were 12 percent for the bidders' sample and 23 percent for the nonbidders (Table 1). We assumed that proportionally more bidders were interested in, or at least tolerant of, the survey because they had gone to the trouble of submitting bids. When we add the potential respondents who were sick, out of town, too hard of hearing to talk on the phone, and those who were not English-speaking to the refusals, the overall failure rates amount to 14 percent for the first sample and 29 percent for the second. The rates of completion were therefore 86 and 71 percent—high enough, we believe, for the findings of the survey to be useful to policy makers. By this we mean that the information given by the two samples' respondents should be sufficiently representative of the two pools of cropland owners from which the samples were drawn. However, we must be somewhat more cautious in making inferences from the nonbidders' sample. In addition, it is important to remember that both samples were limited to cropland owners (or their agents) who had registered with county ASCS offices and who had listed, working telephone numbers.

Table 1

Sample Sizes and Completion Rates

by sample type

Type of interview cases	Bidders		Nonbidders	
	Number	%	Number	%
Completed	664	85.8	50	70.9
Refusals	89	11.5	166	23.1
Sick, out of town, hard of hearing, not English–speaking	21	2.7	43	6.0
Totals	774	100.0	718	100.0

3. Cropland Owners' Reasons for Not Bidding Land into the Program

The AFT survey asked nonbidders if they had ever heard of the CRP before the interview and, if so, what there was "about the Conservation Reserve Program that has made you unwilling to bid land in . . . county?" "Nonbidders" were those persons who had not bid in either March or May and who said they would not submit a bid in the August signup period.

A rather significant portion of nonbidders—13 percent (Table 2)—reported that they had never heard of the program before the interview. Presumably, by the end of 1986 or the summer of 1987, most or virtually all of the potential CRP clients represented by this 13 percent will have at least learned about the program, since September 1986, USDA was planning a major public education effort on the CRP and the related "conservation compliance" component of the 1985 Farm Bureau (to be discussed below in Section 5 of this report).[8]

Besides acquainting potential clients with the program's existence, USDA must also persuade them of their eligibility. Among our sample of nonbidders, the most common reason given for not participating—by 47 percent of the sample—was the belief that none of their land was eligible. Various grounds for ineligibility were mentioned, including insufficient erosion, too few years of ownership of the land (at least three were required), and too few recent years of cropping the land (i.e., the legislation required at least two years during the period 1981–85). However, almost all the respondents who claimed ineligibility (89 percent) did so because their land did not erode badly enough, either because of its inherent erodibility or because of management practices applied to the land (e.g., terraces, no–till).

As explained in Section 2, our sample of nonbidders was selected because they very likely owned cropland that was eligible for the program. Were the respondents who claimed insufficient soil loss misinformed, or did they tend to own land in areas of their counties which the SCS District Conservationists estimated as having relatively low percentages of eligible land (i.e., from 33 to 49 percent and 50 to 74 percent, rather than 75 percent or greater)? When we related their answers on eligibility to the DCs' estimates, we found that 41 percent of this group of respondents had land in areas believed to be 75 percent or more eligible and that 35 percent owned cropland in areas estimated to be 50 to 74 percent eligible. In other words, it is likely that many or most of these nonbidders were mistaken about the eligibility of at least some of their land. Hopefully, those that are misinformed will be willing to change their opinions when provided with appropriate evidence.

SCS usually has the best field–level data on soil erosion, as well as having locally stationed experts who can interpret such data. Unfortunately, it appears that most of the nonbidders claiming insufficient erosion on their land did not consult SCS about the program; at least, what they learned from SCS was not found to be "helpful." When they were asked the question, "Did you obtain helpful information [about the CRP] from USDA's Soil Conservation Service?" 49 percent of those responding said "yes" (Table 27). Some of the other 51 percent may have found all that they needed from other sources. However, many or most would probably have benefited from the kinds of information SCS has to offer, especially its data and analysis regarding eligibility. Efforts should be made to alert these landowners to the SCS eligibility information. If staff resources are too limited for a comprehensive outreach effort, an attempt should be made to cover certain very

Table 2

Nonbidders' Reasons for Not Bidding Land into the CRP

by type of reason and number of respondents giving reasons of that type

Type of reason	Number	%
Had not heard of the CRP before the interview.	62	13.3
Their land was not eligible for the program. (Ineligible because of inadequate erosion rates).	218 (193)	46.9 (41.5)
The annual rental payments expected from USDA were considered to be too low.	115	24.7
The ten-year CRP contract was too long.	59	12.7
Respondents needed all their land to keep current farming operation viable.	32	6.9
Opposed on principle to this kind of program or had had bad experience with programs of this general kind.	30	6.5
Received insufficient or confusing information about the CRP.	29	6.2
Land tied up in rental agreements.	10	2.2
Base for percents = the number of respondents who had not bid in the March or May signup and did not intend to bid in August =	465	

important counties, such as those with large quantities of CRP-eligible land (at least 100,000 acres?). SCS should do most of the "bushbeating" for finding new CRP clients, because its staff tends to know the most appropriate "bushes" to beat.

The second most common reason for not bidding—given by 25 percent of the non-bidders—was that they expected the annual rents from the program to be too low. Among responses of this general nature were:

> "They won't accept a high enough bid."
>
> "What they pay me would be too little—it won't offset my expenses."
>
> "Most of the land is mortgaged; need more money from the bids."
>
> "We figure we make more money farming it."
>
> "Land is too good for what they're willing to pay; land is worth more than that."

These farmers preferred to keep their land in crops or at least to retain the option of cropping rather than accept the CRP rents paid in their areas. Although they may have had fields that were eroding badly, apparently their soils were still good enough, the fertilizers added were adequate, and/or other crop management practices were sufficiently effective to earn more revenue—including payments from government commodity programs—than the owners expected from the CRP. By contrast, as will be discussed in Section 5 of this report, the second most common reason given for bidding land was that, because of poor market prices and/or other factors, owners saw themselves as unable to earn enough from the land in crops.

This comparison suggest that ASCS's current practice of basing CRP rental ceilings on productivity averages for large clusters of counties may discourage bids from a substantial group of cropland owners—those whose land, though eligible for the CRP, is significantly more productive than the average for its pool area. To attract these owners, greater differentiation of prices by the land's actual productivity would seem necessary. Either two or more ceilings according to differences in the productivity of land found there could be established in existing clusters of counties ('bidding pools') or USDA could establish new pools or pool boundaries that better reflect variations in productivity.

For example, the Department permitted ASCS in Illinois to carve out a fourth pool for the August 1986 signup after having only three in the first two bidding periods. The new pool was for counties where eligible land was, on average, too productive for the $60 per-acre ceiling offered in that state's Pool #3 but not productive enough to merit the $80 maximum of Pool #1. As we have argued elsewhere, "Depending on where they are placed, newly formed pools need not increase the program's overall cost. While for some counties, the maximum rents will be increased, in others the ceilings may be lowered but still remain capable of attracting numerous bids. In the latter cases, the previous maxima would have been significantly above the level justifying bids because land in those areas tended to have relatively low average productivity but had been pooled with areas of high averages."[9]

The third most frequently given reason--reported by 13 percent of the responding nonbidders--was that the mandatory ten-year period for keeping their land out of crop production was too long. Among the responses of this kind were:

> "Can't see ahead that far in farming."
>
> "I'm 61 and hesitant to make such a long commitment."
>
> "May have to sell and don't want to leave the contract for the new owner."
>
> "Don't want to be tied down for 10 years."
>
> "They would get a lot more [bids] with five years."

None of the other categories of reasons in our coding scheme were cited by even ten percent of the nonbidders. Seven percent presented the argument that they needed all the potentially eligible land for their current operations:

> "Need all of my land for production."
>
> "I use all my land to the fullest extent."
>
> "Need to use every acre I have."
>
> "Don't have that many areas; need all I have to survive."

In other words, some farmers appear to believe that their operations are so finely (or precariously) balanced that retiring acres would be too risky.

We had expected that fairly large properties of the respondents would explain their nonbidding on the grounds of having received insufficient and/or confusing information about the program. However, in response to the open-ended questions about nonbidding, only six percent of the nonbidders gave reasons that came under those categories. Similarly, we had anticipated a fair number of responses to the effect that the landowner objected to government programs of that general nature (e.g., "Don't trust government"; "Don't like to be told how to farm"; or "Had bad experience with this type of program before"). But only seven percent of the relevant respondents reported such reasons. A third variety of response that failed to meet expectations concerned rental tenure, i.e., that the eligible land was tied up in formal or unwritten long-term agreements with tenants. Only two percent of the respondents reported reasons of that nature.

More of the nonbidders might have endorsed these reasons if they had been specifically asked to respond to them. Poor public education about the program, philosophical or personal hostility to the type of program, and rental tenure may be more serious obstacles to the program's success than indicated in the foregoing analysis. The questions about reasons for not bidding were open-ended, presumably yielding the reasons that were most important. In each case, if the respondent had more than one reason, he/she had the opportunity to report them. A follow-up question to the initial inquiry about reasons asked, "Is there something else about this conservation program that has made you unwilling to bid land you own in . . . county for it?" Many respondents gave three separate reasons; some provided

four. Among these one to four reasons, the most frequently mentioned and, therefore, the apparently most serious obstacles to more cropland owners bidding were (1) the perceptions (probably erroneous in many cases) that none of their land was eligible, (2) the belief that the rental prices acceptable to USDA were too low, and (3) the perception that the contract period was too long.

4. March and May Bidders' Reasons for Not Bidding in the August Signup

Another group of respondents who should concern the designers and managers of the CRP are cropland owners who bid in the March and/or May signups but were discouraged from further bidding. Sixty-eight percent of the respondents who bid in one or both of the first two signups reported that they would not bid in August. While some of the 68 percent might have changed their minds before the third signup began, only one to four weeks elapsed between the interviews and the start of that signup. The interview questionnaire included an open-ended question designed to learn why previous bidders were not planning to rebid.

Of the 464 previous bidders who said they would not rebid, 102 or 22 percent explained that all their eligible land had been accepted ("Don't have any land left"; "Land is already in the program"; "All accepted in May; none more left to bid in"). Another 25 percent attributed the decision not to rebid as wholly or partly due to the low rental prices expected from USDA (Table 3):

> "Bid twice; they don't even come close to the price needed."
>
> "They have no interest in going above $35 an acre; that's not enough money."
>
> "It costs too much to get it seeded for what they're willing to pay."
>
> "ASC [in commodity programs] pay way better."

Very few of this group of previous bidders (just 10 out of 117) offered a second reason. It seems almost all were discouraged by the levels of acceptable bids.

Interestingly, the third most frequent type of response given by the non-rebidders—solicited from 9 percent—involved not an explanation as to why they had decided against bidding again, but rather statements to the effect that they were undecided about rebidding, were leaning towards submitting a bid, or were very likely to do so. The fourth most common response—from five percent—was that their eligible land was tied up—already in crops, needed for grazing that year, or rented out. A very few respondents (just 1 percent) attributed their non-rebidding to the length of the contract period. When all the respondents who cited some other feature of the program (like the prohibition on haying or grazing CRP land) are added together, they compromise only four percent of the nonrebidders in our sample. Presumably, most of these previous bidders had reconciled themselves to those features of the program before they bid in March or May.

Therefore, the only obstacle to rebidding cited by a sizeable proportion of the non-rebidders--25 percent—was the expected level of CRP rents. If those rents were raised (as discussed above in Section 3) or—through educational efforts—the affected cropland owners' perceptions of adequate compensation were adjusted downward, many new bids should be received.

Table 3

Bidders' Reasons for Not Rebidding in the August 1986 Signup

by type of reason and number of respondents giving reasons of that type

Type of reason	Number	%
They had no land left to bid; all eligible land had been accepted in the March and/or May signup.	102	22.0
The annual rental payments expected from USDA were considered to be too low.	117	25.2
Undecided about bidding; leaning towards bidding.	41	8.8
Land is not now available (in crops, used for grazing, tied up in rental agreements).	21	4.5
The ten-year contract was too long.	5	1.1
Disapproved of other features of the CRP.	13	2.8
Base for percents = the March and May bidders who said that they would not rebid in August =	464	

5. Explaining Bidding Directly: How the Bidders, Themselves, Explained It

All the 708 respondents who reported bidding in March and/or May or who said they intended to bid in August were asked: "What was there about the Conservation Reserve Program that made you willing to bid land you own in . . . county?" For the few managers who answered on behalf of owners, there was a similarly worded question. The purpose of these questions was to understand what bidders are seeking from the program. Knowing those objectives should help program administrators attract more potential bidders.

The most frequently given reason for bidding land into the program was a concern for conservation. Fifty-five percent of the March and May bidders, plus those who planned to bid in August, reported that at least one of their purposes in bidding was to save soil, give their land "a rest," or achieve some other soil conservation objective (Table 4). Skeptics may attribute many or most of the answers of this general kind to respondents' intentions to give socially desirable reasons, i.e., something about soil conservation was expected. Reading over those responses (the interviewers were trained to type verbatim the answers given), we did find some that looked perfunctory. However, as the examples listed below indicate, many seemed to derive from genuine concerns about protecting the land from degradation:

> "The land is very erodible; I didn't like seeing it wash away."
>
> "Save it from the winds from becoming completely gone."
>
> "The land should have stayed in grass."
>
> "Hilly land that washes; could not afford terracing."
>
> "Keeping the land for use by the family in the future; it has been farmed every year and lost all the nutrients; [need to] build nutrients back up."
>
> "Allow land to rest . . . . Have had to rely on chemicals and herbicides for so long that they have built up on the land; and this is hurting performance and crop yields.

The example concerned with returning land to grass was one of many on that theme; it points to a set of circumstances which may facilitate participation in the CRP. Where cropland owners have highly erodible land that had been in pasture or range in the recent past, it may be easier for their farm operations to adjust to having it back in grass than if that eligible land had cropped for many years.

The two examples concerned with resting land, representative of many of that type, also point to a possibly serious conflict between the CRP's goals and those of bidders. The concept of "resting" the land suggests that, at some time in the future after the land has been adequately rested, it will be returned to its current use. A number of responses in this category explicitly mentioned rebuilding the land, improving its productivity, or otherwise anticipating a future time when it could be cropped. This is a traditional objective of soil conservation—protecting

Table 4

Bidders' Reasons for Bidding Land in the CRP

by type of reason and number of respondents giving reasons of that type

Type of reason	Number	%
To save soil, give land a rest, or achieve some other conservation purpose.	392	55.4
Their land did not earn enough in crops.	249	35.2
Attracted by the money to be received, by the guaranteed ten-year income, or by other perceived financial benefits.	210	29.7
To reduce the production of crops that are chronically in oversupply.	59	8.3
To cut back on farming because of advanced age and/or ill health.	49	6.9
To reduce the amount of land in their operations that has to be cropped.	14	2.0
To promote habitats for wildlife and recreation.	33	4.7
To plant their land to trees.	11	1.6
Base for percents = total number of respondents who bid in March and/or May or who intended to bid in the August signup =	708	

the land's capacity to produce food and fiber. However, the Conservation Reserve Program is concerned with long-term conversion of land out of cropping; many bidders may not have been aware of that objective.

Since, according to the 1985 Farm Bill, CRP land by definition is "highly erodible land," it is supposed to remain out of annual crop production after the expiration of the ten-year contract, unless protected from excessive soil erosion by a system of conservation practices approved either by the local soil conservation district or, in the absence of a district, by a representative of the Secretary of Agriculture (Public Law 99-198, Sec. 1212). Alternatively, the owner must be willing to suffer the consequences of not being in compliance with the bill's prohibition on cropping highly erodible land--such consequences being the loss of access to federal price support payments, farm storage facility loans, crop insurance, and disaster payments, as other benefits (Sec. 1211 [1]).

These "conservation compliance" prohibitions cover highly erodible land that either was planted to annual crops any year 1981-85 or has been newly cropped (or re-cropped) after the enactment of the 1985 Farm Bill. It seemed likely that many owners with such land currently in crops would make use of the CRP to convert their land to pasture, grass, trees, or some other income-earning use. Under the CRP, they receive free technical aid and up to 50 percent of the cost of establishing permanent cover. The alternatives are to lose access to federal farm programs or to run the risk of spending considerable money for installing conservation practices sufficient to meet USDA's erosion-control standards for the land. They must begin to install those practice by January 1990 (or by two years after SCS completes a soil map for their land, whichever is later). Full implementation is required by January 1995 (Public Law 99-198, Section 1212).

In other words, these cross-compliance regulations could serve as an influential negative incentive for the CRP, inducing owners and eligible operators to bid highly erodible land into the program so as to escape the costs of compliance for crop production. However, to serve this purpose, land users need to know about the regulations. The AFT survey found that many nonbidders as well as bidders had not heard of the Farm Bill's conservation compliance provisions. All respondents were asked the question:

> "Under the Farm Bill enacted late last year, owners of all highly erodible cropland must, by 1990, either take that land out of crop production or begin to apply to it approved conservation practices. Owners who fail to abide by these regulations will make themselves ineligible for price supports, crop insurance, and various other federal farm program benefits on <u>all</u> their land. Before my call today, had you heard of these regulations about becoming ineligible for federal farm program benefits?"

Fifty-five percent of our sample of nonbidders reported that they had not heard of the conservation-compliance regulations (Table 5); whatever incentive effect they might have had was lost, as these potential clients had no knowledge of them. Here is another significant information gap that justifies greater USDA outreach efforts on the CRP.

In addition, 39 percent of the bidders had not heard of the regulations. Of the particular subgroup of bidders who wanted to rest their land, 47 percent were

ignorant of compliance conditions. Obviously, these people in particular—but many if not most of the other bidders unaware of the regulations—could become very unhappy if, after bids are accepted and contracts are signed, they later find that they cannot crop the land once the contracts expire unless they apply certain conservation measures. Although those measures may prove to be relatively inexpensive (such as contouring with conservation tillage), on steeply sloping land they could involve costly terraces and other structures.

Let us return to discussing the bidders' self-reported reasons for submitting bids. While 55 percent of the bidders (392 out of 708) gave a conservation objective as a reason for bidding, conservation was usually not the only purpose. In two-thirds of those cases (258 out of 392), one or more other reasons were offered. The most common accompaniment to "conservation" (40 percent of the 258 cases) was an explanation that the parcels bid by the respondent had not been earning an adequate return in crops. This category of reasons, besides being the most frequent partner with conservation purposes, was second to conservation in overall frequency. Thirty-five percent of the bidders talked about the land's inadequate earning power (Table 4). Here are some examples:

> "Grain prices have been poor; corn at $1.70 per bushel."
>
> "Bad weather; drought, dry."
>
> "Can't make payments."
>
> "Land is too out-of-the-way to farm it."
>
> "Too small for tractors to turn around it."
>
> "Tough land to farm; should never have been in row crops."

These six examples illustrate or suggest four types of explanations for the land's failure to earn sufficient returns: poor market prices, bad weather, an accumulation of debts that perhaps even good yields cannot service, and particularly physical traits of the land—shape, location, and/or poor soils—that preclude economic farming.

This fourth kind of reason—inadequacy of the land plus a conservation purpose may be the best combination of motivations for achieving the CRP's goals of inducing cropland owners to take highly erodible land out of cropping and to keep it out permanently—or at least for many years. In the first place, with conservation purposes the owners presumably will be motivated to convert the land properly, that is, to work seriously with SCS to develop an adequate vegetative cover. Second, knowing the land's physical limitations, they should be less likely to return it to crop production.

The third most common explanation for bidding—given by 30 percent of the respondents to this line of questioning—consisted of statements that the owners needed the money or were attracted by the money to be made, i.e., the guaranteed nature of the payments over ten years. This group of reasons differs from the group just discussed in that the former does not argue that the land's earning power is inadequate, but rather that the owners can do better under the CRP:

Table 5

The Extent to Which Bidders and Nonbidders Had Heard of the Cross–Compliance Provisions of the 1985 Farm Bill

Type of response	Bidders		Nonbidders	
	Number	%	Number	%
Yes, had heard of regulations about becoming ineligible for various federal farm program benefits if *owner cropped highly erodible land.*	425	60.0	208	44.7
No, had not heard of such rules.	273	38.6	254	54.6
Don't know or did not answer.	10	1.4	3	0.7
	708[a]	100.0	465	100.0

Differences between answers of bidders and nonbidders are statistically significant at the 0.05 level in a chi–square test.

[a]Includes both March and May bidders, plus the respondents who said they would bid in the August signup.

"Good money price."

"Mainly cash flow."

"Was looking for a decent price."

"A guaranteed annual payment."

"A sure thing; hail and freeze won't get it."

"Shore up my ability to make payments on the land."

"Because of the $50,000 limit in other programs."

Ninety-five percent of the respondents who gave reasons for their bidding reported at least one reason among these top three categories of purposes: conservation, the bidded land's poor earning capacity, and the CRP's perceived superior financial returns.

The fourth most frequently given reason was the goal of reducing the production of crops with chronic surpluses. Eight percent of the bidders reported reasons of this nature.

The fifth most common type of purpose for bidding was the program's attraction for elderly and/or ill cropland owners who wanted to cut back or terminate their farming operations. Seven percent of the bidders attributed their bids at least in part to their poor health, advanced age, or actual or imminent retirement:

"I'm 65, and I don't want the bother of farming, so I bid it."

"I'm 61, and the machinery is getting old; and at my age I can't afford to go into debt to get more machinery."

"I'm old enough to slow down."

"Have heart trouble, and I can't farm it anymore."

"Mainly my health; I would like to get out from under farming for a while."

Except for farmers of the last type (i.e., their health problem may be temporary), cropland owners with these age- and health-related purposes for bidding should be especially good clients for the program's goal of keeping highly erodible land out of crop production. Like the owners who cited the land's physical limitations for economic cropping, these older and/or poor-in-health owners have persuasive reasons not to return the land to crops, at least not with themselves as operators or managers.

A related category of explanations consisted of statements to the effect that the operator wanted, through participation in the CRP, to reduce the amount of land he/she farmed:

"Cut down my work."

"I have all that I can do."

"Doing all my own work; this makes it easier to work the rest of the land."

Only two percent of the bidders reported this kind of purpose. However, many others may have had it as a latent reason. Like renting land out to other operators, placing acres in the Conservation Reserve Program was a way to reduce the work load while still owning the land. The advantage of CRP rents is that they are fixed for ten years, although as discussed above many bidders found them to be too low in value.

Five percent of the bidders mentioned the purpose of promoting habitats for wildlife and recreation. And two percent specifically mentioned the planting of trees as one of their goals. One of the most persuasive examples of this latter kind of motivation is: "The fact that you can put it in trees gives you some long-term income."

In summary, when the 708 bidders in our sample were asked to explain why they bid, they tended to report plausible purposes—to protect their land from the degrading effects of soil erosion, to escape from its limited earning capacity, to help reduce the chronic oversupply of certain crops, and to reduce or eliminate their work burden from farming. These reported reasons should not be too far removed from the actual purposes that motivated the bidders. Memory failure should not have been a major problem; interviews took place only four to four and one-half months after the first signup, two to two and one-half months after the second signup, and a few weeks prior to the August signup. While some or many of the interviewees may have given "socially desirable" responses rather than their actual reasons, we did not prompt them by offering categories of responses. The questions about reasons for bidding were "open."

From probably most respondents, we obtained their best effort at explaining a relatively recent action (bidding) or an action that was scheduled for a short time in the future. The reasons look plausible, should help us understand the behavior of the members of this sample, and may be helpful if used as model reasons for encouraging future bids. In other words, agencies charged with selling the program may wish to use the above catalog of reasons for persuading potential bidders to participate in the program.

6. Explaining Bidding Versus Nonbidding Indirectly: Statistical Comparisons of Bidders Versus Nonbidders

While in the two previous sections we sought to explain bidding and nonbidding in terms of the interviewees' given reasons for their decisions, in this section we take an indirect approach to explanation. Applying statistical tests for significant differences, we compare bidder-owners to nonbidder-owners on eight characteristics that seem likely to shape decisions to participate/not participate in the CRP. The relatively few farm managers (37) in our samples were excluded because they comprised a small group of "different fish"; they acted for owners, whereas the other 1,136 were owners. The owner characteristics hypothesized to make significant differences in bidding behavior are:

- The extent to which cropland owners believe their land has erosion problems, measured by their reports of the percent of the land on which "soil erosion is causing yields to decline, or the erosion is interfering with field operations . . . ." Our hypothesis is that the higher this percentage, the more likely it is that the respondent bids land for the CRP, because of the greater likelihood that his/her acres include some which are eroding badly enough to be perceived as eligible for the program.

- The financial importance that farming has for the respondent as measured by the percent of family income in 1985 derived from the farmland he/she farmed or rented out (including income from livestock). The hypothesis here is that, the higher the importance, the more likely that the owner bothers with the paperwork and other efforts required for a bid.

- The degree of financial stress respondents have been experiencing, as measured by the interviewees' reported extent to which they had "difficulty in obtaining loans for the needs of their farms." Our hypothesis is that, the more the stress, the more likely cropland owners are to explore the CRP as a means for reducing that stress.

- The size of the respondent's earnings from farming—his/her reported total gross revenues in 1985 from agriculture, including government payments. The higher the earnings, the better the respondent seems able to bear the risks of participating in the program.

- The respondent's age as of his/her last birthday, with the hypothesis being that the closer the respondent is to retirement age, the less likely he/she is to enter into a ten-year commitment. That is, the less he/she wants to tie the land up in ways that may hinder its commercial sale or transfer to heirs.

- Whether the respondent is currently a farm operator ("in the sense that you make day-to-day decisions about such things as planting, harvesting, and marketing"). Our hypothesis is that operators are more likely to bid than are nonoperators, because the former tend to have a better grasp of their land's erosion problems and earning capacity and therefore tend to appreciate better the advantages of the CRP for their particular land.

— The respondent's educational attainment (i.e., less than a high-school graduate, a high-school graduate, some college, etc.). The hypothesis is that the higher the attainment, the more likely a bid, because the better-educated respondent tends to be better able to cope with the complexities of the program, especially the bidding procedures, including how fair-to-the-owner bids are to be calculated.

— Whether the respondent has received technical assistance from USDA's Soil Conservation Service recently (in any year since 1981). Our hypothesis is that recipients are more likely to bid, because being a recent SCS client tends to make them feel more comfortable about entering a contractual obligation which includes establishing vegetative cover that meets SCS's specifications.

The bidding behavior that the above eight variables were hypothesized to determine is whether the respondent submitted a bid in the March and/or the May signups. We excluded from the "bidders" category the relatively few additional interviewees (24) who did not bid in either of the first two signups but said that they would submit bids in August. They were "likely" bidders but still could have changed their minds.

According to tables 6 to 13, all but one of the eight hypothesized causal variables are associated in a statistically significant sense with bidding in the March and/or May signups. Except in Table 9, which relates bidding to levels of gross revenues from farming, there are statistically significant differences in the percentages of bidders versus nonbidders across levels of the causal variables. The levels for the age, percent-of-income-from farming, and extent-of-erodibility variables were defined by quartile values. That is, the first level includes all those values in the lowest 25 percent of the responses (e.g., for age, from 22 to 44 years old); the second level comprises the responses from above the 25th percentile to the 49th percentile (45 to 55 years old); the third level consists of the responses from above the 50th percentile to the 74th percentile; and the fourth includes all those values at the 75th percentile and above.

Percent of land perceived to have erosion problems. Among the respondents who answered that none of their land had erosion problems, only 36 percent bid (Table 6). By contrast, among the group reporting that 51 to 100 percent of their land had such problems (i.e., the respondents in the fourth quartile), 85 percent bid. The percentage point-spread between the lowest (first quartile) and highest level of this variable (the fourth quartile) is an impressive 49 points. Besides this large spread, the change from level to level is in a consistent direction, that is, the higher the level, the higher the proportion of bidders.

We believe that the data in Table 6, as well as in the other tables that compare bidders to nonbidders, are representative of the relative differences between those two groups of cropland owners across levels of the hypothesized explanatory variables. However, given how we derived the two samples, the tables' entries do not accurately reflect differences among owners within the categories. For example, it is highly unlikely that the approximately 36 percent of all owners who believed that none of their land had erosion problems did bid in the March and/or May signups. Nationwide, less than 10 percent of all farmland owners submitted bids for the first two signups in 1986. The breakdown among owners in the first category listed in Table 6 happened to be 36 percent bidders versus 64 percent nonbidders, in part because we separately sampled from bidders and nonbidders and

Table 6

The Relationship between Bidding and Respondent's Perception of the Percent of His/Her Land that Has Erosion Problems[1]

	Percent of land with erosion problems							
	First quartile (zero %)		Second (1 – 10%)		Third (11 – 50%)		Fourth (51 – 100%)	
Bidders or nonbidders	No.	%	No.	%	No.	%	No.	%
Bidder owners[2]	153	35.6	83	57.2	226	71.7	171	84.7
Nonbidders owners	277	64.4	62	42.8	89	28.3	31	15.3
Totals	430	100.0	145	100.0	315	100.0	202	100.0

The differences in response across quartiles are statistically significant at the 0.01 level in a chi-square test.

[1]The survey questionnaire defined an "erosion problem in the sense that soil erosion is causing yields to decline, or the erosion is interfering with field operations, for instance, because of gullies."

[2]Includes only owner respondents who submitted bids in the March and/or May signup.

made our samples relatively equal in size rather than reflective of the fact that very few cropland owners had bid. If instead we had drawn one general sample from owners, the breakdown in Table 6, category #1 would have been closer to five percent versus 95 percent. However, given our interest in comparing bidders and nonbidders, the two separate samples we drew were more efficient. With a relatively small number of total interviews, the samples permit us to determine whether differences between the two groups on variables believed important to bidding behavior (e.g., percent of land perceived to have erosion problems, age, etc.) are indeed associated with differences in bidding.

Age. As with the perception–of–erosion variable, differences across categories of the age variable also follow a consistent pattern, but in the opposite direction; the percentage of bidders decreases from the lowest (i.e., the first) quartile (22 to 44) to the second and from the second to the third, etc. (Table 7). However, the percentage–point spread between the lowest and highest quartile is only 14 points. Compared to the erodibility variable, age seems less important, although in comparison to the other six causal variables it ranks fourth by the spread criterion (tables 6 – 13).

Percent of family income from farmland and livestock. When related to bidding in March or May, this variable also shows an indirect association, that is, the larger the percent, the less likely the respondent was to bid. But, again, the percentage–point spread is modest, only 10 points (Table 8). Moreover, there is some inconsistency in the direction of change as we move from level to level. Between the second and third quartile, the proportion increases somewhat (from 57 to 62 percent) and then drops in the fourth quartile (to 54 percent). These findings do not support our hypothesis that bidding increases as the importance of farm–derived income increases. Instead, we find little difference between the tendency to bid among those respondents in the lowest quartile (0 to 20 percent of their income from agriculture) and those in the third quartile (71 to 99 percent).

Gross income from agriculture. Our hypothesis that bidding increases as gross income from farming increases was also not supported. Instead, the percentage of bidders remains remarkably similar (58 to 60 percent), whether the respondent reported earnings of less than $20,000 per year or income over $100,000 (Table 9). At least for the first two signups, the owner's income from farming did not seem to make a difference.

Extent of difficulty in obtaining credit for farming. A variable that did appear to make a significant difference in the predicted direction is the respondent's report on whether he/she had difficulty in obtaining loans for his/her farm operation, either as an operator or an owner who shared costs with the tenant. Among those reporting no difficulty, 53 percent bid, while among those with "a moderate amount" or "a great deal of difficulty," 71 percent submitted bids (Table 10). This 18–percentage–point spread is the second largest, after the one for the perception–of–erosion variable. If, because of the continuation of poor market prices, more farmers in the surveyed counties develop serious debt–servicing problems, this factor promoting participation in the CRP may become stronger.

Operator versus non–operator. According to our samples, a cropland owner was more likely to bid if he/she was a current operator. The difference was 12 percentage points (Table 11).

Table 7

The Relationship between Bidding and Respondent's Age

	Age in quartile groupings							
	First quartile (22 to 44)		Second (45 – 55)		Third (56 – 63)		Fourth (64 and over)	
Bidders or nonbidders	No.	%	No.	%	No.	%	No.	%
Owner bidders[1]	187	64.9	181	61.1	146	54.7	139	50.7
Owner nonbidders	101	35.1	115	38.9	121	45.3	135	49.3
Totals	288	100.0	296	100.0	267	100.0	174	100.0

The differences in responses across quartiles are statistically significant at the 0.01 level in a chi–square test.

[1]Includes only respondents who submitted bids in the March and/or May signup.

Table 8

The Relationship between Bidding and Percent of Respondent's Family Income Derived from Agriculture

	% Family income from agriculture in quartiles							
	First quartile (0 to 20%)		Second (21 – 70%)		Third (71 – 99%)		Fourth (99 – 100%)	
Bidders or nonbidders	No.	%	No.	%	No.	%	No.	%
Owner bidders[1]	182	64.3	145	56.9	132	62.0	172	54.3
Owner nonbidders	101	35.7	110	43.1	81	38.0	145	45.7
Totals	283	100.0	255	100.0	213	100.0	317	100.0

The differences in responses across quartiles are statistically significant at the 0.01 level in a chi-square test.

[1]Includes only respondents who submitted bids in the March and/or May signup.

Table 9

The Relationship between Bidding and Level of Respondent's Family Income Derived from Agriculture

	Income categories							
	Less than $20,000		$20,001 to $39,999		$40,000 to $100,000		Over $100,000	
Bidders or nonbidders	No.	%	No.	%	No.	%	No.	%
Owner bidders[1]	194	58.8	102	58.3	150	59.5	180	58.8
Owner nonbidders	136	41.2	73	41.7	102	40.5	126	41.2
Totals	330	100.0	175	100.0	252	100.0	306	100.0

The differences in responses across income categories are <u>not</u> statistically significant at the 0.01 level in a chi-square test.

[1]Includes only respondents who submitted bids in the March and/or May signup.

Table 10

The Relationship between Bidding and Cropland Owner's Degree of Difficulty in Obtaining Loans for the Needs of His/Her Farm

Bidders or *nonbidders*	Reported degree of difficulty obtaining loans							
	No difficulty		Small difficulty		Moderate difficulty		Great difficulty	
	No.	%	No.	%	No.	%	No.	%
Bidders	366	52.7	81	68.1	77	71.3	106	70.7
Nonbidders	329	47.3	38	31.9	31	28.7	44	29.3
Totals	695	100.0	119	100.0	108	100.0	150	100.0

The differences in responses across degrees of difficulty in obtaining loans are statistically significant at the 0.01 level in a chi-square test.

Table11

The Relationship between Bidding and Whether the Respondent was Currently a Farm Operator

Bidders or nonbidders	Operator No.	Operator %	Non–operator No.	Non–operator %
Owner bidders[1]	535	61.0	126	48.8
Owner nonbidders	342	39.0	132	51.2
Totals	877	100.0	258	100.0

The differences in responses between operators and nonoperators are statistically significant at the 0.01 level in a chi–square test.

[1]Includes only respondents who submitted bids in the March and/or May signup.

Education. Educational level also seems to have made significant differences in the predicted direction. The percentage of bidders increases consistently from the lowest to the highest level of educational attainment. While 49 percent of the respondents without high school diplomas or their equivalent submitted bids, 57 percent of those who stopped after high school did, as did 61 percent of the interviewed owners with some college experience and 65 percent of those who completed college (Table 12). The percentage-point spread from the lowest to the highest levels is 16 points.

Recent-past experience as a technical assistance client of SCS. Respondents who recently—sometime within the previous five years—received technical assistance from SCS were somewhat more likely to have bid (65 percent versus 54 percent of the nonrecipients [Table 13]).

Although the two-variable cross-tabulations in Tables 6 to 13 indicate the possibility of causal relationships, we need to assess whether the apparent influence of an individual explanatory variable was not largely or entirely due to other factors that shaped both it and the bidding behavior. For example, while proportionally more younger respondents (22 to 44) submitted bids than did older cropland owners, the difference might actually be due to education since younger owners tended to be better educated. On the other hand, age differences might independently shape bidding behavior. To assess the independent influence of variables, we used a multivariate statistical tool, logit modeling, that is particularly appropriate when the behavior to be explained is an "either/or" situation, that is, whether the cropland owner submitted a bid or did not bid.[10]

Using all eight variables for the modeling was not advisable, since the more variables, the less likely that the modeling would yield statistically significant estimates of a variable's relative importance. We reduced the number from eight to six by excluding both the income-from-farming variable and the variable measuring the percent of income from farming. In the bivariate cross-tabulations, the former variable had shown no association with bidding; and the latter's relationship had been inconsistent. In the logit model that used the remaining six variables, one variable (the extent of difficulty in obtaining credit) failed to show statistically significant coefficients for any of its four levels, while a second variable (education) achieved statistical significance for only one of its four levels. After the deletions of these two variables, there remained four: (1) the respondents' perceptions of the percent of their land with erosion problems, (2) their age, (3) whether they had received SCS technical assistance in recent years (since 1981), and (4) whether they currently were operators.

To test for the relative importance of these four variables we varied the level of each while holding constant the levels of the others. The selected "constant level" for a variable was that which, according to the logit model, was most conducive to bidding. For example, regarding the perception-of-erodibility variable, the odds for bidding were greatest at the level where 51 to 100 percent of the land was seen to have erosion problems. For the age variable, the odds were highest for respondents in the youngest age group, 22 to 44 years old; for the dichotomous SCS assistance variable, the likelihood of bidding was greater among recipients; and it was also higher if the respondent was a current operator. The Table 14 entry in Column 6 for Model #1 gives the predicted probability of bidding among owners whose scores on all four variables were the most conducive to bidding: 85.2 percent. The table's subsequent models (#2 through #9) consist of combinations of

Table 12

The Relationship between Bidding and the Respondent's Level of Educational Attainment

Bidders or nonbidders	Level of educational attainment: Did not complete high school No.	%	Stopped after high school No.	%	Some college No.	%	College graduate No.	%
Owner bidders[1]	91	49.2	236	56.6	180	61.0	151	65.4
Owner nonbidders	94	50.8	181	43.4	115	39.0	80	34.6
Totals	185	100.0	417	100.0	295	100.0	231	100.0

The differences in responses across levels of educational attainment are statistically significant at the 0.01 level in a chi-square test.

[1]Includes only respondents who submitted bids in the March and/or May signup.

Table 13

The Relationship between Bidding and Receipt of SCS Technical Assistance in Any Year, 1981–86

Bidders or nonbidders	Received/did not receive since 1981: Received No.	%	Not receive No.	%
Owner bidders[1]	309	64.9	336	54.2
Owner nonbidders	167	35.1	284	45.8
Totals	476	100.0	620	100.0

The differences in responses between recipients and nonrecipients are statistically significant at the 0.01 level in a chi-square test.

[1]Includes only respondents who submitted bids in the March and/or May signup.

Table 14

Predicted Probabilities of Cropland Owners Bidding, Based on Four Explanatory Variables[1] Comparisons Made to Model with the Highest Predicted Probability

Combinations of explanatory variable scores corresponding to different types of cropland owners

(1) Model No.	(2) % land with erosion problem	(3) Owner's age	(4) Received SCS aid last 5 yrs.	(5) Currently an operator	(6) Predicted probability of bidding	(7) Pct.-point difference from model 1
#1	Fourth quartile[2]	First quartile[3]	Yes	Yes	85.2%	—
#2	Third quartile	First quartile	Yes	Yes	84.9%	- 0.3
#3	Second quartile	First quartile	Yes	Yes	58.9%	- 26.3
#4	First quartile	First quartile	Yes	Yes	47.3%	- 37.9
#5	Fourth quartile	Second quartile	Yes	Yes	83.4%	- 1.8
#6	Fourth quartile	Third quartile	Yes	Yes	79.6%	- 5.6
#7	Fourth quartile	Fourth quartile	Yes	Yes	71.4%	- 13.8
#8	Fourth quartile	First quartile	No	Yes	80.2%	- 5.0
#9	Fourth quartile	First quartile	Yes	No	75.9%	- 9.3

[1]The predictd probabilities were derived from log odds ratios which in turn were derived from a logit model containing these four variables.

[2]Respondents' report of the percent of their land that had erosion problems: first quartile = 0%; second quartile = 1 to 10%; third = 11 to 50%; fourth = 51 to 100%.

[3]Respondents' report of their age: first quartile = 22 to 44; second quartile = 45 to 55; third = 56 to 63; fourth = over 63.

levels of the same four variables in which one variable is varied, while the others are held constant at their most-conducive-to-bidding levels. Column 7 shows the percentage-point difference between Model #1's predicted probability of bidding, where all four variables are at their "best" levels (85.2 percent), and the probability resulting when one variable is changed to be one or more levels below its "best."

Comparisons among those percentage-point differences yield rankings, for the relative importance in bidding, of changing from one to another level of the four hypothesized causal variables. However, before examining those comparisons, we must observe that the actual percentages reported in Table 14, column 6 (e.g., 85.2 percent, 84.9 percent, etc.) should not be taken as representative of all cropland owners with the indicated combinations of characteristics. The percentages are derived from our particular bidders and nonbidders samples, which were pooled for this analysis of hypothesized causes of bidding. As discussed above, the pooled group of interviewees has relatively more bidders than would be found in a random sample of all eligible landowners. Concerned that a general sample would yield too few owners who bid, we purposely drew a separate sample of bidders. However, our pooled samples are useful for assessing the relative importance of causal variables, as indicated by the percentage-point differences in Table 14, column 7.

From this assessment, the extent to which owners perceive their land to have erosion problems emerges as the most important variable among the four compared. When we dropped that variable from its fourth quartile values (i.e., from 51 to 100 percent of the land being perceived as having erosion problems) to its third quartile (from 11 through 50 percent with problems), the change in the predicted probability of bidding was very slight, only three-tenths of a percentage point (see Table 14, column 7 for Model #2). However, when that variable was set at its second quartile range (from 1 through 10 percent), the effect was great—a 26-point decrease in the likelihood of bidding compared to Model #1. When it was set at its first quartile value (zero percent), the differences relative to Model #1 was 38 percentage points. Thus, when we compare (a) the respondents who scored at the most-conducive-to-bidding levels on the other three variables but the least conducive on the perceived-erodibility variable with (b) the respondents who fell into the most-conducive categories for all variables, the difference attributable to the drop in the erodibility variable from its topmost to bottommost level is 38 percentage points.

Roughly the same magnitudes of change emerged when we started the analysis from the "bottom," that is, when we set all variables at the levels least conducive to bidding and then work up (Table 15). The percentage-point change in bidding odds due to a three-level increase in the erodibility variable is 40 points (compare the column 6 entry for Model #1 to its counterpart for Model #4). These findings carry the rather obvious policy implications that program administrators should look for ways to capitalize on the cropland owners' perceptions that their land has erosion problems. They also convey the need to shape the perceptions of owners who, though owning eligible land, believe it to have no significant erosion problems.

The age variable shows a substantial effect on the bidding odds only when the change is from the first (or youngest quartile—22 to 44 years of age) to the fourth (over 63). This three-level change causes the probability of bidding to decrease by 14 percentage points (see Table 14 column 7 entry for model #7). A one- and two-level change (i.e., from the first to the second or third quartile values) is associated with decreases of only two and six percentage points, respectively.

Table 15

Predicted Probabilities of Cropland Owners Bidding, Based on Four Explanatory Variables[1] Comparisons Made to the Model with the Lowest Predicted Probability

Combinations of explanatory variable scores corresponding to different types of cropland owners

(1) Model No.	(2) % land with erosion problem	(3) Owner's age	(4) Received SCS aid last 5 yrs.	(5) Currently an operator	(6) Predicted probability of bidding	(7) Pct.-point difference from model 1
#1	First quartile[2]	Fourth quartile[3]	No	No	17.5%	—
#2	Second quartile	Fourth quartile	No	No	36.4%	+ 18.9
#3	Third quartile	Fourth quartile	No	No	57.0%	+ 39.5
#4	Fourth quartile	Fourth quartile	No	No	57.6%	+ 40.1
#5	First quartile	Third quartile	No	No	19.1%	+ 1.6
#6	First quartile	Second quartile	No	No	23.4%	+ 5.9
#7	First quartile	First quartile	No	No	25.8%	+ 8.3
#8	First quartile	Fourth quartile	Yes	No	23.1%	+ 5.6
#9	First quartile	Fourth quartile	No	Yes	27.9%	+ 10.4

[1]The predicted probabilities were derived from log odds ratios which in turn were derived from a logit model containing these four variables.

[2]Respondents' report of the percent of their land that had erosion problems: first quartile = 0%; second quartile = 1 to 10%; third = 11 to 50%; fourth = 51 to 100%.

[3]Respondents' report of their age: first quartile = 22 to 44; second quartile = 45 to 55; third = 56 to 63; fourth = over 63.

Roughly the same magnitudes of change occur when we start the analysis from the other direction, that is, when setting all variables at the levels that were least conducive to bidding (Table 15).

The most important differences occur between the oldest group and the youngest two groups, not between the youngest and middle-age groups. This finding suggests to us that USDA agencies should consider developing informational materials dealing with reservations that landowners of retirement age might have about the program. Some of them probably are concerned about the effect of the CRP contracts on their land's saleability, and whether their children or other heirs will ever be able to return the land to cropping. As our numbers suggest, this age factor may not have a large impact on bidding behavior; but the effect it does have would seem to justify the relatively modest costs of developing informational handouts dealing specifically with the perspective of retirement-age landowners.

Our method of comparing the relative strength of variables shows the factor of being a recent SCS technical assistance client to have a five and six percentage-point impact (see the column 7 entry for Model #8 in both Tables 14 and 15). Being a current operator made a difference of nine and ten points (column 7 entry for Model #9 in both tables). The first of these two sets of findings suggests that SCS should work through its list of recent clients, looking for those who have eligible land but had not bid, and encouraging them to bid. However, the yield of new bidders may not be very large if it is based only on the inclination of recent SCS clients to be more receptive to the program, as opposed to being based on such factors as the owners' perceptions of their land's erosion problems. Obviously, promotional efforts that focus on a number of causal factors should yield more results than would single-factor efforts.

The findings of a nine and ten percentage-point impact on bidding odds due to the current-operator variable point to both an opportunity and an obstacle for bidding. With better information, many current operators may be persuaded to bid. Conversely, unless nonoperators are targeted with special promotional efforts, many important (i.e., highly erodible) parcels of land may never be brought into the program. Again, the yield from such efforts may not be spectacular, given what our numbers suggest; but it could easily be worth the probably modest costs of special informational materials targeted to nonoperator owners.

7. Characteristics of the Successful Bidders

We tested a set of four hypotheses for explaining why some bidders had bids accepted and others did not. Since the dominant factor for success in bidding appears to have been whether the applicant requested a per-acre CRP rental price that was at or below the ceiling set by ASCS for his/her bidding pool, these hypotheses focus on factors believed to have shaped the requested price:

• **Bidders who based their requested price on the cash rent their land could earn were more likely to have bids that were at or below the ceiling than if they had used a cost-plus-profit basis.** We learned that ASCS used average cash-rents-per-bidding-area as its main basis for setting CRP ceilings.[11] Bidders who employed the same basis for calculating their requested rents were therefore likely to be near the ASCS maximums. Moreover, the "going rate" for renting land placed a cap on their requests. By contrast, the bidders who used a cost-plus-profit basis probably had no standards to limit their requests. There tends to be too much variability in the costs of operating land and in perceptions of what constitutes an adequate profit margin.

We asked each bidder if he/she had made or shared "in the decision on what per-acre rent to request from USDA." Eighty-three percent of the owners who bid in March and/or May reported that they had participated in the decision. They were asked the follow-up question, "When that decision . . . was being made, which of the following approaches was used: Did you calculate the cash rent that the land could earn if rented out to a farmer? Or did you calculate all your costs—such as taxes, interest, the cost of vegetative cover—and add something for profit? Or did you use another approach?" Table 16 reports their responses.

According to Table 16, relatively few bidders in our sample—only 71 out of 541 or 13 percent—reported using a cash-rent basis for calculating their requested rent. However, this group of bidders had the highest rate of success; 59 percent of them had their bids accepted, compared to 29 percent for the largest group (those reporting that they used a cost-plus-profit basis) and compared to 43 percent among the owners who used the land's net earnings in crops as their basis. The other identifiable group of bidders represented in Table 16—those who used a combination of cash rent and cost calculations—had a 45 percent success rate.

Given what we learned about the basis ASCS uses for setting its ceilings, it was not surprising that bidders who employed the same basis—cash rents—did better than the other two groups. However, in all or most areas ASCS has not publicly explained how it derives the CRP rent ceilings. If it did, there could be proportionally more accepted bids and greater legitimacy to the bidding process. Cash rents may be a basis that would be widely regarded as fair.

• **Our second hypothesis for explaining bidders' decisions on prices was that the more difficulty a bidder experienced in obtaining credit for his/her farm operation, the less likely the requested bid price was at or below the pool ceiling.** Our reasoning here was the owners with credit difficulties would be looking for as much as possible; in the absence of clear information about a pool's ceiling, they would bid on the high side of whatever rumored range there was.

Table 16

The Relationship between Having a Bid Accepted by USDA and the Basis Used by Respondent for Calculating the Requested Rental Price

Respondents with or without accepted bids	Basis of calculating requested rent: Cash rents		Costs plus profits		Combination of first two bases		Land's net earnings in crops		Other bases**	
	No.	%	No.	%	No.	%	No.	%	No.	%
Accepted*	42	59.2	82	28.7	21	44.7	31	42.5	35	54.7
Not accepted*	29	40.8	204	71.3	26	55.3	42	57.5	29	45.3
Totals	71	100.0	286	100.0	47	100.0	73	100.0	64	100.0

The differences in responses across bases were statistically significant at the 0.01 level in a chi-square test.

*Includes only owners who had submitted bids and who reported that they had made or participated in the decision regarding what rental prices to request.

The data in Table 17 support this hypothesis. The respondents who reported no difficulty with obtaining credit had the highest percentage of bidders with accepted bids—47 percent—while those with "small" to "a great deal of difficulty" had from 26 to 31 percent acceptances. These statistically significant differences suggest a possibly important obstacle to the program's goal of aiding financially stressed farmers: those clients may need higher rents than the CRP can afford with the funds available.

• Our third hypothesis on the causes of unacceptable bids is that the higher the respondent's dependence on agriculture for income, the less likely it is that his/her bid would be low enough for acceptance. We assume that as the importance of farming increases, the importance of maximizing income from that source also increases. The data reported in Table 18 support this hypothesis. The highest percentages of successful bidders—48 and 49 percent—fell into the lower two categories of dependence on agriculture for family income (zero to 25 percent and 26 to 65 percent), while the lowest proportions—30 percent—were in the top two categories (66 to 99 percent and 100 percent).

• A fourth, related hypothesis is that the smaller the gross revenues from farming, the more likely a bid was to be low enough to be accepted. The landowner with relatively minor farm-derived gross income may be able to tolerate lower per-acre rents because he/she depends on farming less for total family income, is less likely to have become overextended, or for other reasons does not need to maximize the per-acre rent from the CRP. Table 19 figures support this hypothesis. The lowest income group, those with less than $20,000 in income from farming, had the highest percentage of acceptances (53 percent) which is more than twice the size of the percentage for the income group of $40,000 to $100,000, and more than 20 percentage points above that of the top-most income category (over $100,000).

In testing the above hypotheses, we found in all four cases statistically significant differences across categories of the hypothesized explanatory variables. To judge the relative importance of the four variables as causes of successful bids, we must examine each in the situation where it is competing with the others. For this purpose, we again use logit models (see the discussion of this kind of multivariate modeling in Section 6 above). When competing with the other three hypothesized causal variables, the credit-difficulty variable proved to have little explanatory power; for none of its four levels did the logit model yield statistically significant values. When we deleted that variable and ran the analysis with the remaining three, the greatest influence was shown by the variable—the basis for calculating bid prices. Its most common level and also the one least conducive to an acceptable bid was the cost-plus-profit basis for arriving at bids. With the bid-calculating basis set at that level and the other two variables set at their most conducive levels, the predicted probability of a successful bid drops 43 percentage points, compared to the percentage that obtained when all three variables are set at their most conducive values (compare the column 5 values for models nos. 1 and 11 in Table 20).

Given the importance of this finding about the basis used for calculating bids, we recommend that USDA publicly announce before a signup period begins the basis it is using for setting bid ceilings, and that it disseminate data (such as on the average cash rents in a pool) that will help landowners develop bids compatible with

Table 17

The Relationship between the Success of a Bid and the Bidding Cropland Owner's Degree of Difficulty in Obtaining Loans for the Needs of his/her Farm

Success of bid	Reported degree of difficulty obtaining loans: No difficulty		Small difficulty		Moderate difficulty		Great difficulty	
Bidders or nonbidders	No.	%	No.	%	No.	%	No.	%
Accepted	172	47.0	21	25.9	20	26.0	33	31.1
Rejected	194	53.0	60	74.1	57	74.0	73	68.9
Totals	366	100.0	81	100.0	77	100.0	106	100.0

The differences in responses across degrees of difficulty in obtaining loans are statistically significant at the 0.01 level in a chi-square test.

Table 18

The Relationship between Having a Bid Accepted and Percent of Respondent's[1] Family Income Derived from Agriculture

Success of respondent's bid	Income from farming in quartile groupings: First quartile (0 to %) No.	%	Second (26 – 10%) No.	%	Third (66 – 99%) No.	%	Fourth (99 – 100%) No.	%
Accepted	103	48.1	50	48.5	42	29.6	52	30.2
Not accepted	111	51.9	53	51.5	100	70.4	120	69.8
Totals	214	100.0	103	100.0	142	100.0	172	100.0

The differences in respones across quartiles are statistically significant at the 0.01 level in a chi–square test.

[1]Includes only owner respondents who submitted bids in the March and/or May signup.

Table 19

The Relationship between Having a Bid Accepted and the Level of Owner Respondent's[1] Total Gross Revenues Derived from Agriculture

Success of respondents' bids	Income categories: Less than $20,000		$20,001 to $39,999		$40,000 to $100,000		Over $100,000	
	No.	%	No.	%	No.	%	No.	%
Accepted	103	53.1	46	45.1	38	25.3	57	31.7
Not accepted	91	46.9	56	54.9	112	74.7	123	68.3
Totals	194	100.0	102	100.0	150	100.0	180	100.0

The differences in responses across income categories are statistically significant at the 0.01 level in a chi-square test.

[1]Includes only owner respondents who submitted bids in the March and/or May signup.

Table 20

Predicted Probabilities of Cropland Owners Making Bids that Are Accepted Based on Three Explanatory Variables[1] Comparisons Made to the Model[2] with the Highest Predicted Probability

Combinations of explanatory variable scores corresponding to different types of cropland owners

(1) Model No.	(2) Basis used for calculating bid	(3) % family income derived from agriculture[3]	(4) Level of farming income	(5) Predicted probability of bidding	(6) Pct.-point difference from model #1
#1[2]	Cash rents	zero to 25%	less than $20,000	74.9%	---
#2	Cash rents	26 to 65%	less than $20,000	73.7%	- 1.2
#3	Cash rents	66 to 99%	less than $20,000	62.8%	- 12.1
#4	Cash rents	100%	less than $20,000	60.6%	- 14.3
#5	Cash rents	zero to 25%	$20,000 to $39,999	68.1%	- 6.8
#6	Cash rents	zero to 25%	over $100,000	53.8%	- 12.1
#7	Cash rents	zero to 25%	$40,000 to $100,000	53.2%	- 21.7
#8	Other bases[4]	zero to 25%	less than $20,000	69.4%	- 5.5
#9	Combination[4]	zero to 25%	less than $20,000	68.0%	- 6.9
#10	Land's net earnings[6]	zero to 25%	less than $20,000	67.0%	- 7.9
#11	Cost plus profit	zero to 25%	less than $20,000	31.5%	- 43.4

(Notes on following page.)

Table 20: *Continued*

[1]The predicted probabilities were derived from log odds ratios which in turn were derived from a logit model containing these four variables.

[2]The particular combination of these three variables that yields the highest predicted probability of bidding.

[3]Respondents' report of the percent of their family income derived from agriculture: first quartile = zero to 25%; second quartile = 26 to 65%; third = 66 to 99%; fourth = 100%.

[4]Respondents reported using a basis other than those specified in the table or did not answer.

[5]Respondents reported using both a cash rents basis and a cost-plus-profits basis.

[6]Land's net earnings in crops.

that basis. Alternatively, the Department could simply announce its ceilings. However, explaining how the ceilings were derived should increase their legitimacy and thereby attract more bids.

The other two variables in the model—percentage of family income derived from agriculture and level of gross farm revenues—exhibit less but not trivial influence. Setting each of them at its least conducive levels (i.e., highest percentage of income-dependence on farming and the second highest category of farm income), while holding the other two variables at their most conducive values, causes a drop of fourteen and twenty-two percentage points, respectively, in the predicted probability of an accepted bid (compare Table 20, column 5 entries for Model #s 4 and 7, and for Model #1). In other words, in the March and May 1986 signups, the bidding landowners with relatively large earnings and also those with high dependence on agriculture for income were not as successful as their counterparts further down both scales. For future signups, either they must be persuaded that they can get by with lower bid prices—perhaps by changing the basis on which they calculate their request–or USDA must convince itself of the need for higher ceilings.

8. Bidders' Attitudes towards the Conservation Reserve Program

The survey's schedule of questions contained several which allow us to assess the attitudes of bidders towards the program after they bid. The policy significance of such attitudes includes the possibility that many or most bidders became hostile towards the program as a result of their experiences, either because their bids were rejected or because, after being accepted, the USDA agencies charged with implementing the program treated the successful bidders in ways considered unsatisfactory by the latter. If past bidders become unhappy with the program, they might decide not to rebid, and recommend that their friends and relatives not participate.

Among the relevant questions asked was: "As a landowner whose bid was accepted by USDA, how satisfied are you with USDA's treatment of you? For example, USDA is supposed to provide you with technical and cost-sharing assistance. Are you very satisfied with USDA's treatment of you, somewhat satisfied, somewhat dissatisfied, or very dissatisfied?" Of the 270 respondents who answered this question, nearly half—44 percent—selected the "Very satisfied" option, while 34 percent chose "Somewhat satisfied" and only seven percent, "Somewhat dissatisfied," and 4 percent, "Very dissatisfied" (Table 21)."

The same respondents were asked, "In what different ways, if any, would you like USDA to treat landowners whose bids were accepted?" Among the 237 persons answering this question, the largest group, 26 percent, reported that they wanted nothing different; they were satisfied with the treatment they had received (Table 22). The next largest group, 19 percent, answered in words to the effect, "Don't know." If they wanted changes, none was important enough to be on their minds at the time of the interviews. The remaining 55 percent wanted modifications in the program, but their concerns were scattered rather than focused on a small number of reforms.

— The largest of these small groups—12 percent of all 237 respondents to the question about what USDA should do differently—complained that the information available about the CRP was inadequate in quantity, quality, and/or time of delivery:

> "Everything that can be done with the land should be explained more clearly."
>
> "Have something in writing saying what happens after 10 years."
>
> "The program was explained wrong to begin with."
>
> "Make programs more simple so that people can understand better."
>
> "Make more information available in simpler terms."
>
> "Didn't have the rules when the program was put out."
>
> "We didn't seem to be notified early enough of the deadline for voting land into the program."

Table 21

Degree to Which Landowners with Accepted Bids[1] **Were Satisfied with Treatment Received from USDA**

	Number	%
Very satisfied	120	44.4
Somewhat satisfied	92	34.1
Somewhat dissatisfied	18	6.7
Very dissatisfied	11	4.1
Don't know or did not answer	29	10.7
Total =	270	100.0

[1]Accepted in the March and/or May signups

Table 22

Successful Bidders' Responses to Question about Different Ways to Treat Landowners Whose Bids Were Accepted

Suggestion	Number	%
Nothing need be different; satisfied with treatment received.	62	26.2
Don't know.	45	19.0
USDA should provide better information about the program (better in quantity), timing, clarity, and/or thoroughness).	28	11.8
Inform bidders sooner as to whether bids have been accepted.	12	5.1
Improve pricing policies (such as by announcing ceilings before invite bids and offering same ceiling for same quality of land).	26	11.0
Offer higher rental prices.	11	4.6
Base for percents = the number of respondents to the question	237	

Although some of these information complaints resulted from the newness of the program, the problems with technically complex explanations and vagueness about post-contract-period land usage may persist.

— A related complaint—from five percent of these respondents—was that USDA had been too slow in informing them whether their bids had been accepted.

— 11 percent complained about USDA's pricing policies for the CRP. Some wanted the CRP rental prices to be set before applications were invited, so that landowners would not unwittingly submit bids that were lower than acceptable levels. Others called for consistent price levels for the same quality of land, so that owners of similar land do not receive different rents, such as happened when equivalent parcels were in neighboring bidding pools but the average land quality for one pool was lower, thus decreasing the bid ceiling in that pool relative to its neighbor.

— 5 percent complained that the rents were too low.

Although these complaints deserve serious consideration, it should not be forgotten that 45 percent of the responding clients voiced no criticism of the CRP. They had their chance to complain, but did not. Similarly, 79 percent reported being "very satisfied" or "somewhat satisfied" with the program, as opposed to selecting the options of "somewhat dissatisfied" or "very dissatisfied." In sum, from their answers to these questions, it is unlikely that this group of clients—those with accepted bids—would create a "reputation" problem for the program.

Supporting this conclusion is the pattern of responses from accepted bidders to another survey question, "Would you recommend to other owners of farmland or ranchland eligible for this program that they bid land for the program? Would you strongly recommend, recommend with some caution, recommend with a lot of caution, or not recommend it at all?" One third of the accepted bidders chose the option "recommend strongly," 40 percent selected "recommend with some caution," and only 14 percent fell in the categories "recommend with a lot of caution" and "not recommend" (Table 23). The other 13 percent either did not answer or replied, "Don't know." In sum, a large majority of this group of bidders seems satisfied with the program, to the point of saying they would recommend it to other landowners.

Not surprisingly, the respondents whose bids were rejected showed a less positive pattern of answers to the question about recommending the program (Table 23). However, contrary to our expectations, a majority of them selected the two most positive rather than the two most negative response options. Seventeen percent selected "strongly recommend" and 40 percent, "recommend with some caution," while 18 percent chose "recommend with a lot of caution," and 17 percent, "not recommend."

Another indication of the absence of potentially damaging hostility from unsuccessful bidders is that 34 percent of the respondents who had bids rejected from the March and/or May signups said that they would bid again in the August signup. Of course, a further rejection then might stimulate strong grievances against the program, especially if these bidders dropped their per-acre asking price or otherwise tried to remove the causes of their rejection in earlier signups. Of the 140

Table 23

The Extent to Which Bidders—Successful and Unsuccessful—Would Recommend the Program to Other Landowners with Eligible Land

Type of response	March and May bidders with bids: Accepted Number	Accepted %	Not accepted Number	Not accepted %
Strongly recommend bidding	90	33.3	69	16.7
Recommend with some caution	107	39.6	164	39.6
Recommend with a lot of caution	16	5.9	75	18.1
Not recommend it at all	21	7.8	71	17.1
Don't know or did not answer	36	13.4	35	8.5
Totals	270	100.0	414	100.0

Differences between answers of successful and unsuccessful bidders are statistically significant at the 0.05 level in a chi-square test.

unsuccessful bidders who said that they would rebid in August, 30 (or 21 percent) intended to ask for a rent that was less than the level they hd requested in their last bid.

In the summer of 1987 we hope to obtain the means to telephone-interview the 1986 respondents who had not had bids accepted and who had not yet submitted bids to learn if, in the interim, they had bid and been accepted and, if not, why not and what their attitudes towards the program currently were.

9. The Extent to which Changes in the CRP Will Elicit New Bids

The unsuccessful bidders, as well as the "never-yet" bidders, are of course potential sources of the additional many millions of acres that the CRP wants to enroll by the 1990 crop year. A third source is the successful bidder who has yet to bid eligible land. How can the program elicit bids from these groups in future signups? We tried to generate answers to this question by posing a series of "what if" questions to all respondents.

As Table 24 indicates, five of the "what if" questions deal with proposed changes in the CRP and ask, if a particular change were made, "would you be any more likely to bid land you own in . . . county?" (Or, if the respondent was a manager, "would land you manage in . . . county be any more likely to be bid?"). The full texts of the proposals are given in Appendix III.

For each of the five proposals, the table reports three sets of percentages. The first set (on the left) gives separately the proportions of bidders and nonbidders who responded "yes," they would be more likely to bid in a future signup if that proposed change were implemented. For example, 66.2 percent of the interviewed past bidders said that freedom to graze or hay CRP land would make them more likely to bid. The comparable percentage for nonbidders is 62.2 percent. The second set of percentages reports the proportions of bidders and nonbidders who said that their likelihood of bidding, if a particular reform were adopted, was very high—75 percent or greater. The respondents who indicated interest in a reform (i.e., they answered "yes," they would be more likely to bid if it were implemented) were asked a follow-up question about how likely they were to bid: "75% or higher, between 50% and 74%, or less than 50%?" The third set of percentages (at the far right) aggregates those respondents who said that they would be 50 to 74 percent likely to bid and those in the 74-percent-and-over-category.

The proposed change that attracted the most interest was to permit grazing and haying of CRP land. As specified in the current authorizing legislation (Sec. 1232. [a.7]), neither use is allowed during the contract period, unless the Secretary of Agriculture makes an exception because of "a drought or other similar emergency." Two-thirds of our sample of bidders and 62 percent of the nonbidders reported that this change would increase their likelihood of bidding (Table 24). This reform also ranked first in its influence on the probability of bidding. Forty-two percent of the bidders and 30 percent of the nonbidders said that, if they were free to graze or hay, their probability of bidding in a future signup would be 75 percent or higher (Table 24). Adding the respondents in this probability range to those in the 50-to-74-percent range, we have 56 percent of the bidders and 46 percent of the nonbidders reporting that the odds of submitting a bid as a result of this reform were at least 50 percent.

For our samples, the second most attractive change was to base CRP rents on three-year averages of cash rents per class of land. Fifty-nine percent of the bidders and 57 percent of the nonbidders indicated that this change would increase their likelihood of bidding. For relatively large percentages of both groups—30 and 21 percent, respectively—that likelihood would be as high as 75 percent. For 45 and 39 percent, it was reported to be at least 50 percent.

Table 24

Bidders and Nonbidders' Reactions to Proposed Modifications in the CRP

Proposed change	% respondents saying that change would make them more willing to bid		% saying that change would make likelihood of their bidding 75% or higher		% saying that change would make likelihood of their bidding at least 50%	
	Bidders %	Nonbidders %	Bidders %	Nonbidders %	Bidders %	Nonbidders %
Permit grazing and/or haying of CRP land	66.2	62.2	42.4	30.1	56.4	45.6
Accounce levels of acceptable bids ahead of time, by class of land, and base levels on 3–year average of cash rents per class	58.9	57.3	30.4	21.1	44.6	39.1
Permit CRP land to be used to meet set–aside requirements	56.7	52.1	30.3	15.1	43.9	30.6
Shorten the contract period from 10 to 7 years	42.1	36.6	15.1	7.2	28.4	19.1
Drop threshold of eligibility from 3T to 2T	38.5	33.5	13.9	7.2	25.2	17.6
No. of respondents	(684)	(489)	(684)	(489)	(684)	(489)

Source: Summer 1986 survey.

The third-ranking proposed change was to permit the use of land contracted for the CRP to meet set-aside requirements of USDA commodity programs. Fifty-seven percent of the bidders' sample and 52 percent of nonbidders responded positively to this proposal; in the follow-up question about the strength of that change's influence, 30 percent of the bidders and 15 percent of the nonbidders reported a 75-percent-or-higher likelihood of bidding if that reform were adopted.

The other two proposed changes covered in the interviews—to shorten the contract period from ten to seven years and the proposal to drop the threshold of eligibility from 3T to 2T--attracted substantial support: 34 to 42 percent of the two samples' respondents indicated that implementing one or the other of those reforms would increase their likelihood of bidding. However, neither reform by itself gave promise of eliciting many new bids. Only 14 and 7 percent of the past bidders and nonbidders, respectively, reported that lowering the threshold of eligibility would cause their odds of bidding to be as high as 75 percent; and for the reform to shorten the contract period, the corresponding percentages were 15 and seven percent (Table 24).

We recommend that at least regarding the proposals for haying and grazing CRP land, for using CRP land to meet set-aside requirements, and for developing a more acceptable basis for bid prices, USDA should investigate the feasibility of imple- menting such changes. According to our data, large percentages of landowners, especially among past bidders, will respond positively to such changes. As Table 24 indicates, roughly the same percentages of bidders and nonbidders were interested in a proposal; but with all five proposals, relatively more of the interested bidders attributed the highest level of influence to the proposal—that is, if it were adopted, they would be 75 percent or more likely to bid.

Grazing and haying CRP land and using it for set-aside should increase the economic value of CRP contracts. In the former case, the enrolled land could earn extra income directly, while in the latter situation, CRP acres would generate additional revenue indirectly because they freed up other, presumably more pro- ductive, land for crop production. During Congressional deliberations on the CRP, representatives of the cattle industry successfully inserted the prohibitions on grazing of CRP land for livestock purposes. The cattlemen were concerned that too much of the cropland retired under the CRP would be converted to the pro- duction of livestock at a time when their industry was already seriously depressed. However, as discussed above in Sections 3 and 4, significant percentages of both nonbidders and nonrebidders attributed their decisions not to participate in the program to what they perceived to be inadequate rents offered by USDA. Per- mission to graze and hay would help to offset those perceptions.

A workable compromise might be to permit grazing and haying beginning only in the fifth, sixth, or seventh years of the contract, late enough to allow the cattle industry to adjust to whatever changes that use of CRP land will really cause, but not so late that the CRP participants will not have planned for such uses and per- haps have developed and maintained better vegetative cover because of them. Moreover, owners who have hesitated to bid, either because of the ten-year length of the contract, or because of their tendency to discount the value of the fixed rents receivable in the contract's later years, should regard the opportunity to graze and hay in those years as helping to offset the diminishing relative value of the rents.

The proposed reform for pricing policies—announcing acceptable levels ahead of time, differentiating them by grade of land, and basing them on the record of recent years' cash rents per grade—attracted so much interest presumably because the respondents believed they would lead to higher rents. If USDA offered its bidding pools two or more prices (e.g., one for each relevant land-capability class or group of classes) rather than a single ceiling, land whose productivity exceeded the average for its pool would stand to receive better rents, but not necessarily at the expense of higher overall costs to USDA. The program would save by offering lesser rents to land of lower-than-average productivity. If the Department decides against multiple prices per pool, it could achieve much the same purpose by creating more pools. As discussed earlier, in Illinois the number of pools was increased from three to four between the second and third 1986 signups. The new pool's ceiling of $70 attracted acceptable bids from owners who had considered their land too productive to justify $60 rents, the maximum for their counties during the first two signups when they were in a different pool.

Besides asking respondents to assess the impact of five specific reforms on their decisions to bid, the survey sought to discover if there were any "other change[s]" in the CRP program that would increase their likelihood of bidding. A total of 444 respondents (or 38 percent of all interviewees) reported one or more such changes. The most commonly mentioned reform was to increase the CRP rents; thirty-four percent of these respondents wanted this kind of change (Table 25):

> "Pay us more per acre."
>
> "Put the price up so that we'd be able to put the land up."
>
> "Per acre rent to be more than $50."
>
> "Bids that have been submitted seemed realistic; but all were turned down."

The second most frequently mentioned "other" change—offered by 12 percent of the respondents to this question—was to have USDA announce a dollar ceiling for bidding prior to the solicitation of bids:

> "Have a fixed rate."
>
> "If they would set the price same for all."
>
> "If there had been a ceiling told, I might have adjusted my bid to fit."

The third most popular change—advocated also by 12 percent of the respondents—was the right to graze and/or take hay off CRP land. Virtually all of these interviewees had already expressed the same desire when responding to the closed-ended question about grazing and haying that had been asked shortly before this open-ended question. But four additional bidders and the same number of nonbidders used this opportunity to call for grazing or haying rights even though they had not responded positively to that kind of proposal when discussed earlier in the interview.

Table 25

"Other"[1] Changes in the CRP that Respondents Said Would Increase Their Likelihood of Bidding

Listed Change	Number	%
Increase the level of rents offered for land bid into the program.	150	33.8
Announce bid ceilings prior to solicitation of bids.	54	12.2
Permit grazing or haying of land bid into the program.	54	12.2
Shorten the contract to less than ten years.	48	10.8
Base for percents = the number of respondents saying another change in the program, other than those previously listed, would increase their likelihood of bidding =	444	

[1]"Other" than the five changes specified in preceding questions (i.e., the changes listed in Table 24).

The fourth most frequently desired "other change"—offered by 11 percent of the respondents—was to shorten the contract period to less than ten years. Again almost all the persons wanting this change had already expressed the same position when asked the closed-ended question about the length of the contract period. But six additional bidders and eight nonbidders took this position when responding to the "other changes" question.

Perhaps the most interesting set of responses to the survey's "what if" sections were those to: "Is there any change or combination of changes in the program that would make you definitely bid in a future signup?" and, if so, "What change or changes might they be?" Forty-seven percent of the past bidders and 32 percent of the nonbidders said "yes" to the first of these questions. Among the total of 454 respondents to the followup question ("what changes?"), 73 percent gave just a single reform as their condition for definitely bidding. By far the most commonly cited of these reforms—given by 44 percent of the single-change respondents—was to increase the CRP rents (Table 26). This change also was included in 50 percent of the 86 cases in which respondents listed two reforms as the conditions for definite bids, and in eight of the 11 cases where three reforms were required. In all, higher bid prices were mentioned by 44 percent all the respondents to this question.

The second most popular condition for a definite bid was the right to graze and/or hay CRP land. A total of 19 percent of the respondents included it in their one-to-three conditions (Table 26). The third most frequently listed condition—by 12 percent—was to have the level of acceptable bids announced before bids were submitted. The fourth-ranked condition was a shorter contract period, specified by 9 percent of the respondents.

Since a significant minority of the respondents in this subsample (i.e., those listing changes in the program that would elicit definite bids) had given two or more conditions, we looked for combinations of conditions that appeared with significant frequency. As it turned out, the combinations were so varied that none was mentioned by more than a very small proportion of the subsample. Among the two-condition combinations, those calling for both more generous rents and the right to graze/hay comprised three percent of the subsample; those asking for both better rents and a shorter contract period made up two percent of the group. None of the other combinations of two conditions, nor any of the few with three, comprised even two percent.

Since small percentages like these are unlikely to persuade policy makers to consider program changes, and since 73 percent of the subsample requested only one change as a condition for bidding, we looked at the relative frequencies of those single changes. The respondents who asked only for higher rents comprised one-third of the total subsample; those who wanted just the right to graze and/or haoy made up 8 percent, as did the respondents who desired only that the bid ceiling be announced before bids were submitted.

Policy makers may find the following useful: 44 percent of the respondents listed higher bid prices as one of their one to three conditions; 19 percent did the same for grazing and haying; and 12 percent placed setting ceiling prices before bidding begins in this category (Table 26).

Table 26

Modifications in CRP Listed by Respondents who Reported That They Would Definitely Bid If Such Changes Were Made

Specific change	No. and % asking for a specific change among respondents who listed: One change No.	%	Two changes No.	%	Three changes No.	%	Total for that change No.	%
Higher CRP rents	148	44.4	43	50.0	8	72.7	199	43.8
Graze and/or hay CRP land	38	11.4	39	45.3	10	90.9	87	19.2
Set ceiling price before bidding begins	35	10.5	18	20.9	2	18.2	55	12.1
Shorter contract period	17	5.1	21	24.4	3	27.3	41	9.0

Percentage bases

for one change: (333)

for two changes: (86)

for three changes: (11)

for all respondents listing a desired change: (454)

Before leaving this subject, we should recall that, compared to the surveyed non-bidders, proportionally more of the March and May bidders said that with specified changes in the CRP they would definitely bid. The difference came to 47 percent of the previous bidders versus 32 percent of the nonbidders. As already observed regarding the five proposals listed in Table 24, the past bidders responded more positively, selecting relatively more often the "75-percent-and-higher likelihood of bidding." If reforms along the lines discussed in this section are implemented, USDA must make an effort to inform past bidders about them. Direct contact via the telephone or personal visits may be justified. The local ASCS offices should have a list of their names and addresses from the previous bid submissions.

10. Assessments of the Helpfulness of Information Sources on the CRP

Since the CRP is only in its first year of operation and is still far from reaching its goal of enrolling a total of 40 to 45 million acres, the foregoing discussion of program changes that would elicit more bids is not academic. Neither is this section's analysis of how our 1986 respondents assessed information sources on the CRP. To promote more bids, the program needs effective channels of communication to inform prospective bidders about how the CRP can help to meet their individual or family needs and how they, by participating in it, can help to meet community-wide or national needs, such as to conserve topsoil and to reduce the production of commodities in chronic surplus supply. If the program is to be modified along some of the lines discussed in the previous section, news of those changes must be disseminated widely and clearly. There is particularly strong dissatisfaction with, or at least skepticism about, the prohibitions on grazing and haying, the level of rents USDA is willing to pay, and—to a lesser but significant extent—the practice of inviting bids without prior establishment of acceptable levels. If these policies are not modified, it seems likely that effective communications agencies will be needed to persuade landowners that they can benefit adequately from the program even without such changes.

Table 27 reports two sets of percentages. The first set (on the left) gives the proportions of total responding bidders and nonbidders who reported "yes," they had obtained "helpful information about the program" from the indicated source. The second set of percentages gives the proportions of bidders and nonbidders who, after answering "yes" to the prior questions, reported that the information obtained had been "very helpful." Their other options were "somewhat helpful" and slightly helpful."

According to the table, rather large percentages of both bidders and nonbidders—59 and 62 percent—had been helped by articles on farm magazines. By this indicator of a source's relative importance, farm magazines rank ahead of radio and tele- vision, Cooperative Extension, individual farmers in respondents' areas, and "other sources" in the help given to bidders. And in the assistance reported by nonbidders, it is ahead of SCS and only a little behind ASCS. However, ASCS and SCS rank first and second, respectively, in the percentages of bidders who found them to be helpful information sources. Their superior rankings were to be expected, since bidders must work through both agencies, including visiting their local offices, when preparing bids.

A significant finding is that less than half of the nonbidders reported SCS to have been a helpful source. SCS tends to have the best information on the eligibility of land for the CRP. And, as discussed above in Section 3, the failure of many nonbidders to consult SCS, and of the agency to reach out effectively to them, appears to have led to many of the latter mistakenly believing that none of their land was eligible. According to SCS staff in their counties, it was highly likely that they had land appropriate for the program. This is a significant problem that needs better outreach resources for its solution.

Table 27 data on the perceived quality of the information received shows the three USDA agencies—Cooperative Extension, SCS, and ASCS—earning the highest

Table 27

Respondents' Assessments of the Helpfulness of Selected Information Sources on the CRP

by bidders and nonbidders

Information Source	Among the respondents the % who had obtained "helpful information" from the source		% of respondents helped by a source who found it "very helpful"	
	Bidders %	Nonbidders %	Bidders %	Nonbidders %
Farm magazines	59.3	61.8	33.8	36.7
Radio and television	30.3	29.5	21.7	13.5
Cooperative Extension	49.2	45.2	56.1	52.1
Soil Conservation Service	72.7*	48.9*	65.3*	55.5*
Agricultural Stabilization and Conservation Service	83.4*	64.4*	64.0*	50.9*
Individual farmers in respondent's own area	43.8	46.4	28.4	27.3
Other sources	12.9	12.4	50.0	52.8
(Av. no. of respondents)	(682)	(427)		
(Av. no. of missing cases)	(2)	(62)		

*Differences in the responses between bidders and nonbidders are statistically significant at the 0.05 level in a chi-square test.

ranking ("very helpful") from majorities of both the bidders and nonbidders who responded to the follow-up questions on quality. Except for the electronic media, SCS, and ASCS, the listed sources had about as much success with bidders on the quality dimension as with nonbidders. The better assessments of SCS and ASCS given by bidders is most probably due to the typically extensive involvement that bidders have with both agencies as they develop their bids.

Interestingly, despite such contacts, only about two-thirds of the bidders gave those two agencies the highest assessments. In SCS's case, 23 percent of the respondents found it to be "somewhat helpful" and ten percent, "slightly helpful." Regarding the quality of ASCS' information, 24 percent chose the option "somewhat helpful" and 11 percent, "slightly helpful." While not every client will be without complaints, it may be possible to satisfy more than two-thirds.

Another significant finding is that, for almost a third of the nonbidders (32 percent), none of the three USDA agencies was reported to have been a helpful information source. By contrast, only 7 percent of the bidders said that they found none of them useful. The third of the nonbidders who have not been helped may include many potential bidders who, when better informed about the program, will become actual bidders. The tasks of effective salesmanship about the program should not be left exclusively to the media, landowners' peers, or other private sources. Given the numbers of nonbidders whom USDA information efforts have apparently not helped; given, also, the likelihood that many of them are eligible for the program (see the discussion in Section 3), we hope that USDA will develop effective outreach strategies to reach such potential clients.

11. Summary of Policy Recommendations

A. We recommend that SCS allocate staff so that its field offices in counties with large acreages of eligible but unenrolled land can reach out to the many landowners who mistakenly believe that none of their cropland is eligible. SCS should do most of the "bush-beating" to find new CRP clients because it usually has the best data for locating appropriate "bushes" to beat. (Section 3)

B. Owners of land which, though highly erodible, is nevertheless quite productive, complained that the CRP rental ceilings in their areas were too low. They found that they could do better by keeping the land in annual crops. To attract these owners to the program, USDA needs to differentiate the rents according to the land's productivity. Either there could be two or more ceilings in existing bidding pools, according to variations in productivity; or USDA could establish new pools or pool boundaries that better reflect productivity differences. (Section 3)

C. When reaching out to potential clients to encourage them to bid land for the CRP, USDA agencies should consider using the kinds of reasons for participating in the program that substantial proportions of bidders reported using when they decided to bid: (1) to protect land that has been subject to dangerously severe water or wind erosion; (2) to earn more from the land than is possible if it remains in crops; (3) to receive a guaranteed annual income from the land rather than risk fluctuations or a downward trend in revenue if it continues to be cropped; (4) to reduce the work burden of operators who, because of advanced age, poor health, or changed vocational or avocational interests, can no longer crop as many acres; (5) to retire parcels which, because of their small size, out-of-the-way location, steep slopes, or other features, are not convenient or economic to farm; (6) to contribute to decreasing the production of crops that are in chronic surplus supply. (Section 5)

D. The 1985 Farm Bill's conservation compliance regulations provide a potentially strong incentive for owners of highly erodible land to participate in the CRP. However, most of the surveyed nonbidders were unaware of those regulations. This information gap is another reason to justify greater USDA outreach to potential clients of the CRP. (Section 5)

E. Since persons of retirement age tended to be less willing to bid land for the program, USDA should develop informational materials which deal with the concerns of owners in that age group. One such concern involved restrictions on the land under contract, and whether this would seriously limit its saleability. (Section 6)

F. Because the acceptability of bids (i.e., being at or below USDA's ceiling for a bid pool) varied significantly with the basis that surveyed bidders reported using in developing their bids (e.g., cost plus profits, cash rents), we recommend that before each signup begins USDA announce its basis for setting bid ceilings. With information, bidders should be more likely to arrive at bid prices that will be acceptable. The AFT Survey found that a plurality of bidders used a basis (cost-plus-profit) that appeared to be incompatible with the method by which USDA determined the ceilings (i.e., by averaging cash rents available in the bidding pools). Alternatively, USDA could simply

announce ceiling levels before the signups. However, publicizing the basis for ceilings may help to legitimize them. (Section 7)

G. As of the program's first summer, USDA appeared to be providing services—technical assistance, cost-sharing—in ways that tended to satisfy the cropland owners whose bids had been accepted. When given an opportunity to assess the treatment they received from the Department, relatively few were critical. This pattern of responses suggests that no major changes are warranted in the program's services to accepted bidders. (Section 8)

H. Majorities of both past bidders and nonbidders reported that each of three program reforms would make them more likely to bid: freedom to graze and hay CRP land, rental prices that better reflect differences in the land's productivity, and permission to use CRP-enrolled acres to meet set-aside requirements. Abolishing the restriction on grazing and haying was particularly attractive. Forty-two percent of the previous bidders and almost a third of the nonbidders said that this one reform would make them very likely to bid (i.e., with a 75 percent or higher probability of bidding). The cattle industry has objected to using CRP land for grazing. A compromise position would be to allow such use only beginning in the sixth or seventh year of the contract. (Section 9)

I. In reply to all six questions which asked whether changes in the CRP would increase their likelihood of bidding, past bidders were consistently more likely to give a positive response than nonbidders. If changes are made, USDA should include this source of new bids when promoting the program through more vigorous outreach efforts. (Section 9)

J. Those efforts also need to focus on nonbidders. Almost a third of our nonbidders' sample reported that none of the three local offices of USDA agencies—ASCS, Cooperative Extension, nor SCS—had been a helpful source of information on the program. Perhaps they had become adequately informed through other sources. We believe that many of them were eligible for the program; it seems plausible that outreach from agencies with the best information on the program would have yielded bids from a significant proportion of these nonbidders. (Section 10)

Notes

[1]A nonowner–operator may bid land if he/she has operated the land for at least three years and can "provide satisfactory evidence that such person will be the operator of such cropland for the CRP contract period" ("Conservation Reserve Program (CRP)," Federal Register, vol. 51, No. 49, p. 8784.

[2]For the first three signups, "highly erodible land" was defined as either land in Capability Classes VI to VIII or as land in Classes II to V with an average annual soil loss exceeding three times the rate at which the land's normal productivity could be sustained ("T").

[3]Food Security Act of 1985 (Public Law 99–198), Sec. 1231 (b).

[4]U.S. Department of Agriculture, Office of Information, News, No. 1063, 29 August, 1986.

[5]See the testimony in favor of the CRP by representatives of conservation and wildlife–protection groups during hearings on the 1985 Farm Bill. Committee on Agriculture, U.S. House of Representatives, General Farm Bill of 1985, 99th Congress, 1st Session, Washington, D.C., 1985, Part 2, pp. 662–956.

[6]Ibid.

[7]The editors, "A Boon for Wetlands," New York Times, 135 (December 23, 1985): A16.

[8]Interviews with USDA officers, September 29, 1986, Washington, D.C.

[9]"Landowner views of obstacles to wider participation in the conservation reserve program," Journal of Soil & Water Conservation, 42 (November/December 1986): 411.

[10]Marija J. Norusis, SPSS[X]: Advanced Statistics Guide (Chicago: McGraw-Hill Book Company, 1985), pp. 334–41.

[11]Interviews with ASCS officers, September 29, 1986, in Washington, D.C.

Appendix I

Randomly Selected Counties in Which Respondents to the Survey

Owned or Managed Cropland

Alabama:

Barbour

Colorado:

Dolores
Kiowa
Moffat

Idaho:

Bonneville

Illinois:

Jefferson

Indiana:

Greene
Spencer

Iowa:

Allamakee
Cass
Clinton
Iowa
Mahaska
Plymouth
Shelby
Washington

Kansas:

Barber

Kentucky:

Trigg

Minnesota:

Le Sueur
Polk

Missouri:

Boone
Buchanan
De Kalb
Gentry
Macon
Saline

Montana:

Cascade
Daniels
Dawson
Hill
Roosevelt
Valley

Nebraska:

Boone
Dixon

North Carolina:

Cleveland
Stanly

Oklahoma:

Texas

Oregon:

Umatilla

Pennsylvania:

Cumberland

South Carolina:

Greenville

South Dakota:

Jackson
Jones

Tennessee:

Gibson

Texas:

Cameron
Castro
Crosby
Culberson
Dawson
Duval
Frio
Hall
Howard
Hutchinson
Lamb
San Patricio
Wheeler

Virginia:

Rockingham

Washington:

Walla Walla
Whitman

Appendix II

Random Procedures Used in Drawing the Sample of Nonbidders

by Matthew J. Franck

The procedures varied according to the kinds of information received from a county's District Conservationist (SCS) and/or how the ASCS county office organized its records of farm owners (the "Farm Record Card[s]".

1. Procedures for Group A Counties:

In 21 of our 59 counties, the following two conditions prevailed: (1) The DC was able to identify specific townships when asked the question "Which townships collectively have a majority of the eligible acres [i.e., eligible for the Conservation Reserve Program], that is, where over half the county's cropland eroding at greater than 3T is located?" (2) The county ASCS office kept its Farm Record Cards (form number ASCS-156-2) organized by township, [that is, all the cards for one township were kept together.]

Given these two conditions, we were able to request ASCS staff in those counties to draw Farm Record Cards in the following fashion: For each township identified by the DC as having most of the CRP-eligible land, the staff were asked to draw one or more cards. The location of the cards in the file devoted to each township depended on percentage figures taken from a table of random numbers. For example, if the number 75 had been randomly selected for the first (or only) card required for that township, the ASCS staff person was asked to select a card that was approximately three-quarters of the way through the township file. If the card did not indicate that an annual crop had been planted in 1984 and/or 1985, the card was not used; the next eligible one following it was chosen instead.

The number of cards to be drawn from each township (and hence the number of percentage values to be randomly selected) was determined in one of two ways. (1) If the ASCS staff knew the exact or approximate total of cards for that township, the total was divided into the sum of all farm cards for all the townships or other geographic subdivisions identified for us in the 59 counties. The resulting percentage was multiplied times 1,200 (our target number for the sample of nonbidders), with the resulting product being the number of cards needed for that township. (2) If the ASCS staff lacked a complete count or useful estimate of the total Farm Record Cards for particular townships, they at least knew the total for the entire county; then we divided that county-wide sum of cards by the total number of townships in the county, yielding an average number of cards per township. That average was divided by the total cards across all the counties we studied, giving us a percentage to multiply times 1,200.

2. Procedures for Group B Counties:

In 20 of our 39 counties, the DC identified specific townships where most of the greater-than-3T erosion occurred; however, the ASCS county office did not arrange its Farm Record Cards by township. Still, each card did indicate in which township the farm unit was located.

We therefore asked ASCS staff in these counties to proceed through their Farm Record Card files, starting at the beginning and selecting out individual cards according to skip intervals we specified for them. The skip interval was a single digit from 1 to 9 drawn from a table of random numbers. If, for example, the interval was 3 for a particular township, the first two cards found for the township were to be passed over, the third was to be drawn, and so was the sixth, ninth, etc. (We decided on the total number of cards to be selected per township, using the second procedure described for the Group A counties (see above).)

3. Procedures for Group C Counties:

For 13 of our 59 counties, the ASCS officers' Farm Record Cards did not have township designations but used a broader geographic unit, usually "community." Though communities tended to have large numbers of cards, the ASCS offices knew the total per community, and the DCs were able to tell us which community(ies) had most of the CRP-eligible land.

During a visit to the De Kalb County (Illinois) ASCS office, we were able to take measurements of Farm Record Card files to find an average number of cards per centimeter, 33. With this average, we were able to construct skip intervals for each "community." In other words, we asked ASCS staff at the 13 county offices to select the cards that were "X" centimeters from the beginning of a community's file. The particular interval was selected from a table of random numbers. To simplify the task, we sent them paper "skip rulers." The staff person was asked to lay the ruler across the top of the card file, starting at the beginning of a community's cards, and then to draw the card beneath each mark on the ruler. If more cards were needed than were marked, the ruler's left end was moved to the point where the right end had previously been; and the staff person selected cards below the points in the ruler's new position. The total number of cards needed per community was decided using the first procedure described for the Group A counties.

4. Procedures for Group D Counties:

The DCs in five counties told us that virtually all farms in the county had eligible land. Four of these counties were in Texas, and one in Oklahoma. The DCs believed that eligibility was nearly universal because of the effects of wind erosion. For these five cases, we constructed skip intervals, marked them on paper rulers, sent the rulers, and asked the ASCS staff to lay the rulers over the file of Farm Record Cards, starting from the beginning of the file, working to the end of the entire file, and selecting the cards found under each mark.

5. An Omitted County:

One of the 60 counties selected for the study, San Luis Obispo in California, had to be dropped because we could not find a way to relate the Farm Record Cards to the information provided by the DC regarding the location of most of the CRP-eligible land. Perhaps we misunderstood what we were told on the telephone. But our phone conversations with the county ASCS office indicated that the Farm Record Cards lacked identifiers which told us if they were in areas with a concentration of eligible acreage.

Appendix III

Wording of Survey Questions Regarding Five Proposed Changes in the CRP

1. "Some people believe that there should be changes in the Conservation Reserve Program, while others are satisfied with the program as it is. At present for land to be eligible for the program, it has to be losing at least three times as much soil as is tolerable if that land is to retain its normal productivity. If the minimum rate of soil loss were reduced from three times the tolerable level to two times, would you be any more likely to bid land you own in . . . County?

2. "Under the program's present rules, the land under contract must stay in vegetative cover for ten years. Would you be any more likely to bid land in . . . County for the reserve if the period were not ten years, but seven?"

3. "Under present rules, land under contract cannot be used for meeting the set-aside requirements of government commodity programs. Would you be any more likely to bid land in . . . County for the reserve if it could be used for meeting set-aside requirements?"

4. "Under present rules, land put into the Conservation Reserve cannot be grazed by commercial livestock, and hay cannot be taken off it to feed livestock or to sell. Would you be any more likely to bid land you own in . . . County if the rules were changed to permit commercial grazing or haying?"

5. "One suggestion for changing how bids are developed is to have USDA announce fixed dollar amounts per acre that it would accept in each region of the county. There would be a different rent amount according to each class of eligible land's productivity, and the figure for each class would be the average cash rent that class had earned the previous three years. If this change in the development of bids were adopted, would you be any more willing to bid land you own in . . . County for the reserve?"